APPENDIX A

Scoping Letter, NOP, and NOP Comments

THE CITY OF SAN DIEGO

January 26, 2016

Jason Wood, Project Manager
Cisterra
3580 Carmel Mountain Rd., Suite 460
San Diego, CA 92130

SUBJECT: Scope of Work for an Environmental Impact Report for The Preserve at Torrey Highlands Project (Project Tracking System (PTS) No. 442880)

Dear Mr. Wood:

Based on the review of the project application and pursuant to Section 15060(d) of the California Environmental Quality Act (CEQA), the Environmental Analysis Section (EAS) of the City's Land Development Review (LDR) Division has determined that the proposed project may have significant effects on the environment and the preparation of an Environmental Impact Report (EIR) is required.

The purpose of this letter is to identify the specific issues to be addressed in the EIR. The EIR should be prepared in accordance with the attached "City of San Diego Technical Report and Environmental Impact Report Guidelines" (updated December 2005). A Notice of Preparation (NOP) will be distributed to the Responsible Agencies and others who may have an interest in the project. A scoping meeting, as identified in CEQA by Section 21083.9(a)(2), will be held prior to the preparation of the EIR. The public scoping meeting will be held at the Rancho Penasquitos library, Community Room, located at 13330 Salmon River Road, San Diego CA 92129. The meeting will be held on March 30, 2016 from 5:30 PM to 7:30 PM to gather input. Please note that depending upon the number of attendees the meeting could end earlier than 7:30 PM.

Changes or additions to the scope of work may be required as a result of input received in response to the Scoping Meeting and Notice of Preparation. In addition, the applicant may adjust the project over time and these changes would be disclosed in the EIR under the section "History of Project Changes" and accounted for in the EIR impact analysis to the extent required by CEQA.

Each section and issue area of the EIR shall provide a descriptive analysis of the proposed project followed by a comprehensive evaluation. The EIR shall also include sufficient graphics

and tables, which in conjunction with the relevant narrative discussions, provide a complete an meaningful description of all major project features, the environmental impacts of the project, as well as cumulative impacts, mitigation of significant impacts, and alternatives to the project.

The Preserve at Torrey Highlands

Location of Project
The project site is located on 11.10 acres (including APNs 306-050-1600 and 306-050-1800) of vacant, undeveloped land located approximately ¼ mile south of State Route (SR) 56 along the west side of the planned extension of Camino del Sur (see Figures 1 and 2). The project site is designated Commercial Limited, and within the AR-1-1 zone.

The land immediately surrounding the project site is primarily vacant and undeveloped. The City's Multi-Habitat Preservation Area (MHPA) surrounds the site on three sides, but is not within the proposed project site. A gas station is located north of the project site just south of SR 56 and the SR 56 Bike Trail on the east side of Camino del Sur. Commercial and residential land uses are located north and west of the project site (see Figure 3, Aerial Map). Specifically, the Kilroy Santa Fe Summit Intuit Corporate Campus is located northwest of the site and consists of four buildings totaling 480,000 square feet of commercial office, in addition to a 492,000-square foot parking structure. This corporate campus is entitled for an expansion in the future to build an additional 350,000 square feet of office space.

Project Description
The project proposes a community plan amendment, rezone and site development permit to construct a 450,000-square-foot commercial office development. Specifically, the project would construct a three building commercial campus comprised of four stories, five stories and six stories, respectively with one level of subterranean parking, one, one-story amenity building, and one above-grade parking structure (see Figure 4, Project Site Plan).

Various site improvements would also be constructed that include associated hardscape (surface parking, driveways, and walkways) and landscape. The project proposes to meet at a minimum LEED silver.

Parking Facilities
The project would provide 1,800 parking spaces, including 89 surface spaces, 241 subterranean spaces, and 1,470 spaces in a parking structure. The parking structure would include seven levels above ground and one level below-ground.

Access
Access to the project site would be provided via two signalized driveways off Camino Del Sur. Currently, Camino Del Sur terminates just south of SR 56 at Torrey Santa Fe Road. The extension of Camino Del Sur is part of a separate application (Project No. 360009 - "Merge 56"). The southern extension of Camino Del Sur would be designed as a four to six-lane major roadway connecting from its current terminus at Torrey Santa Fe Road to its intersection with Dormouse Road, immediately north of Park Village Drive. The extension of Camino Del Sur would be constructed along the westerly project frontage complete with curb, gutter and sidewalk with a paved travel way of two lanes in each direction. Bike lanes will be provided on all sections of Camino Del Sur. In addition, a five-foot decomposed granite (DG) running path is proposed connecting the existing trail to Del Mar Mesa Preserve in the west to Darkwood Canyon in the east. The path will start just south of Torrey Santa Fe Road on the west side of Camino Del Sur, cross at the Carmel Mountain Road intersection to the east side of the roadway, and continue south to the proposed connection with Darkwood Canyon. Camino Del Sur is a capital improvement project identified in the Torrey Highlands and Rancho Penasquitos Public Facilities Financing Plans (PFFP).

Construction
Total construction is expected to take approximately 10 months. Construction of the project would include grading, public and private utilities, building and garage construction, architectural coatings, paving of alleys and sidewalks, public improvements, and landscaping improvements. The project would require a total export of approximately 63,000 cubic yards of soil.

Discretionary Approvals
The project proposes a community plan amendment to the Torrey Highlands Subarea Plan to re-designate the project site from Commercial Limited (CL) to Employment Center (EC), and to rezone the project site from AR-1-1 (agricultural - residential, requires minimum 10-acre lots) to IP-3-1 (industrial park - allows for research and development, office and residential uses). No residential is proposed as part of this project. Other required discretionary approvals include a Site Development Permit because the site contains environmentally sensitive lands and Planned Development Permit to ensure consistency with the Torrey Highlands Subarea Plan. Additional ministerial approvals needed to commence development may include, but are not limited to, grading and all required building permits.

EIR FORMAT/CONTENT REQUIREMENTS

The EIR serves to inform governmental agencies and the public of a project's environmental impacts. Emphasis in the EIR must be on identifying feasible solutions to environmental problems. The objective is not to simply describe and document an impact, but to actively create and suggest mitigation measures or project alternatives to substantially reduce significant

adverse environmental impacts. The adequacy of the EIR will depend on the thoroughness of this effort.

The EIR must be written in an objective, clear, and concise manner, in plain language, and must meet the requirements of CEQA. Wherever possible, use graphics and tables to replace extensive word descriptions and to assist in clarification. Conclusions must be supported with substantial evidence presented in the EIR, or otherwise contained in the administrative record, with quantitative, as well as qualitative information, to the extent feasible.

Prior to public review, Conclusions will be attached at the front of the draft EIR (DEIR) will also need to be prepared. The Conclusions cannot be prepared until an approved draft has been submitted and accepted for release by the City. The DEIR shall include a title page including the Project Tracking System (PTS) number, State Clearinghouse Number (SCH No.), and the date of publication. The entire EIR must be left justified and shall include a table of contents and an executive summary of each issue area identified below. Additional information regarding specific content and formatting of the DPEIR can be found in the City's *Environmental Impact Report Guidelines (updated December 2005)* as outlined below.

I. INTRODUCTION

Introduce the proposed project with a brief discussion of the intended use and purpose of the EIR. Discuss how the EIR may be used as the basis for subsequent approvals, as appropriate; and describe the parameters for such future use of the EIR. This section shall describe and/or incorporate by reference any previously certified environmental documents that cover the project site including any EIRs. This section shall briefly describe areas where the project is in compliance or non-compliance with assumptions and mitigation contained in these previously certified documents. Additionally, this section shall provide a brief description of any other local, state and federal agencies that may be involved in the project review and/or any grant approvals.

II. ENVIRONMENTAL SETTING

Describe the precise location of the project site with an emphasis on the physical features of the sites and the surrounding area and present it on a detailed topographic map and a regional map. Provide a local and regional description of the environmental setting of the project, as well as any adjacent land uses, area topography, drainage characteristics, and vegetation. Describe any upcoming changes to the area and any cumulative changes that may relate to the project site. Include the existing and planned land uses in the vicinity, on-and off-site resources, the community plan area land use designation(s), existing zoning, all utility easements and any required maintenance access, and any overlay zones within this section. Include any applicable land use plans/overlay zones that affect the project site, such as the city of San Diego's Multiple Species Conservation Program (MSCP)/Multi-Habitat Planning Area (MHPA), environmentally

sensitive lands such as steep hillsides, wetlands, and the Federal Emergency Management Agency (FEMA) 100 year floodplains or floodways that intersect with the project components. Provide a recent aerial photo of the project site and surrounding uses, and clearly identify the project location.

III. PROJECT DESCRIPTION

Per CEQA Guideline Section 15124, the EIR shall include a discussion of the goals and objectives of the project, including the underlying purpose of the project. Project objectives will assist in defining a reasonable range of alternatives for the project, which would avoid or substantially reduce potentially significant impacts. This section shall also provide a detailed discussion of all features of the projects. Describe all the discretionary actions required for project approval and implementation, including but not limited to a description of all permits or approvals from federal, state, and local agencies. Describe the proposed project's components, including, landscaping concepts, and utility improvements. Project phasing also should be discussed in this section.

IV. HISTORY OF PROJECT CHANGES

This section of the EIR shall outline the history of the project and any physical changes that have been made to the project in response to environmental concerns identified during the review of the project (i.e. in response to NOP or public scoping meetings or during the public review period for the DEIR).

V. ENVIRONMENTAL IMPACT ANALYSIS

This section shall analyze those environmental categories having a potential for adverse environmental impacts due of the effects of the project and shall identify mitigation measures that would avoid or substantially lessen any such significant impacts. The EIR must include a complete discussion of the existing conditions, thresholds, impact analysis, significance, and mitigation for all the environmental issue sections. The EIR must represent the independent analysis of the Lead Agency. The City's current CEQA *Significance Determination Thresholds (2011)* are to be used to establish significant effect unless otherwise directed by the City.

In general, the EIR should discuss all potential direct, indirect, and cumulative impacts associated with each environmental issue area listed below. These environmental issue areas are listed in alphabetical order or anticipated magnitude of significance. Lastly, the EIR should summarize each required technical study or survey report within each respective issue section, and all requested technical reports must be included as the appendices to the EIR and summarized in the text of the document.

In each environmental issue section, mitigation measures to avoid or substantially lessen impacts must be clearly identified and discussed. The ultimate outcome after mitigation should also be discussed (i.e. significant but mitigated, significant and unmitigated). If other potentially significant issue areas arise during detailed environmental investigation of the project, consultation with the Development Services Department is required to determine if these areas need to be added to the EIR. As supplementary information is required, the EIR may also need to be expanded.

Land Use

Issue 1: Would the project result in an inconsistency/conflict with the environmental goals, objectives, or guidelines of the General/Community plan in which it is located?

Issue 2: Would the project require a deviation or variance, and the deviation or variance would in turn result in a physical impact on the environment?

Issue 3: Would the project result in a conflict with the provisions of the MSCP or other adopted environmental plans for the area?

Issue 4: Would the project result in land uses which are not compatible with an adopted Airport Land Use Compatibility Plan (ALUCP) including aircraft noise levels as defined by the plan?

Issue 5: Would the project result in the exposure of people to noise levels which exceed the City's Noise Ordinance or are incompatible with the Noise Compatibility Guidelines (Table NE-3) in the Noise Element of the General Plan?

The project site is currently designated Commercial Limited (CL) and would require a community plan amendment to re-designate the project site to Employment Center (EC). The site is currently zoned AR-1-1 (agricultural - residential, requires minimum 10-acre lots) and would rezone the project site to IP-3-1 (industrial park - allows for research and development, office and residential uses). The project site is located within the Torrey Highlands Subarea Plan. Additionally, the project site is within the Airport Land Use Compatibility Overlay Zone (Marine Corps Air Station Miramar), Airport Influence Area (Marine Corps Air Station Miramar, Review Area 2), and Affordable Housing Parking Demand (though the latter would not apply to the project). The site is also located with the FAA Part 77 Notification Area due to its location near Marine Corps Air Station Miramar.

The project would require a Community Plan Amendment, Rezone and Site Development Permit. Additionally there will be associated ministerial permits that may include, but are not limited to, grading and building permits.

This project site is located within the City's Multiple Species Conservation Program (MSCP) area and located adjacent to the MHPA; no MHPA lands are located within the site.

The impacts of land use changes must be addressed in the EIR. In addition, the EIR shall evaluate consistencies/inconsistencies (including all deviations, variances, etc.) with local, state, and federal policy documents and regulations (i.e., the City's General Plan (2008), the Community Plans, City's Land Development Code, and Multiple Species Conservation Program). If the projects are found to be inconsistent with any adopted land use plans, the EIR should disclose this information if the inconsistency would result in potentially significant physical impacts.

Additionally, an acoustical technical report shall be prepared for each project that would include an evaluation with regards to adopted Airport Land Use Compatibility Plans (if applicable), the City's Noise Ordinance and with the Noise Compatibility Guidelines (Table NE-3) in the Noise Element of the General Plan.

Visual Effects and Neighborhood Character

Issue 1: **Would the project result in a substantial change to natural topography or other ground surface relief features through landform alteration?**

Issue 2: **Would implementation of the project result in the blockage of public views from designated open space areas, roads, or to any significant visual landmarks or scenic vistas?**

Issue 3: **Would the project result in substantial alteration to the existing character of the area?**

Issue 4: **Would the project be compatible with surrounding development in terms of bulk; scale, materials, or style?**

To the extent feasible, the EIR should include an evaluation of potential impacts on the natural landforms resulting from implementation of the project. The City's Significance Determination Thresholds include, but are not limited to, the following in determining such impacts: exceed the allowed height or bulk regulations and existing patterns of development in the surrounding area by a significant margin; and/or located in a highly visible area and would strongly contrast with the surrounding development or natural topography through excessive bulk, signage, or

architectural projection. This section of the EIR should include a conceptual description and analysis of the allowed building mass, bulk, height, and architectural style that would result from the project. The EIR shall also analyze the use of materials that could emit or reflect a significant amount of light or glare and any potential effect on light sensitive species or on adjacent aviation uses. Renderings, cross sections and visual simulations of the project should be incorporated into the EIR section when possible.

Air Quality

Issue 1: Would the project conflict with or obstruct implementation of the applicable air quality plan?

Issue 2: Would the project result in a violation of any air quality standard or contribute substantially to an existing or projected air quality violation?

Issue 3: Would the project expose sensitive receptors to substantial pollutant concentrations?

Issue 4: Would the project create objectionable odors affecting a substantial number of people?

Issue 5: Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including release emissions which exceed quantitative thresholds for ozone precursors)?

An air quality study shall be prepared to discuss the projects impact on the ability of the San Diego Air Basin to meet regional air quality strategies. The EIR section and technical report shall discuss both the potential stationary and non-stationary (i.e., vehicular) air emission sources associated with construction and operation of each of the proposed project. The section and technical report shall include estimates of total-generated air pollutant emissions, a discussion of potential dust generation during construction, evaluation of the potential for carbon monoxide hot spots (if significant impacts at nearby intersections are identified in the traffic report), and any proposed emissions reduction design features or dust suppression measures that would avoid or lessen emissions or dust-related impacts to sensitive receptors within the area. The air quality studies shall take into consideration the potential for criteria pollutant emissions generated from the project, as well as toxic air contaminants.

Biology

Issue 1: Would the project result in impacts to a sensitive habitat or sensitive natural community as identified in local, regional, state or federal plans, policies, or regulations?

Issue 2: Would the project result in an impact on City, State, or Federally regulated wetlands through direct removal, filling, hydrological interruption or other means?

Issue 3: Would implementation of the project result in a reduction in the number of any unique, rare, endangered, sensitive, or fully protected species of plants or animals?

Issue 4: Would the project result in interference with the movement of any native resident or migratory wildlife through linkages or wildlife corridors?

Issue 5: Would the project conflict with provisions of adopted local habitat conservation plans or policies protecting biological resources?

Issue 6: Would the project introduce land uses within or adjacent to the MHPA that would result in adverse edge effects?

Issue 7: Would the project introduce invasive species into natural open space areas?

A series of diverse habitats and sensitive species could potentially be directly or indirectly affected by the project and to the extent feasible, should be fully discussed in this section of the EIR. A biological resources constraints analysis, based on existing inventory of biological resources should be prepared to address existing conditions, potential constraints, and opportunities related to biological resources within the project study area. The analysis should also include a site reconnaissance to accurately represent the existing conditions discussion of the EIR. The analysis must identify any rare and sensitive species, MSCP covered and narrow endemic flora and fauna, which are known to be, or to have a potential to exist, in the project area as well as an inventory of sensitive habitat types and wetlands.

The impacts to identifiable wetland habitat should be addressed within this section of the EIR. Wetland habitat types should be shown graphically and include recommendations to sustain their functionality. If impacts to any wetlands or wetlands buffers are identified, a discussion of the feasibility or infeasibility of avoiding such impacts should be included.

Indirect effects to the City's MHPA may occur with the project. Both the biological constraints analysis and the Biological Resources section of the EIR should disclose potential indirect effects that may occur from implementation of the project.

<u>Energy</u>

Issue 1: Would construction and operation of the project result in the use of excessive amounts or electrical power?

Issue 2: Would the project result in the use of excessive amounts of fuel or other forms of energy (including natural gas, oil, etc.)?

Appendix F of the State CEQA Guidelines requires that potentially significant energy implications of a project shall be considered in an EIR to the extent relevant and applicable to the project. Particular emphasis on avoiding or reducing inefficient, wasteful and unnecessary consumption of energy should be included in this section. The EIR shall address the estimated energy use for the project and assess whether the project would generate a demand for energy (electricity and/or natural gas) that would exceed the planned capacity of the energy suppliers. A description of any energy and/or water saving project features would also be included in this section (with cross-references to the GHG emissions discussion, as appropriate). This section shall describe any proposed measures included as part of the project that would conserve energy and reduce energy consumption, and shall address all applicable issues described within Appendix F of the CEQA Guidelines.

Geologic Conditions

Issue 1: Would the project be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

Issue 2: Would the project result in a substantial increase in wind or water erosion of soils, either on or off the site?

Issue 3: Would the project expose people or structures to geologic hazards such as earthquakes, landslides, mudslides, ground failure, or similar hazards?

A geotechnical study shall be prepared for the proposed project. The results of the geotechnical study will be summarized in the EIR. The technical report and EIR should discuss the potential for either short- or long-term erosion impacts to soils on-site. Geological constraints on the project site, including groundshaking, ground failure, landslides, erosion, ground water, and geologic instability should be addressed, as well as seismicity and seismic hazards created by faults present in the project vicinity.

Greenhouse Gas Emissions

Issue 1: Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Issue 2: Would the project conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?

A quantitative analysis addressing greenhouse gas (GHG) emissions from the project shall be provided in a GHG emissions analysis and summarized in the EIR. The analysis should include, but not be limited to, the primary sources of GHG emissions associated with the project: vehicular traffic, generation of electricity, natural gas consumption/combustion, solid waste generation and water usage. The City of San Diego has not adopted a formal Thresholds of Significance for CEQA for GHG emissions. Therefore, in accordance with amendments to the state CEQA Guidelines regarding analysis of greenhouse gas emissions, the City of San Diego is utilizing the California Air Pollution Control Officers Association (CAPCOA) report "CEQA & Climate Change" dated January 2008 as an interim guideline to determine whether a GHG analysis would be required. The CAPCOA report references the 900 metric ton guideline as a conservative threshold for requiring further analysis and mitigation. Therefore, the proposed project will be analyzed to determine whether it exceeds the 900 metric ton screening threshold. If so, a GHG analysis technical report for the project shall be prepared and will be included as an appendix to the EIR. The EIR shall summarize the results of the report, including identification of the net GHG emissions identified. In addition, the project may also be required to implement project features to reduce the emission by 28.3 percent (consistent with the 2020 "Business-As-Usual" methodology used in the California Air Resources Board [CARB] Scoping Plan) should the project exceed the screening threshold of 900 metric tons per year.

<u>Historical Resources</u>

Issue 1: Would the project result in the alteration or destruction of a prehistoric or historic archaeological site, or any adverse physical or aesthetic effects to a prehistoric or historic building, structure, object, or site?

Issue 2: Would the project result in any impact to existing religious or sacred uses or result in the disturbance of any human remains within the potential impact area?

The project site is located within a high sensitivity area on the City of San Diego's Historical Resources Sensitivity Maps, and development is proposed on previously undeveloped parcels. A cultural resources report should be prepared for the proposed project to determine the presence and/or absence of any archaeological resources within the project's footprint. The analysis should include a records search of local databases and site reconnaissance as necessary to accurately represent the existing conditions discussion of the EIR. A report shall be prepared in accordance with the City of San Diego's Land Development Code Historical Resources

Guidelines (amended April 30, 2001) and discussed in the EIR. Based on background research and review of archaeological site records, the EIR should identify areas of high, moderate or low sensitivity and determine significance of present resources, when applicable. The analysis shall identify mitigation measures and/or include recommendations for avoidance of potential impacts to archaeological resources. This section must also include a discussion of potential impacts to Native American cultural resources and include an ethnographic discussion of the San Diego tribal community relative to the project study area.

Health and Safety

Issue 1: Would the project expose people or property to health hazards, including fire?

Issue 2: Would the project create future risk of an explosion or the release of hazardous substance (including, but not limited to gas, oil, pesticides, chemicals, or radiation)? Would the proposed Program expose people or the environment to a significant hazard through the routine transport, use, or disposal of hazardous materials?

Issue 3: Would any component of the project interface or intersect with a site that is included on a hazardous material sites list compiled pursuant to Government Code Section 6596.25 and, as a result, pose a potential hazard to the public or environment?

Issue 4: Would the project result in a safety hazard for people working in a designated airport influence area?

This section of the EIR shall provide an analysis of the hazardous materials to be stored, used and transported for the project, if any. Assess the potential for significant human health and safety impacts. The EIR shall include a site assessment to determine whether the project site is included on a list maintained by the State which has been compiled in accordance with Government Code Section 6596.25.

This section shall discuss the potential wildfire risk for the project site and demonstrate the project's compliance with the City's Brush Management Regulations.

The project site is located within the Airport Land Use Compatibility Overlay Zone (MCAS Miramar) and the Airport Influence Area (Review Area 2 – MCAS Miramar). The project shall address consistency with the requirements of these zones.

Hydrology/Water Quality

Issue 1: Would the project result in a substantial increase in impervious surfaces and associated increased runoff?

Issue 2: Would the project result in a substantial alteration to on and off-site drainage patterns due to changes in runoff flow rates or volumes?

Issue 3: Would the project develop wholly or partially within the 100-year floodplain identified in the FEMA maps or impose flood hazards on other properties?

Hydrology deals with the properties, distribution, and circulation of surface water, groundwater and atmospheric water. The quantity of water which flows in a creek or river is calculated based on historic climatic conditions combined with the watershed characteristics. The slope and shape of the watershed, soil properties, recharge area, and relief features are all watershed characteristics which influence the quantity of surface flows. Therefore, as land is developed, impervious area is increased, thereby increasing runoff.

Anticipated changes to existing drainage patterns and runoff volumes should be addressed in the EIR. A hydrology study must be provided and measures to protect on-site and downstream properties from increased erosion or siltation must be identified. The EIR shall address the potential for impacting the hydrologic conditions within the project area and downstream, and recommend alternative site planning and drainage design techniques to reduce runoff volumes and velocities, if appropriate.

Water Quality is affected by sedimentation caused by erosion, by urban run-off carrying contaminants, and by direct discharge of pollutants (point-source pollution). As land is developed or redeveloped, the impervious surfaces could send an increased volume of runoff containing oils, heavy metals, pesticides, fertilizers, and other contaminants (non-source pollution) into associated watersheds. Sedimentation can impede stream flow. Compliance with the City's Storm Water Standards is generally considered to preclude water quality impacts. The Storm Water Standards are available online at:

http://www.sandiego.gov/development-services/news/pdf/stormwatermanual.pdf.

The EIR shall address the effect on water quality resulting from implementation of the project within the project area and downstream. If the project requires treatment control (i.e., Best Management Practices (BMPs)), the project applicant shall submit a Water Quality Technical Report (WQTR) consistent with the City's Storm Water Standards. The report must describe how source control and site design have been incorporated into the project, the selection and calculations regarding the numeric sizing treatment standards, BMP maintenance schedules and maintenance costs, and the responsible party for future maintenance and associated costs. The report must also address water quality by describing the types of pollutants that would be

generated during post construction, and the pollutants to be captured and treated by the BMPs. The findings in this report must be reflected within this section of the EIR. Based on the analysis and conclusions of the WQTR, the EIR shall disclose how the project would comply with local, state, and federal regulations and standards.

This section shall identify which water bodies the site would drain to. The section should also address pollutants of concern for the watershed considering the federal Clean Water Act (CWA) Section 303(d) impaired water listings, address potential impacts to the beneficial uses, and address if either project would cause impacts to water quality. Conformance with the National Pollutant Discharge Elimination System (NPDES) requirements shall be discussed.

Noise

Issue 1: Would the project result in or create a significant increase in the existing ambient noise levels?

Issue 3: Would the project result in exposure of people to current or future transportation noise levels which exceed standards established in the Transportation Element of the General Plan or an adopted airport Comprehensive Land Use Plan?

A noise technical report shall be prepared which shall consist of a comparison of the change in noise levels projected along affected roadways (as identified in the traffic study) resulting from project implementation. The noise technical report shall also address construction-related noise and commercial equipment noise impacts. This analysis and the discussion in the EIR shall focus on noise sensitive receptors that would be subject to potentially significant exterior and interior noise impacts as a result of the proposed project and shall include a discussion of potential measures that could be utilized to reduce vehicular and equipment noise levels.

The EIR shall include a discussion of the potential impacts to existing ambient noise levels resulting from the project, and if implementation of the project would expose people to noise levels that exceed the City's adopted noise ordinance. Mitigation measures will be discussed as appropriate to ensure that the project would not result in any significant noise impacts.

Paleontological Resources

Issue 1: Would the project require over 1,000 cubic yards of excavation in a high resource potential geologic deposit/formation/rock unit, or over 2,000 cubic yards of excavation in a moderate resource potential geologic deposit/formation/rock unit?

The EIR should include a paleontological resources discussion that identifies the underlying formation(s) and the likelihood of uncovering paleontological resources during grading

activities. The EIR should identify the depth of cut (in feet) and amount of grading (in cubic yards) that would result from any grading activities. As stated above, the City's thresholds for monitoring include grading depths of 10 feet or more and excavation of 1,000 or 2,000 cubic yards depending on the respective moderate or high sensitivity of the formational soils on-site. The project site is underlain by the Stadium Conglomerate Formation and Mission Valley Formation, both of which are categorized as having a high sensitivity for paleontological resources.

If the proposed development would impact fossil formations possessing moderate to high potential for significant resources, specific conditions (monitoring and curation) would be required to mitigate impacts to a level below significance.

Public Services and Facilities

Issue 1: Would the project have an effect upon, or result in a need for new or altered governmental services in any of the following areas: police protection, fire/life safety protection, libraries, parks or other recreational facilities, maintenance of public facilities including roads, and/or schools?

The EIR shall describe the public services currently available to serve the project site, and discuss any intensification of land use and if it would lead to increased demand on existing and planned public services and facilities. The EIR shall identify whether or not construction of new facilities would be required, and describe how the construction and long-term maintenance and operation of these facilities could be financed. In particular, relative to fire/life safety protection and police protection, the EIR shall (1) identify fire, police, and road facilities in relation to the project site; (2) disclose the Fire and Police Departments' current response time to the area; (3) discuss if the site currently receives response times within the response time goal for fire crews and equipment, emergency services response, and whether the Police Department's response time goals for priority calls are currently able to be met; (4) discuss if or how the project would alter any existing or planned response times to the site or surrounding service area; and (5) discuss the project's impact on existing or future recreational facilities.

Public Utilities

Issue 1: Would the project result in a need for new systems, or require substantial alterations to existing utilities, the construction of which would create physical impacts with regard to the following utilities: Natural gas; Water; Sewer; Communication systems; and Solid waste disposal?

Issue 2: Would the project use of excessive amounts of water?

Issue 3: Does the project propose landscaping which is predominantly non-drought resistant vegetation?

The EIR shall include a discussion of potential impacts to public utilities as a result of the project. Electricity and gas are provided by Sempra Energy. Water and wastewater services are supplied by the City. The EIR will also identify any conflicts with existing and planned infrastructure, and evaluate any need for upgrading infrastructure and include an analysis of any impacts resulting from the construction of needed new facilities.

The EIR shall include a discussion of the project's construction and operational effects on the City's ability to handle solid waste. According to Assembly Bill 939, the City of San Diego is required to divert at least 50 percent of its solid waste from landfill disposal through source reduction, recycling, and composting. The project meets the City's threshold of demolition and/or development of 40,000 square feet or more and therefore a Waste Management Plan must be prepared by the applicant, approved by the City's Environmental Services Department, and summarized in the EIR. The Plan must address recycling and solid waste disposal, for demolition, construction, and post-construction occupancy phases of the project.

In regards to water usage, the project would not require a Water Supply Assessment, as it proposes under 500,000 square feet does not meet the requirements of SB 610 and SB 221.

<u>Transportation/Circulation and Parking</u>

Issue 1: Would the project result in traffic generation in excess of specific community plan allocation?

Issue 2: Would the project result in an increase in projected traffic which is substantial in relation to the existing traffic load and capacity of the street system?

Issue 3: Would the project result in the addition of a substantial amount of traffic to a congested freeway segment, interchange, or ramp?

Issue 4: Would the project result in a substantial impact upon existing or planned transportation systems?

Issue 5: Would the project result in a substantial alteration to present circulation movements including effects on existing public access to beaches, parks, or other open space areas?

Issue 6: Would the project result in an increase in traffic hazards for motor vehicles, bicyclists or pedestrians due to a proposed, non-standard design feature (e.g., poor sight distance or driveway onto an access-restricted roadway)?

Issue 7: Would the project result in a conflict with adopted policies, plans or programs supporting alternative transportation models (e.g., bus turnouts, bicycle racks)?

The project is estimated to generate approximately 5,486 ADT with 713 AM peak hour trips and 768 PM peak hour trips. Therefore, a transportation impact study is required. This EIR section shall summarize the findings of the report. Specifically, this section shall describe any required modifications and/or improvements to the existing circulation system, including City streets, intersections, freeways, and interchanges required as a result of the project. Provide an analysis of any potential impacts of the construction of the required traffic improvements. Discuss any potential traffic impacts on the community, as well as adjacent communities (if applicable). Address cumulative traffic impacts, including any future development and/or re-development in the community. Note the assumption of traffic conditions at build-out. Describe the adequacy of parking and the pedestrian access and connectivity of the project, both internally and externally. Describe how any proposed pedestrian and bicycle access would connect with off-site circulation elements. Address emergency access, if modifications to the existing street system are proposed.

The EIR shall present mitigation measures that are required to reduce impacts. Discuss if those measures will mitigate impacts to below a level of significance. If the project results in traffic impacts, which cannot be mitigated to below a level of significance, the Alternatives section of the EIR should include a project alternative that will avoid or further reduce traffic impacts.

VI. MANDATORY DISCUSSION AREAS

In accordance with CEQA Section 15126.2, the EIR must include a discussion of the following issue areas:

A. *Significant Environmental Effects of the Proposed Project*: The EIR shall identify and focus on the significant environmental effects of the proposed project. Direct and indirect significant effects of the project on the environment shall be clearly identified and described, giving due consideration to both the short-term and long-term effects. The discussion should include relevant specifics of the area, the resources involved, physical changes, alterations to ecological systems, and changes induced in population distribution, population concentration, the human use of the land (including commercial and residential development), health and safety problems caused by the physical changes, and other aspects of the resource base such as water, historical resources, scenic quality, and public services. The EIR shall also analyze any significant environmental

effects the project might cause by bringing development and people into the area affected.

B. *Significant Environmental Effects Which Cannot Be Avoided if the Proposed Project is Implemented:* Describe any significant impacts, including those which can be mitigated but not reduced to a level of insignificance. Where there are impacts that cannot be alleviated without imposing an alternative design, their implications and the reasons why the project is being proposed, notwithstanding their effect, should be described. Include impact threshold criteria used. Provide mitigation measures where appropriate; including triggers, details, responsible entities, and a monitoring and report schedule. Include a sentence on the significance of each impact area discussed, with effect of the proposed mitigation if appropriate. Do not include analysis.

C. *Significant Irreversible Environmental Changes Which Would Be Caused by the Project Should It Be Implemented*: In accordance with CEQA Section 15126.2(c), the EIR must include a discussion on any significant irreversible environmental changes which would be caused by the proposed action should it be implemented. Address the use of nonrenewable resources during the construction and life of the project. See CEQA Section 15127 for limitations on the requirements for this discussion.

D. *Growth-Inducing Impact of the Proposed Project*: The Growth Inducement analysis should conclude: 1) how the project is directly and indirectly growth inducing (i.e., fostering economic or population growth by land use changes, construction of additional housing, etc.), and 2) if the subsequent consequences (i.e., impacts to existing infrastructure, requirement of new facilities, roadways, etc.) of the growth inducing project would create a significant and/or unavoidable impact, and provide for mitigation or avoidance. Address the potential for growth inducement through implementation of the proposed project; accelerated growth could further strain existing community facilities or encourage activities that could significantly affect the environment. This section need not conclude that growth-inducing impacts, if any, are significant unless the project would induce substantial growth or concentration of population that would lead to significant environmental impacts

VII. CUMULATIVE EFFECTS

When this project is considered with other past, present, and reasonable foreseeable future projects in the project area, implementation could result in significant environmental changes, which are individually limited but cumulatively considerable. Therefore, in accordance with Section 15130 of the CEQA Guidelines, potential cumulative impacts must be discussed in a separate section of the EIR.

VIII. EFFECTS NOT FOUND TO BE SIGNIFICANT

The EIR will provide a discussion of the environmental issue areas that were determined not to be significant and describe the reasons for this determination. Environmental issue areas in which effects have been determined not to be significant include Agricultural Resources and Mineral Resources. If issues related to these areas or other potentially significant issues areas arise during the detailed environmental investigation of each project, consultation with EAS is recommended to determine if subsequent impact analysis should be included in the EIR. Additionally, as supplementary information is submitted (such as with the technical reports), the EIR may need to be expanded to include these or other additional issue areas.

IX. ALTERNATIVES

The EIR must place major attention on reasonable alternatives that avoid or mitigate the significant impacts resulting from the project, while still achieving the stated project objectives. These alternatives should be identified and discussed in detail and should address all significant impacts. The alternatives analysis should be conducted in sufficient graphic and narrative detail to clearly assess the relative level of impacts and feasibility. See Section 15364 of the CEQA Guidelines for the CEQA definition of "feasible."

Preceding the detailed alternatives analysis, provide a section entitled "Alternatives Considered but Rejected." This section should include a discussion of preliminary alternatives that were considered but not analyzed in detail. The reasons for rejection must be explained in detail and demonstrate to the public the analytical route followed in rejected certain alternatives.

The following alternatives must be considered:

A. No Project/No Development

   This alternative would assume the proposed project would not be implemented and the project site would remain in its present undeveloped condition. Discuss the environmental effects that could increase or decrease as a result of not implementing the General Plan amendment or rezone under this alternative, such as agricultural resources, biological resources, hydrology, visual and aesthetics, and noise.

B. Development under Existing Plans

   This alternative should describe project that would be developed on the site in accordance with existing zoning and/or existing land use plans. Describe any future development of the site that could occur. Discuss the environmental effects that could

increase or decrease as a result of this alternative such as land use, traffic, air quality, GHG, and noise.

C. Reduced Development Alternative

If any of the technical reports prepared for the proposed project show significant impacts as a result of build-out of each of the proposed project, a Reduced Development Alternative that reduces those impacts should be presented within the EIR. The Applicant should work with City staff to determine the development area and intensity that should be considered in this alternative.

If through the environmental analysis process, other alternatives become apparent which would mitigate potentially significant impacts; these alternatives must be discussed with EAS staff prior to including them in the EIR. It is important to emphasize that the alternatives section of the EIR should constitute a major part of the report. The timely processing of the environmental review will likely be dependent on the thoroughness of effort exhibited in the alternatives analysis.

X. MITIGATION MEASURES

Mitigation measures should be clearly identified and discussed. A conceptual Mitigation, Monitoring, and Reporting Program (MMRP) for each issue area with significant impacts is mandatory and projected effectiveness must be assessed (i.e., all or some CEQA impacts would be reduced to below a level of significance, etc.). At a minimum, the MMRP should identify: 1) the department responsible for the monitoring; 2) the monitoring and reporting schedule; and 3) the completion requirements. In addition to separate issue area mitigation discussions, a consolidated, stand alone, verbatim, all issue area MMRP should also be included in the EIR in a separate section and a duplicate separate copy must also be provided to EAS.

XI. REFERENCES

Material must be reasonably accessible. Use the most up-to-date possible and reference source document.

XII. INDIVIDUALS AND AGENCIES CONSULTED

List those consulted in preparation of EIR. Seek out parties who would normally be expected to be a responsible agency or an interest in the project.

XIII. CERTIFICATION PAGE

Include City and Consulting staff members, titles and affiliations.

XIV. APPENDICES

Include the NOP, Scoping Meeting Notice and comments received on the NOP and at the Scoping Meeting (Scoping Meeting verbal transcript). Include all accepted technical studies.

In conclusion, prior to starting work on the EIR, it is recommended that we meet with your staff to discuss this proposed scope of work and the environmental review process. Furthermore, if the project description changes and/or supplementary information becomes available, the EIR may need to be expanded to include additional issue areas which would require consultation with EAS. Please contact Elizabeth Shearer-Nguyen, Planner, at 619.446.5369, if you have any questions regarding the CEQA analysis; or Will Zounes, Project Manager at (619) 687-5942, for general questions regarding the proposed project.

Sincerely,

Kerry Santoro
Deputy Director
Development Services Department

KS/les

cc: Elizabeth Shearer-Nguyen, Environmental Analysis Section
Environmental Project File
Will Zounes, Project Management Division
Asha Bleier, DUDEK
Jeff Brazel, JVB Real Estate Advisors

THE CITY OF SAN DIEGO

DEVELOPMENT SERVICES DEPARTMENT

Date of Notice: March 8, 2016

PUBLIC NOTICE OF THE PREPARATION OF A ENVIRONMENTAL IMPACT REPORT AND SCOPING MEETING

SAP No. 24006166

PUBLIC NOTICE: The City of San Diego as the Lead Agency has determined that the project described below will require the preparation of an Environmental Impact Report (EIR) in compliance with the California Environmental Quality Act (CEQA). This Notice of Preparation of a project EIR and Scoping Meeting was publicly noticed and distributed on March 8, 2016. This notice was published in the SAN DIEGO DAILY TRANSCRIPT and placed on the City of San Diego website at: http://www.sandiego.gov/city-clerk/officialdocs/notices/index.shtml under the "California Environmental Quality Act (CEQA) Notices & Documents" section. In addition, the Public Notice was also distributed to the Central Library as well as the Ranch Penasquitos and the Carmel Valley Branch Libraries.

SCOPING MEETING: A public scoping meeting will be held by the City of San Diego's Development Services Department on **March 30, 2016, beginning at 5:30 PM and running no later than 7:30 PM at the Rancho Penasquitos Branch Library, 13330 Salmon River Road, San Diego, CA, 92129. Please note that depending on the number of attendees, the meeting could end earlier than 7:30 PM.** Verbal and written comments regarding the scope and alternatives of the proposed EIR will be accepted at the meeting.

Written comments may be sent to the following address: **E. Shearer-Nguyen, Environmental Planner, City of San Diego Development Services Department, 1222 First Avenue, MS 501, San Diego, CA 92101** or submitted via e-mail to **DSDEAS@sandiego.gov** with the Project Name and Number in the subject line within 30 days of the receipt of this notice. Responsible agencies are requested to indicate their statutory responsibilities in connection with this project when responding. An EIR incorporating public input will then be prepared and distributed for the public to review and comment.

GENERAL PROJECT INFORMATION:

- **PROJECT NAME / NUMBER: THE PRESERVE AT TORREY HIGHLANDS / 442880**
- **COMMUNITY AREA:** Torrey Highlands
- **COUNCIL DISTRICT:** 6

DESCRIPTION: The project proposes a GENERAL PLAN AMENDMENT and a COMMUNITY PLAN AMENDMENT to the Torrey Highlands Subarea Plan to re-designate the project site from Commercial Limited (CL) to Employment Center (EC), a REZONE from AR-1-1 (agricultural - residential, requires minimum 10-acre lots) to IP-3-1 (industrial park - allows for research and development, office and residential uses; no residential is proposed as part of this project), a SITE DEVELOPMENT PERMIT, and a PLANNED DEVELOPMENT PERMIT to construct a 450,000-square-foot commercial office development. Specifically, the project would construct a three building commercial campus comprised of four stories, five stories and six stories, respectively with one level of subterranean parking; one, one-story amenity building; and one

above-grade parking structure. Various site improvements would also be constructed that include associated hardscape (surface parking, driveways, and walkways) retaining walls, and landscape. The project would obtain a Leadership in Energy and Environmental Design (LEED) Silver Certification, in conformance with the criteria of the Affordable/In-Fill Housing and Sustainable Buildings Expedite Program. The undeveloped 11.10-acre project site is located approximately one-quarter mile south of State Route (SR) 56 along the west side of the planned extension of Camino del Sur. The parcel is designated Commercial Limited within the Torrey Highlands Subarea Community Plan. The site is within the AR-1-1 Zone; additionally, the project site is within the Airport Land Use Compatibility Overlay Zone (MCAS Miramar) and the Airport Influence Area (Review Area 2 - MCAS Miramar). (Assessor Parcel Numbers (APN) 306-050-16, 306-050-18, 306-050-19, and 306-050-28) **The site is not included on any Government Code listing of hazardous waste sites.**

APPLICANT: JVB Real Estate Advisors

RECOMMENDED FINDING: Pursuant to Section 15060(d) of the CEQA Guidelines, it appears that the proposed project may result in significant environmental impacts in the following areas**: Land Use, Transportation/Circulation, Air Quality, Biological Resources, Energy, Geologic Conditions, Greenhouse Gas Emissions, Health and Safety, Historical Resources, Hydrology, Noise, Paleontological Resources, Public Services and Facilities, Public Utilities, Visual Effects/Neighborhood Character, Water Quality, and Cumulative Effects.**

AVAILABILITY IN ALTERNATIVE FORMAT: To request the this Notice or the City's Scoping Letter to the applicant detailing the required scope of work in alternative format, call the Development Services Department at (619) 446-5460 (800) 735-2929 (TEXT TELEPHONE).

ADDITIONAL INFORMATION: For environmental review information, contact Elizabeth Shearer-Nguyen at (619) 446-5369. The Scoping Letter and supporting documents may be reviewed, or purchased for the cost of reproduction, at the Fifth floor of the Development Services Department. **For information regarding public meetings/hearings on this project, contact the Project Manager, Will Zounes at (619) 687-5942.** This notice was published in the SAN DIEGO DAILY TRANSCRIPT and distributed on March 8, 2016.

Kerry M. Santoro
Deputy Director
Development Services Department

DISTRIBUTION: See Attached

ATTACHMENTS: Figure 1: Regional Map
Figure 2: Vicinity Map
Figure 3: Site Plan
Scoping Letter

Distribution:

FEDERAL GOVERNMENT
U.S. Environmental Protection Agency (19)
U.S. Fish and Wildlife Service (23)
U.S. Army Corps of Engineers (26)

STATE OF CALIFORNIA
Caltrans District 11 (31)
California Department of Fish and Wildlife (32)
California Regional Water Quality Control Board, Region 9 (44)
State Clearinghouse (46A)
California Department of Transportation (51)
California Transportation Commission (51A)
California Transportation Commission (51B)
California Native American Heritage Commission (222)

CITY OF SAN DIEGO
Mayor's Office (91)
Councilmember Lightner, District 1 (MS 10A)
Councilmember Harris, District 2 (MS 10A)
Councilmember Gloria, District 3 (MS 10A)
Councilmember Cole, District 4 (MS 10A)
Councilmember Kersey, District 5 (MS 10A)
Councilmember Zapf, District 6 (MS 10A)
Councilmember Sherman, District 7 (MS 10A)
Councilmember Alvarez, District 8 (MS 10A)
Councilmember Emerald, District 9 (MS 10A)
Development Services Department
    EAS
    Transportation
    Project Manager
Transportation Development - DSD (78)
Development Coordination (78A)
Fire and Life Safety Services (79)
Library Department - Government Documents (81)
Central Library (81A)
Carmel Valley Branch Library (81F)
Rancho Penasquitos Branch Library (81BB)
Historical Resources Board (87)
Tom Tomlinson, Facilities Financing (93B)
Park and Recreations (89)
Joshua Odom, San Diego Police Department (MS776)
Larry Trame, San Diego Fire-Rescue (MS603)
City Attorney (93C)

OTHER ORGANIZATIONS AND INTERESTED INDIVIDUALS

San Diego Association of Governments (108)
San Diego County Regional Airport Authority (110)
San Diego Transit Corporation (112)
Rancho Santa Ana Botanic Garden at Claremont (161)
Sierra Club (165)
San Diego Canyonlands (165A)
San Diego Natural History Museum (166)
San Diego Audubon Society (167)
San Diego Audubon Society (167A)
California Native Plant Society (170)
Ellen T. Baulder, PHd (175)
Citizens Coordinate for Century 3 (179)
Endangered Habitats League (182)
Endangered Habitats League (182A)
Vernal Pool Society (185)
San Diego Tracking Team (187)
Carmen Lucas (206)
South Coastal Information Center (210)
San Diego Archaeological Center (212)
Save Our Heritage Organisation (214)
Ron Christman (215)
Clint Linton (215B)
Frank Brown – Inter-Tribal Cultural Resources Council (216)
Campo Band of Mission Indians (217)
San Diego County Archaeological Society (218)
Kumeyaay Cultural Heritage Preservation (223)
Kumeyaay Cultural Repatriation Committee (225)
Native American Distribution [Notice Only] (225A-S)
Torrey Highlands – Subarea IV (467)
Rancho de Los Penasquitos Planning Board (380)
Friends of Los Penasquitos Canyon Preserve Inc.(382)
Rancho Penasquitos Town Council (383)
Los Penasquitos Lagoon Foundation (384)
Los Penasquitos Canyon Preserve Citizens Advisory Committee (385)
Del Mar Mesa Community Planning Board (361)
Jeff Brazel JVB Real Estate Advisors, Applicant
Asha Bleier, DUDEK

The Preserve at Torrey Highlands

Regional Map

Environmental Analysis Section Project No. 442880

CITY OF SAN DIEGO - DEVELOPMENT SERVICES

FIGURE 1

Z:\Templates\Arcmap\New Protos\Generic8x11 Portrait.mxd 1/15/2009

SOURCE: USGS 7.5-Minute Series Del Mar Quadrangle

The Preserve at Torrey Highlands

Vicinity Map

Environmental Analysis Section Project No. 442880

CITY OF SAN DIEGO - DEVELOPMENT SERVICES

FIGURE

2

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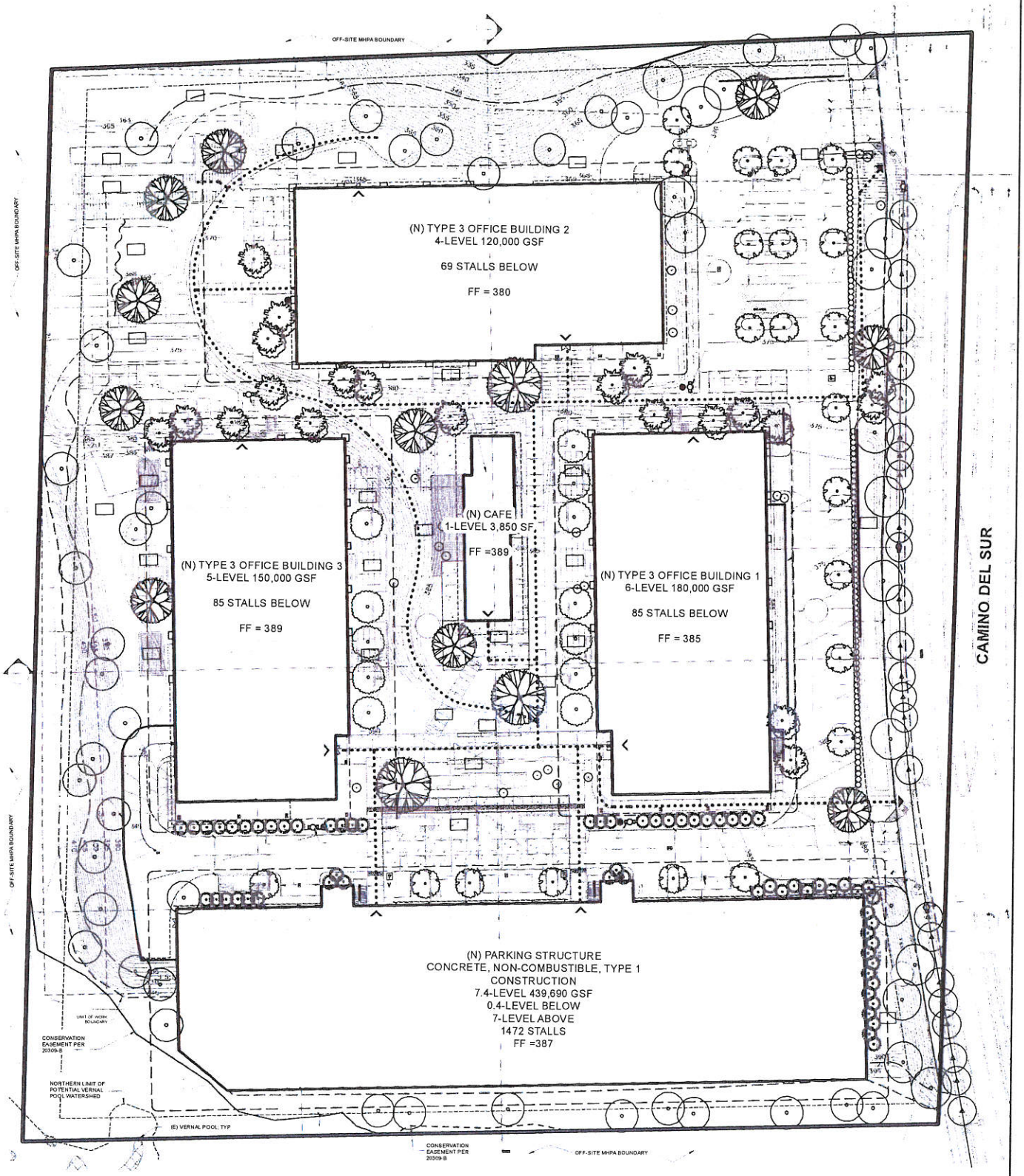

0 50 100 Feet

The Preserve at Torrey Highlands

Site Plan

Environmental Analysis Section Project No. 442880

CITY OF SAN DIEGO - DEVELOPMENT SERVICES

FIGURE 3

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The City of
SAN DIEGO
Development Services Department
Land Development Review Division

March 7, 2016

Jason Wood, Project Manager
Cisterra
3580 Carmel Mountain Rd., Suite 460
San Diego, CA 92130

Subject: **Scope of Work for an Environmental Impact Report for The Preserve at Torrey Highlands (Project Tracking System (PTS) No. 442880)**

Dear Mr. Wood:

Pursuant to Section 15060(d) of the California Environmental Quality Act (CEQA), the environmental review staff of the Development Services Department of the City of San Diego has determined that the proposed project may have significant effects on the environment, and the preparation of an Environmental Impact Report (EIR) is required. Staff has determined that a project EIR is the appropriate environmental document for the project, The Preserve at Torrey Highlands.

The purpose of this letter is to identify the issues to be specifically addressed in the EIR. The EIR shall be prepared in accordance with the City's "Technical Report and Environmental Impact Report Guidelines," (updated December 2005). A copy of the current guidelines is attached.

A Notice of Preparation (NOP) will be distributed to the Responsible Agencies and others who may have an interest in the project as required by CEQA Section 15082. CEQA Section 21083.9(a)(2) requires scoping meetings for projects that may have statewide, regional or area-wide environmental impacts. The City's environmental review staff has determined that this project meets this threshold. A public scoping meeting has been scheduled for Wednesday, March 30, 2016, from 5:30 PM to 7:30 PM at the Rancho Penasquitos Branch Library, located at 13330 Salmon River Road, San Diego CA 92129. Please note that, depending upon the number of attendees, the meeting could end earlier than 7:30 PM.

Changes or additions to the scope of work may be required as a result of input received in response to the Notice of Preparation and Scoping Meeting. In addition, the applicant may need to adjust the project over time through the discretionary review process, and these changes would be disclosed in

1222 First Avenue, Mail Station 301
San Diego, CA 92101- 4101
dsdweb@sandiego.gov

T (619) 446-5000
sandiego.gov

the EIR under the section "History of Project Changes" and accounted for in the EIR impact analysis to the extent required by CEQA.

Each section and issue area of the EIR shall provide a descriptive analysis of the proposed project followed by a comprehensive evaluation. The EIR shall also include sufficient graphics and tables, which, in conjunction with the relevant narrative discussions, provide a complete and meaningful description of all major project features, the environmental impacts of the project, as well as cumulative impacts, mitigation of significant impacts, and alternatives to the project.

PROJECT DESCRIPTION

Discretionary Approvals

The project proposes a General Plan Amendment and a Community Plan Amendment to the Torrey Highlands Subarea Plan to re-designate the project site from Commercial Limited (CL) to Employment Center (EC), a Rezone from AR-1-1 (agricultural - residential, requires minimum 10-acre lots) to IP-3-1 (industrial park - allows for research and development, office and residential uses). No residential is proposed as part of this project. Other required discretionary approvals include a Site Development Permit because the site contains environmentally sensitive lands and a Planned Development Permit to ensure consistency with the Torrey Highlands Subarea Plan.

Location of Project

The project site is located on 11.10 acres (including APNs 306-050-1600 and 306-050-1800) of vacant, undeveloped land located approximately one-quarter mile south of State Route (SR) 56 along the west side of the planned extension of Camino del Sur (see Figures 1 and 2). The project site is designated Commercial Limited, and within the AR-1-1 zone.

The land immediately surrounding the project site is primarily vacant and undeveloped. The City's Multi-Habitat Preservation Area (MHPA) is adjacent to the site on three sides. A gas station is located north of the project site just south of SR 56 and the SR 56 Bike Trail is on the east side of Camino del Sur. Commercial and residential land uses are located north and west of the project site (see Figure 3, Aerial Map).

Project Description

The project proposes to construct a 450,000-square-foot commercial office development. Specifically, the project would construct a three building commercial campus comprised of four stories, five stories and six stories, respectively, with one level of subterranean parking; one, one-story amenity building; and one above-grade parking structure (see Figure 4, Project Site Plan).

Various site improvements would also be constructed that include associated hardscape (surface parking, driveways, and walkways) and landscape. The project proposes to achieve a Leadership in Energy and Environmental Design (LEED) Silver certification, in conformance with the criteria of the Affordable/In-Fill Housing and Sustainable Buildings Expedite Program.

Parking Facilities

The project would provide 1,800 parking spaces, including 89 surface spaces, 241 subterranean spaces, and 1,470 spaces in a parking structure. The parking structure would include seven levels above ground and one level below-ground.

Access

Access to the project site would be provided via two signalized driveways off Camino Del Sur. Currently, Camino Del Sur terminates just south of SR 56 at Torrey Santa Fe Road. The extension of Camino Del Sur is part of a separate application (Project No. 360009 - "Merge 56"). The southern extension of Camino Del Sur would be designed as a four to six-lane major roadway connecting from its current terminus at Torrey Santa Fe Road to its intersection with Dormouse Road, immediately north of Park Village Drive. The extension of Camino Del Sur would be constructed along the westerly project frontage complete with curb, gutter and sidewalk with a paved travel way of two lanes in each direction. Bike lanes would be provided on all sections of Camino Del Sur. In addition, a five-foot decomposed granite (DG) running path is proposed connecting the existing trail to Del Mar Mesa Preserve in the west to Darkwood Canyon in the east. The path would start just south of Torrey Santa Fe Road on the west side of Camino Del Sur, cross at the Carmel Mountain Road intersection to the east side of the roadway, and continue south to the proposed connection with Darkwood Canyon. Camino Del Sur is a capital improvement project identified in the Torrey Highlands and Rancho Penasquitos Public Facilities Financing Plans (PFFP).

Construction

Total construction is expected to take approximately 10 months. Construction of the project would include grading, public and private utilities, building and garage construction, architectural coatings, paving of alleys and sidewalks, public improvements, and landscaping improvements. The project would require a total export of approximately 63,000 cubic yards of soil.

EIR FORMAT/CONTENT REQUIREMENTS

The EIR serves to inform governmental agencies and the public of a project's environmental impacts. Emphasis in the EIR must be on identifying feasible solutions to environmental impacts. The objective is not to simply describe and document an impact, but to actively create and suggest mitigation measures or project alternatives to substantially reduce the significant adverse environmental impacts. The adequacy of the EIR will depend greatly on the thoroughness of this effort.

The EIR must be written in an objective, clear, and concise manner, utilizing plain language. The use of graphics is encouraged to replace extensive word descriptions and to assist in clarification. Conclusions must be supported with quantitative, as well as qualitative, information, to the extent feasible. **The entire environmental document must be left justified. In addition, the environmental document is required to utilize Opens Sans, 10 pitch font.**

I. CONCLUSIONS

Prior to the distribution of the draft EIR for public review, Conclusions, which are attached at the front of the draft EIR, will also need to be prepared. The Conclusions cannot be prepared until an approved draft has been submitted and accepted by the City.

II. TITLE PAGE

The EIR shall include a Title Page that includes the project name, Project Tracking System (PTS) number, State Clearinghouse (SCH) number and the date of publication. DO NOT include any company logo's, applicant's or consultant's names.

III. TABLE OF CONTENTS

The Table of Contents must list all sections included in the EIR, as well as the Appendices, Tables, and Figures. Immediately following the Table of Contents, a list of acronyms and abbreviations utilized in the text must be provided.

IV. EXECUTIVE SUMMARY

The consultant will prepare the Executive Summary to be submitted for review with the last screencheck draft EIR, unless otherwise determined. The executive summary shall have an independent numbering system (e.g., S-1, S-2). In general the summary should reflect the EIR outline, but not need contain every element of the EIR. At a minimum, the summary must include: a brief project description; impacts determined to be significant (including cumulative); impacts found to be less than significant; alternatives; areas of controversy; and lastly a matrix listing the impacts and mitigation. Please refer to the Environmental Impact Report Guidelines for further detailed information.

V. INTRODUCTION

The EIR shall introduce the project with a brief discussion on the intended use and purpose of the EIR. This discussion shall focus on the type of analysis that the EIR is providing and provide an explanation of why it is necessary to implement the project. This section shall describe and/or incorporate by reference any previously certified environmental documents that cover the project site including any EIRs. This section shall briefly describe areas where the project is in compliance or non-compliance with assumptions and mitigation contained in these previously certified documents. Additionally, this section shall provide a brief description of any other local, state and federal agencies that may be involved in the project review and/or any grant approvals.

VI. ENVIRONMENTAL SETTING

The EIR shall describe the precise location of the project site with an emphasis on the physical features of the sites and the surrounding area and present it on a detailed topographic map and a regional map. Provide a local and regional description of the environmental setting of the project, as well as any adjacent land uses, area topography, drainage characteristics, and vegetation. Describe any upcoming changes to the area and any cumulative changes that may relate to the project site. Include the existing and planned land uses in the vicinity, on-and off-site resources, the community plan area land use designation(s), existing zoning, all utility easements and any required maintenance access, and any overlay zones within this section. Include any applicable land use plans/overlay

zones that affect the project site, such as the city of San Diego's Multiple Species Conservation Program (MSCP)/Multi-Habitat Planning Area (MHPA), environmentally sensitive lands such as steep hillsides, wetlands, and the Federal Emergency Management Agency (FEMA) 100 year floodplains and/or floodways that intersect with the project components. Provide a recent aerial photo of the project site and surrounding uses, and clearly identify the project location.

VII. PROJECT DESCRIPTION

The EIR shall include a detailed discussion of the goals and objectives of the project, in terms of public benefit (increase in housing supply, employment centers, etc.). Project objectives will be critical in determining the appropriate alternatives for the project, which would avoid or substantially reduce potentially significant impacts. As stated in CEQA Section 15124(b), "A clearly written statement of objectives will help the lead agency develop a reasonable range of alternatives to evaluate in the EIR and aid the decision makers in adopting findings and/or a statement of overriding considerations, if necessary. The statement of objectives should include the underlying purpose of the project."

This section shall describe all discretionary actions needed to implement the project (e.g. General Plan Amendment, Community Plan Amendment, Planned Development Permit, Tentative Map, etc.) including all permits required from federal, state, and local agencies. If other agencies have responsibility for approvals or project review, describe this involvement. The description of the project shall include all major project features, including density, grading (cut and fill), relocation of existing facilities, land use, retaining walls, landscaping, drainage design, improvement plans, including any off-site improvements, vehicular access points and parking areas associated with the project. The project description shall describe any off-site activities necessary to construct the project. The EIR shall include sufficient graphics and tables to provide a complete description of all major project features. Project phasing also should be described in this section. This discussion shall address the whole of the project.

VIII. HISTORY OF PROJECT CHANGES

This section of the EIR shall outline the history of the project and any physical changes that have been made to the project in response to environmental concerns identified during the review of the project (i.e. in response to NOP or public scoping meetings or during the public review period for the draft EIR).

IX. ENVIRONMENTAL IMPACT ANALYSIS

The potential for significant environmental impacts must be thoroughly analyzed and mitigation measures identified that would avoid or substantially lessen any significant impacts. The City of San Diego is the Lead Agency for this project, and therefore the EIR must represent the independent analyses of the Lead Agency. Accordingly, all impact analysis must be based on the City's "Significance Determination Thresholds" (January 2011) unless otherwise directed by the City. Below are key environmental issue areas that have

been identified for this project, within which the issue statements must be addressed individually.

Discussion of each issue statement shall include an explanation of the existing project site conditions, impact analysis, significance determination, and appropriate mitigation. The impact analysis shall address potential direct, indirect, and cumulative impacts that could be created through implementation of the project and its alternatives. Lastly, the EIR should summarize each required technical study or survey report within each respective issue section, and all requested technical reports must be included as the appendices to the EIR and summarized in the text of the document.

In each environmental issue section, mitigation measures to avoid or substantially lessen impacts must be clearly identified and discussed. The ultimate outcome after mitigation should also be discussed (i.e., significant but mitigated, significant and unmitigated). If other potentially significant issue areas arise during the detailed environmental investigation of the project, consultation with Development Services Department is required to determine if these areas need to be added to the EIR. As supplementary information is required, the EIR may also need to be expanded.

Land Use

Issue 1: Would the project result in an inconsistency/conflict with the environmental goals, objectives, or guidelines of the General/Community plan in which it is located?

Issue 2: Would the project require a deviation or variance, and the deviation or variance would in turn result in a physical impact on the environment?

Issue 3: Would the project result in a conflict with the provisions of the MSCP or other adopted environmental plans for the area?

Issue 4: Would the project result in land uses which are not compatible with an adopted Airport Land Use Compatibility Plan (ALUCP) including aircraft noise levels as defined by the plan?

Issue 5: Would the project result in the exposure of people to noise levels which exceed the City's Noise Ordinance or are incompatible with the Noise Compatibility Guidelines (Table NE-3) in the Noise Element of the General Plan?

The project site is currently designated Commercial Limited (CL) and would require a community plan amendment to re-designate the project site to Employment Center (EC). The site is currently zoned AR-1-1 (agricultural - residential, requires minimum 10-acre lots) and the project would rezone the project site to IP-3-1 (industrial park - allows for research and development, office and residential uses). The project site is located within the Torrey Highlands Subarea Plan. Additionally, the project site is within the Airport Land Use

Compatibility Overlay Zone (Marine Corps Air Station Miramar), Airport Influence Area (Marine Corps Air Station Miramar, Review Area 2), and Affordable Housing Parking Demand (though the latter would not apply to the project). The site is also located with the FAA Part 77 Notification Area due to its location near Marine Corps Air Station Miramar.

The project would require a Community Plan Amendment, Rezone and Site Development Permit. Additionally there will be associated ministerial permits that may include, but are not limited to, grading and building permits.

This project site is located within the City's Multiple Species Conservation Program (MSCP) area and located adjacent to the MHPA; no MHPA lands are located within the site.

The impacts of land use changes must be addressed in the EIR. In addition, the EIR shall evaluate consistencies/inconsistencies (including all deviations, variances, etc.) with local, state, and federal policy documents and regulations (, the City's General Plan (2008), the Community Plans, City's Land Development Code, and Multiple Species Conservation Program). If the projects are found to be inconsistent with any adopted land use plans, the EIR should disclose this information if the inconsistency would result in potentially significant physical impacts.

Additionally, an acoustical technical report shall be prepared for each project that would include an evaluation with regards to adopted Airport Land Use Compatibility Plans (if applicable), the City's Noise Ordinance and with the Noise Compatibility Guidelines (Table NE-3) in the Noise Element of the General Plan.

Transportation/Circulation

Issue 1: Would the project result in traffic generation in excess of specific community plan allocation?

Issue 2: Would the project result in an increase in projected traffic which is substantial in relation to the existing traffic load and capacity of the street system?

Issue 3: Would the project result in the addition of a substantial amount of traffic to a congested freeway segment, interchange, or ramp?

Issue 4: Would the project result in a substantial impact upon existing or planned transportation systems?

Issue 5: Would the project result in a substantial alteration to present circulation movements including effects on existing public access to beaches, parks, or other open space areas?

Issue 6: Would the project result in an increase in traffic hazards for motor vehicles, bicyclists or pedestrians due to a proposed, non-standard design feature (e.g., poor sight distance or driveway onto an access-restricted roadway)?

Issue 7: Would the project result in a conflict with adopted policies, plans or programs supporting alternative transportation models (e.g., bus turnouts, bicycle racks)?

The project is estimated to generate approximately 5,486 ADT with 713 AM peak hour trips and 768 PM peak hour trips. Therefore, a transportation impact study is required. This EIR section shall summarize the findings of the report. Specifically, this section shall describe any required modifications and/or improvements to the existing circulation system, including City streets, intersections, freeways, and interchanges required as a result of the project. Provide an analysis of any potential impacts of the construction of the required traffic improvements. Discuss any potential traffic impacts on the community, as well as adjacent communities (if applicable). Address cumulative traffic impacts, including any future development and/or re-development in the community. Note the assumption of traffic conditions at build-out. Describe the adequacy of parking and the pedestrian access and connectivity of the project, both internally and externally. Describe how any proposed pedestrian and bicycle access would connect with off-site circulation elements. Address emergency access, if modifications to the existing street system are proposed.

Air Quality

Issue 1: Would the project conflict with or obstruct implementation of the applicable air quality plan?

Issue 2: Would the project result in a violation of any air quality standard or contribute substantially to an existing or projected air quality violation?

Issue 3: Would the project expose sensitive receptors to substantial pollutant concentrations?

Issue 4: Would the project create objectionable odors affecting a substantial number of people?

Issue 5: Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including release emissions which exceed quantitative thresholds for ozone precursors)?

An air quality study shall be prepared to discuss the projects impact on the ability of the San Diego Air Basin to meet regional air quality strategies. The EIR section and technical report shall discuss both the potential stationary and non-stationary (i.e., vehicular) air emission sources associated with construction and operation of each of the proposed project. The

section and technical report shall include estimates of total-generated air pollutant emissions, a discussion of potential dust generation during construction, evaluation of the potential for carbon monoxide hot spots (if significant impacts at nearby intersections are identified in the traffic report), and any proposed emissions reduction design features or dust suppression measures that would avoid or lessen emissions or dust-related impacts to sensitive receptors within the area. The air quality studies shall take into consideration the potential for criteria pollutant emissions generated from the project, as well as toxic air contaminants.

Biology

Issue 1: Would the project result in impacts to a sensitive habitat or sensitive natural community as identified in local, regional, state or federal plans, policies, or regulations?

Issue 2: Would the project result in an impact on City, State, or Federally regulated wetlands through direct removal, filling, hydrological interruption or other means?

Issue 3: Would implementation of the project result in a reduction in the number of any unique, rare, endangered, sensitive, or fully protected species of plants or animals?

Issue 4: Would the project result in interference with the movement of any native resident or migratory wildlife through linkages or wildlife corridors?

Issue 5: Would the project conflict with provisions of adopted local habitat conservation plans or policies protecting biological resources?

Issue 6: Would the project introduce land uses within or adjacent to the MHPA that would result in adverse edge effects?

Issue 7: Would the project introduce invasive species into natural open space areas?

A series of diverse habitats and sensitive species could potentially be directly or indirectly affected by the project and to the extent feasible, should be fully discussed in this section of the EIR. A biological resources constraints analysis, based on existing inventory of biological resources should be prepared to address existing conditions, potential constraints, and opportunities related to biological resources within the project study area. The analysis should also include a site reconnaissance to accurately represent the existing conditions discussion of the EIR. The analysis must identify any rare and sensitive species, MSCP covered and narrow endemic flora and fauna, which are known to be, or to have a potential to exist, in the project area as well as an inventory of sensitive habitat types and wetlands.

The impacts to identifiable wetland habitat should be addressed within this section of the EIR. Wetland habitat types should be shown graphically and include recommendations to

sustain their functionality. If impacts to any wetlands or wetlands buffers are identified, a discussion of the feasibility or infeasibility of avoiding such impacts should be included.

Indirect effects to the City's MHPA may occur with the project. Both the biological constraints analysis and the Biological Resources section of the EIR should disclose potential indirect effects that may occur from implementation of the project.

Energy

Issue 1: Would construction and operation of the project result in the use of excessive amounts or electrical power?

Issue 2: Would the project result in the use of excessive amounts of fuel or other forms of energy (including natural gas, oil, etc.)?

Appendix F of the State CEQA Guidelines requires that potentially significant energy implications of a project shall be considered in an EIR to the extent relevant and applicable to the project. Particular emphasis on avoiding or reducing inefficient, wasteful and unnecessary consumption of energy should be included in this section. The EIR shall address the estimated energy use for the project and assess whether the project would generate a demand for energy (electricity and/or natural gas) that would exceed the planned capacity of the energy suppliers. A description of any energy and/or water saving project features would also be included in this section (with cross-references to the GHG emissions discussion, as appropriate). This section shall describe any proposed measures included as part of the project that would conserve energy and reduce energy consumption, and shall address all applicable issues described within Appendix F of the CEQA Guidelines.

Geologic Conditions

Issue 1: Would the project be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

Issue 2: Would the project result in a substantial increase in wind or water erosion of soils, either on or off the site?

Issue 3: Would the project expose people or structures to geologic hazards such as earthquakes, landslides, mudslides, ground failure, or similar hazards?

A geotechnical study shall be prepared for the proposed project. The results of the geotechnical study will be summarized in the EIR. The technical report and EIR should discuss the potential for either short- or long-term erosion impacts to soils on-site. Geological constraints on the project site, including groundshaking, ground failure, landslides, erosion, ground water, and geologic instability should be addressed, as well as seismicity and seismic hazards created by faults present in the project vicinity.

Greenhouse Gas Emissions

Issue 1: Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Issue 2: Would the project conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?

A quantitative analysis addressing greenhouse gas (GHG) emissions from the project shall be provided in a GHG emissions analysis and summarized in the EIR. The analysis should include, but not be limited to, the primary sources of GHG emissions associated with the project: vehicular traffic, generation of electricity, natural gas consumption/combustion, solid waste generation and water usage. The City of San Diego has not adopted a formal Threshold of Significance for CEQA for GHG emissions. Therefore, in accordance with amendments to the state CEQA Guidelines regarding analysis of greenhouse gas emissions, the City of San Diego is utilizing the California Air Pollution Control Officers Association (CAPCOA) report "CEQA & Climate Change" dated January 2008 as an interim guideline to determine whether a GHG analysis would be required. The CAPCOA report references the 900 metric ton guideline as a conservative threshold for requiring further analysis and mitigation. Therefore, the proposed project will be analyzed to determine whether it exceeds the 900 metric ton screening threshold. If so, a GHG analysis technical report for the project shall be prepared and will be included as an appendix to the EIR. The EIR shall summarize the results of the report, including identification of the net GHG emissions identified.

Historical Resources

Issue 1: Would the project result in the alteration or destruction of a prehistoric or historic archaeological site, or any adverse physical or aesthetic effects to a prehistoric or historic building, structure, object, or site?

Issue 2: Would the project result in any impact to existing religious or sacred uses or result in the disturbance of any human remains within the potential impact area?

The project site is located within a high sensitivity area on the City of San Diego's Historical Resources Sensitivity Maps, and development is proposed on previously undeveloped parcels. A cultural resources report should be prepared for the proposed project to determine the presence and/or absence of any archaeological resources within the project's footprint. The analysis should include a records search of local databases and site reconnaissance as necessary to accurately represent the existing conditions discussion of the EIR. A report shall be prepared in accordance with the City of San Diego's Land Development Code Historical Resources Guidelines (amended April 30, 2001) and discussed in the EIR. Based on background research and review of archaeological site records, the EIR should identify areas of high, moderate or low sensitivity and determine significance of

present resources, when applicable. The analysis shall identify mitigation measures and/or include recommendations for avoidance of potential impacts to archaeological resources. This section must also include a discussion of potential impacts to Native American cultural resources and include an ethnographic discussion of the San Diego tribal community relative to the project study area.

Health and Safety

Issue 1: Would the project expose people or property to health hazards, including fire?

Issue 2: Would the project create future risk of an explosion or the release of hazardous substance (including, but not limited to gas, oil, pesticides, chemicals, or radiation)? Would the proposed Program expose people or the environment to a significant hazard through the routine transport, use, or disposal of hazardous materials?

Issue 3: Would any component of the project interface or intersect with a site that is included on a hazardous material sites list compiled pursuant to Government Code Section 6596.25 and, as a result, pose a potential hazard to the public or environment?

Issue 4: Would the project result in a safety hazard for people working in a designated airport influence area?

This section of the EIR shall provide an analysis of the hazardous materials to be stored, used and transported for the project, if any. Assess the potential for significant human health and safety impacts. The EIR shall include a site assessment to determine whether the project site is included on a list maintained by the State, which has been compiled in accordance with Government Code Section 6596.25.

This section shall discuss the potential wildfire risk for the project site and demonstrate the project's compliance with the City's Brush Management Regulations.

The project site is located within the Airport Land Use Compatibility Overlay Zone (MCAS Miramar) and the Airport Influence Area (Review Area 2 – MCAS Miramar). The project shall address consistency with the requirements of these zones.

Hydrology

Issue 1: Would the proposal result in an increase in impervious surfaces and associated increased runoff?

Issue 2: Would the proposal result in a substantial alteration to on- and off-site drainage patterns due to changes in runoff flow rates or volumes?

Issue 3: Would the proposal develop wholly or partially within the 100-year floodplain identified in the FEMA maps or impose flood hazards on other properties.

Hydrology deals with the properties, distribution, and circulation of surface water, groundwater and atmospheric water. The quantity of water which flows in a creek or river is calculated based on historic climatic conditions combined with the watershed characteristics. The slope and shape of the watershed, soil properties, recharge area, and relief features are all watershed characteristics, which influence the quantity of surface flows. Therefore, as land is developed, impervious area is increased, thereby increasing runoff.

The EIR shall evaluate if the proposed project would have a potential for increasing runoff rates and volumes within the proposed project area. Anticipated changes to existing drainage patterns, runoff rates and volumes, and groundwater recharge rates in the proposed project area shall be addressed in the EIR. A preliminary hydrology and hydraulics study shall be provided and measures to protect on-site and downstream properties from increased runoff, erosion, or siltation must be identified; this study shall be included in the appendices of the EIR. The EIR should address the potential for project implementation to impact the hydrologic conditions within and downstream of the project area.

Noise

Issue 1: Would the project result in or create a significant increase in the existing ambient noise levels?

Issue 2: Would the project result in exposure of people to current or future transportation noise levels which exceed standards established in the Transportation Element of the General Plan or an adopted airport Comprehensive Land Use Plan?

An acoustical analysis, prepared in accordance with the City's "Acoustical Report Guidelines," is required to determine what, if any, impacts would occur due to project implementation. The report must determine if the project has the potential to create significant noise impacts. Additionally, the noise report shall evaluate the project's consistency with the General Plan Noise Element. If there is a potential for proposed uses to be incompatible with exterior noise levels at outdoor amenities or interior areas, measures must be included as project design features in order to ensure consistency with the General Plan Noise Element (i.e., setbacks, use of double-paned glass, noise walls/berms and other noise attenuation techniques). The analysis shall consist of a comparison of the change in noise levels projected along affected roadways (as identified in the traffic study) resulting from project implementation. Include tables within the noise study, which show the existing, and future noise levels of dB(A) and any increased noise levels over dB(A) in 3 dB(A) increments along affected roads.

The analysis should discuss how the project would conform to the City of San Diego Municipal Code Noise and Abatement Control Ordinance §59.5.01 and the General Plan.

Additionally, construction noise may impact surrounding uses and the EIR should include a discussion regarding this potential impact.

The EIR shall discuss whether the project is located in an area affected by aircraft noise and, if so, would land uses proposed by the project be compatible with an adopted Airport Land Use Compatibility Plan. Lastly, the report should focus on the potential impacts to adjacent sensitive wildlife area in relationship to the green space/park being proposed. The analysis must include both construction and operational phases of the project and make recommendations on mitigation measures and/or use limitations to be implemented in relation to the park use.

Paleontological Resources

Issue 1: Would the project require over 1,000 cubic yards of excavation in a high resource potential geologic deposit/formation/rock unit, or over 2,000 cubic yards of excavation in a moderate resource potential geologic deposit/formation/rock unit?

The EIR should include a paleontological resources discussion that identifies the underlying formation(s) and the likelihood of uncovering paleontological resources during grading activities. The EIR should identify the depth of cut (in feet) and amount of grading (in cubic yards) that would result from any grading activities. As stated above, the City's thresholds for monitoring include grading depths of 10 feet or more and excavation of 1,000 or 2,000 cubic yards depending on the respective moderate or high sensitivity of the formational soils on-site. The Stadium Conglomerate Formation and Mission Valley Formation, both of which are categorized as having a high sensitivity for paleontological resources, underlie the project site.

If the proposed development would impact fossil formations possessing moderate to high potential for significant resources, specific conditions (monitoring and curation) would be required to mitigate impacts to a level below significance.

Public Services and Facilities

Issue 1: Would the project have an effect upon, or result in a need for new or altered governmental services in any of the following areas: police protection, fire/life safety protection, libraries, parks or other recreational facilities, maintenance of public facilities including roads, and/or schools?

The EIR shall describe the public services currently available to serve the project site, and discuss any intensification of land use and if it would lead to increased demand on existing and planned public services and facilities. The EIR shall include a discussion of potential impacts to public services and facilities resulting from implementation of the project. The EIR shall a summary of applicable regulations, and analyses of potential short-term and long-term impacts of the proposed project. The EIR shall identify any conflicts with existing infrastructure, evaluate any need for upgrading infrastructure, and shall demonstrate that

facilities would have sufficient capacity to serve the needs of the project. This section shall discuss any intensification of land use and land use changes associated with the proposed project to determine if it would increase demand on existing and planned public services and facilities, and identify fire and police facilities in each community. This section will also disclose the Fire and Police Departments' current response time to the area. Appendix G of the CEQA Guidelines asks whether a project would result in substantial adverse physical impacts from the construction or alteration of facilities needed to maintain acceptable service ratios, response times, or other performance objectives for any of the public services. Thus, the focus of the evaluation of impacts must be on the physical effects of constructing or altering public facilities.

Public Utilities

Issue 1: Would the project result in a need for new systems, or require substantial alterations to existing utilities, the construction of which would create physical impacts with regard to the following utilities: Natural gas; Water; Sewer; Communication systems; and Solid waste disposal?

Issue 2: Would the project use of excessive amounts of water?

Issue 3: Does the project propose landscaping which is predominantly non-drought resistant vegetation?

The proposed project would increase the demand on essential public utilities (electrical, natural gas, solar energy, solid waste generation/disposal, water and sewer) and may require new or expanded infrastructure. This section of the EIR shall analyze the demand and supply relationships of various public utilities and discuss how the project would comply with local, state and federal regulations for each public utility and identify any conflicts with existing and planned infrastructure.

Specifically, the EIR should include a Waste Management Plan that must be approved by the City's Environmental Services Department that would address Solid Waste disposal impacts (construction and operational). The EIR shall discuss how this project would contribute cumulatively to the region's solid waste facility capacity and summarize the findings of the Waste Management Plan.

Sewer and/or water pipeline studies shall be performed to determine if appropriate sewer/water facilities are available to serve the development. The analysis and conclusions of the studies shall be included in the EIR.

In regards to water usage, the project would not require a Water Supply Assessment, as it proposes under 500,000 square feet and does not meet the requirements of SB 610 and SB 221.

Visual Effects and Neighborhood Character

Issue 1: Would the project result in a substantial change to natural topography or other ground surface relief features through landform alteration?

Issue 2: Would implementation of the project result in the blockage of public views from designated open space areas, roads, or to any significant visual landmarks or scenic vistas?

Issue 3: Would the project result in substantial alteration to the existing character of the area?

Issue 4: Would the project be compatible with surrounding development in terms of bulk; scale, materials, or style?

To the extent feasible, the EIR should include an evaluation of potential impacts on the natural landforms resulting from implementation of the project. The City's Significance Determination Thresholds include, but are not limited to, the following in determining such impacts: exceed the allowed height or bulk regulations and existing patterns of development in the surrounding area by a significant margin; and/or located in a highly visible area and would strongly contrast with the surrounding development or natural topography through excessive bulk, signage, or architectural projection. This section of the EIR should include a conceptual description and analysis of the allowed building mass, bulk, height, and architectural style that would result from the project. The EIR shall also analyze the use of materials that could emit or reflect a significant amount of light or glare and any potential effect on light sensitive species or on adjacent aviation uses. Renderings, cross sections and visual simulations of the project should be incorporated into the EIR section when possible.

Water Quality

Issue 1: Would the proposal result in an increase in pollutant discharge to receiving waters during or following construction? Would the proposal discharge identified pollutants to an already impaired water body?

Issue 2: What short-term and long-term effects would the proposal have on local and regional water quality? What types of pre- and post-construction Best Management Practices (BMPs) would be incorporated into the proposal to preclude impacts to local and regional water quality?

Water Quality is affected by sedimentation caused by erosion, by urban run-off carrying contaminants, and by direct discharge of pollutants (point-source pollution). As land is developed or redeveloped, the impervious surfaces could send an increased volume of runoff containing oils, heavy metals, pesticides, fertilizers, and other contaminants (non-source pollution) into associated watersheds. Sedimentation can impede stream flow. Degradation of water quality could impact human health as well as wildlife systems. Sedimentation can cause impediments to stream flow. In addition, oxygen availability is

affected by sedimentation, which can significantly influence aquatic and riparian habitats. Compliance with the City's Storm Water Standards is generally considered to preclude water quality impacts. The Storm Water Standards are available online.

Discuss the project's effect on water quality within the project area and downstream. If the project requires treatment control Best Management Practices (BMPs), submit a Water Quality Technical Report (WQTR) consistent with the City's Storm Water Standards. The report must describe how source control and site design have been incorporated into the project, the selection and calculations regarding the numeric sizing treatment standards, BMP maintenance schedules and maintenance costs, and the responsible party for future maintenance and associated costs. The report must also address water quality, by describing the types of pollutants that would be generated during post construction, the pollutants to be captured and treated by the BMPs. The findings in this report must be reflected within this section of the EIR. Based on the analysis and conclusions of the WQTR, the EIR shall disclose how the project would comply with local, state, and federal regulations and standards.

X. SIGNIFICANT ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED IF THE PROPOSED PROJECT IS IMPLEMENTED

This section shall discuss the significant unavoidable impacts of the project, including those significant impacts that can be mitigated but not reduced to below a level of significance. Discuss impacts that cannot be reduced to below a level of significance in spite of the applicant's willingness to implement all feasible mitigation measures. Please do not include analysis. State which impacts (if any) cannot be alleviated without imposing an alternative design or location. In such cases, describe why the project has been proposed in spite of the probable significant effects. See Guidelines Section 15126.2(b).

XI. SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

In accordance with CEQA Section 15126.2(c), the EIR shall include a discussion of any significant irreversible environmental changes which would be caused by the action should it be implemented. This section shall address the use of nonrenewable resources during the construction and life of the project. See CEQA Section 15127 for limitations on the requirements for this discussion.

XII. GROWTH INDUCEMENT

The EIR shall address the potential for growth inducement through implementation of the project. The EIR shall discuss the ways in which the project 1) is directly and indirectly growth inducing (i.e. fostering economic or population growth by land use changes, construction of additional housing, etc.) and 2) if the subsequent consequences (i.e. impacts to existing infrastructure, requirement of new facilities, roadways, etc.) of the growth inducing project would create a significant and/or unavoidable impact, and provide for mitigation or avoidance. Accelerated growth could further strain existing community facilities or encourage activities that could significantly affect the environment. This section

need not conclude that growth-inducing impacts if any are significant unless the project would induce substantial growth or concentration of population.

XIII. CUMULATIVE IMPACTS

In accordance with CEQA Section 15130, potential cumulative impacts shall be discussed in a separate section of the EIR. This section shall include all existing and pending development proposals, including those undergoing review with the Development Services Department. The discussion shall address the potential cumulative effects related to each environmental resources area that should be discussed in the EIR as outlined above.

The EIR shall summarize the overall short-term and long-term impacts this project could have in relation to other planned and proposed projects. When this project is considered with other past, present and reasonably foreseeable probable future projects within close proximity, would the project result in significant environmental changes that are individually limited but cumulatively considerable? If incremental impacts do not rise to the level of cumulatively significant the Draft EIR shall make a statement to that extent.

XIV. EFFECTS FOUND NOT TO BE SIGNIFICANT

A separate section of the EIR shall include a brief discussion of why certain areas were not considered to be potentially significant and were therefore not included in the EIR. For the Preserve at Torrey Highlands project, these include agricultural resources, mineral resources, recreation, and population and housing. If issues related to these areas or other potentially significant issues areas arise during the detailed environmental investigation of the project, consultation with EAS is recommended to determine if subsequent issue area discussions need to be added to the EIR. Additionally, as supplementary information is submitted (such as with the technical reports), the EIR may need to be expanded to include these or other additional areas.

XV. ALTERNATIVES

The EIR shall place major attention on reasonable alternatives that avoid or reduce the project's significant environmental impacts while still achieving the stated project objectives. Therefore, a discussion of the project's objectives should be included in this section. The alternatives should be identified and discussed in detail and should address all significant impacts. Refer to Section 15364 of the CEQA Guidelines for the CEQA definition of "feasible."

This section should provide a meaningful evaluation, analysis, and comparison of alternatives' impacts to those of the project (matrix format recommended). These alternatives should be identified and discussed in detail and shall address all significant impacts. The alternatives analysis should be conducted with sufficient graphics, narrative and detail to clearly assess the relative level of impacts and feasibility. Issues to consider when assessing "feasibility" are site suitability, economic viability, availability of infrastructure, general plan consistency, other regulatory limitations, jurisdictional boundaries and the applicant's control over alternative sites (own, ability to purchase, etc.).

The advantages and disadvantages of each alternative will be compared to the proposed project and reasons for rejecting or recommending the alternative will be discussed in the EIR.

Preceding the detailed alternatives analysis, provide a section entitled "Alternatives Considered but Rejected." This section should include a discussion of preliminary alternatives that were considered but not analyzed in detail. The reasons for rejection must be explained in detail and demonstrated to the public the analytical route followed in rejecting certain alternatives.

No Project Alternative

The No Project Alternative discussion shall compare the environmental effects of approving the project with impacts of not approving the project. In accordance with CEQA Guidelines Section 15126.6(e)(3)(B), the No Project Alternative shall discuss the existing conditions at the time of the NOP, as well as what would be reasonably expected to occur in the foreseeable future if the proposed project is not approved, based on current zoning, land use designations, and available infrastructure. The No Project/Development assumes no construction associated with the proposed project, with future development occurring consistent with the existing land use. The intent of this alternative is to satisfy CEQA's requirement to address development of the project in accordance with any approved plans or existing zoning.

Other Project Alternatives

In addition to a No Project Alternative, the EIR shall consider other alternatives that are determined through the environmental review process that would mitigate potentially significant environmental impacts. These alternatives must be discussed and/or defined with EAS staff prior to including them in the EIR.

The Alternatives section of the EIR will be based on a description of "reasonable" project alternatives, which reduce or avoid potentially significant impacts associated with the proposed project. Site-specific alternatives, if needed, will be developed in response to the findings of the environmental analyses and the various technical studies and may include alternative project design to mitigate one or more of the identified significant adverse impacts of the proposed project. This may include a reduction in land use intensity, alternative land use plan(s) or feasible design scenarios. The following alternatives must be considered:

A. Development under Existing Plans

   This alternative should describe project that would be developed on the site in accordance with existing zoning and/or existing land use plans. Describe any future development of the site that could occur. Discuss the environmental effects that could increase or decrease as a result of this alternative such as land use, traffic, air quality, GHG, and noise.

B. Reduced Development Alternative

If any of the technical reports prepared for the proposed project show significant impacts as a result of build-out of each of the proposed project, a Reduced Development Alternative that reduces those impacts should be presented within the EIR. The Applicant should work with City staff to determine the development area and intensity that should be considered in this alternative.

If, through the environmental analysis, other alternatives become apparent that would mitigate potential impacts, these should be discussed with EAS staff prior to including them in the Draft EIR. It is important to emphasize that the alternatives section of the EIR should constitute a major part of the report. The timely processing of the environmental review will likely be dependent on the thoroughness of effort exhibited in the alternative analysis.

XVI. MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)

Mitigation measures should be clearly identified and discussed and their effectiveness assessed in each issue section of the EIR. A Mitigation, Monitoring, and Reporting Program (MMRP) for each issue area with significant impacts is mandatory and projected effectiveness must be assessed (i.e., all or some CEQA impacts would be reduced to below a level of significance, etc.). At a minimum, the MMRP should identify: 1) the department responsible for the monitoring; 2) the monitoring and reporting schedule; and 3) the completion requirements. In addition, mitigation measures and the monitoring and reporting program for each impact should also be contained (verbatim) to be included within the EIR in a separate section and a duplicate separate copy (Word version) must also be provided to EAS.

XVII. REFERENCES

Material must be reasonably accessible. Use the most up-to-date possible and reference source documents

XVIII. INDIVIDUALS AND AGENCIES CONSULTED

List those consulted in preparation of the EIR. Seek out parties who would normally be expected to be a responsible agency or an interest in the project.

XIX. CERTIFICATION PAGE

Include City and Consulting staff members, titles, and affiliations

XX. APPENDICES

Include the EIR Notice of Preparation (NOP), and any comments received regarding the NOP and Scoping Letter. Include all accepted technical studies.

CONCLUSION

If other potentially significant issue areas arise during detailed environmental investigation of the project, consultation with staff from the Environmental Analysis Section of the Land Development Review Division is required to determine if these other areas need to be addressed in the EIR. Should the project description be revised, an additional scope of work may be required. Furthermore, as the project design progresses and supplementary information becomes available, the EIR may need to be expanded to include additional issue areas.

It is important to note that timely processing of your project will be contingent in large part on your selection of a well-qualified consultant. Prior to starting work on the EIR, a meeting between the consultant and EAS will be required to discuss and clarify the scope of work. Until the screencheck for the draft EIR is submitted, which addresses all of the above issues, the environmental processing timeline will be held in abeyance. Should you have any questions regarding this letter or the environmental process, please contact the environmental analyst, Elizabeth Shearer-Nguyen at (619) 446-5369; for general questions regarding project processing and/or the project, contact Will Zounes, Project Manager at (619) 687-5942.

Sincerely,

for Kerry M. Santoro
Deputy Director
Development Services Department

KMS/les

cc: Elizabeth Shearer-Nguyen, Land Development Review Division
Environmental Project File
Will Zounes, Project Management Division
Asha Bleier, DUDEK
Jeff Brazel, JVB Real Estate Advisors

What is your opinion of the proposed Cisterra massive office complex and the Rhodes Crossing density increase in Rancho Penasquitos off the Ted Williams Freeway?
I am for protecting our community plan AS IS and our vision for growth. I believe these two projects are are inappropriate in scale, size, location and use. I wanted to know your opinion on this matter.
Regards,

Alex P.

To Whom It May Concern:

As a resident of the Torrey Highlands area in Rancho Penasquitos, I oppose the plan amendments that JVB Real Estate Advisors is proposing for the Torrey Highlands Subarea plan, also known as the "former Diocese lot." Changing the zoning from AR-1-1agricultural lot to an IP-3-1 industrial park will not benefit surrounding communities. The proposed Preserve project will negatively impact the protected habitat of our canyon preserve, and it will negatively impact the significant amount of traffic that already exists. When the community plan was developed, that area was specifically zoned as an AR-1-1 to meet the best interests of both the natural habitat and the people who would live in surrounding areas. That need has not changed, and the zoning should not either.

What precedence are we setting by allowing big commercial developers to purchase land zoned for a specific purpose, and then change the zoning requirements to fit their own desires without regard to the original intent of that property? Currently, the development proposal is for several office buildings and a parking structure. Although it may appear relatively harmless to both the protected habitat and people in the surrounding area, changing the zoning to an industrial park will invite companies that can potentially harm the surrounding area.

Please accept my opposition to the Preserve at Torrey Highlands proposal and the rezoning of the property. For the preservation and protection of surrounding areas, it needs to remain zoned as an AR-1-1. Thank you for your time and consideration.

Alice Wei
amc8g@hotmail.com

To Whom It May Concern:

As a resident of the Park Village neighborhood in Rancho Penasquitos, I oppose the plan amendments that JVB Real Estate Advisors is proposing for the Torrey Highlands Subarea plan, also known as the "former Diocese lot."

Changing the zoning from AR-1-1agricultural lot to an IP-3-1 industrial park will not benefit surrounding communities. The proposed Preserve project will negatively impact the protected habitat of our canyon preserve, and it will negatively impact the significant amount of traffic that already exists. When the community plan was developed, that area was specifically zoned as an AR-1-1 to meet the best interests of both the natural habitat and the people who would live in surrounding areas. That need has not changed, and the zoning should not either.

What precedence are we setting by allowing big commercial developers to purchase land zoned for a specific purpose, and then change the zoning requirements to fit their own desires without regard to the original intent of that property? Currently, the development proposal is for several office buildings and a parking structure. Although it may appear relatively harmless to both the protected habitat and people in the surrounding area, changing the zoning to an industrial park will invite companies that can potentially harm the surrounding area.

Please accept my opposition to the Preserve at Torrey Highlands proposal and the rezoning of the property. For the preservation and protection of surrounding areas, it needs to remain zoned as an AR-1-1.

Thank you for your time and consideration.

Brian Eshelman
858.863.3885

E. Shearer-Nguyen,

I am writing in strong opposition to the proposed project "*The Preserve at Torrey Highlands*", #442880.

An 11 acre high rise office park is not an appropriate neighbor to the Del Mar Mesa Preserve. The proposed project would negatively impact recreation and wildlife within the Del Mar Mesa (DMM) Preserve by increasing noise pollution, negative visual impact, increase and polluted water run off into Deer Canyon, increased visitation by office workers, and more wildlife deaths from vehicle impacts.

Additionally, State route 56 already exceeds capacity, adding an additional 1800 vehicles create significant traffic problems. If Camino Del Sur is completed to Park Village drive, adding vehicle traffic to the residential neighborhoods from this project is not appropriate.

Given that this land is zoned agricultural and is now surrounded on 3 sides by the City's Multi-Habitat Preservation Area, it would be more appropriate that the land be designated as mitigation land and incorporated into Del Mar Mesa Preserve.

Brian Nixon
11894 Cypress Canyon Road
San Diego, CA 92131

4/6/2016

E. Shearer-Nguyen
Environmental Planner,
City of San Diego Development Services
1222 First Avenue, MS 501
San Diego, CA 92101

RE: The Preserve

Dear M. Shearer-Nguyen,

Please consider my comments.

I own a home within, and have been a resident of the City of San Diego for many years. I presently live in Escondido. I have served on the Penasquitos Citizens Advisory Committee and on the Board of the Friends of Los Penasquitos Canyon Preserve, and have led interpretive walks for the San Diego Natural History Museum and other groups for 30 years. I enjoy hiking on Del Mar Mesa and the surrounding lands.

I believe that the proposed GENERAL PLAN AMENDMENT should be rejected. The General Plan was the result of many years of review, meetings, compromises and agreement between development interests and the environmental community. Piecemeal changes are not in the public's interest, and result in an overall poor result. However, were the project to be approved, please consider the comments in this letter, and place meaningful restrictions on the project.

The proposed project is in proximity to high quality habitat, as evidenced by the City's numerous open space preserves, and the California Fish and Wildlife Service preserve adjacent to the proposed project. This project will have unmitigated edge effects on the wildlife and habitat, so please seriously consider all requests for mitigation and modification of this proposed project to better protect the adjacent open space habitat.

Buildings: A natural viewshed is important to visitors to the open space adjacent to the project. Building heights should be restricted to no more than three stories, and preferably two stories.

Lighting: Viewshed concerns also apply to lighting. I lead nighttime interpretive hikes, and my hike participants can vouch that bright night skies are incompatible with a natural experience. Further, wildlife has evolved to thrive in dark skies. A prey animal that would normally be obscured in low light nighttime conditions, readily becomes a meal when the habitat is lit up by artificial lighting. Artificial lighting forces animals to alter their natural behavior.

Nighttime exterior lighting should be minimal, low wattage, and shielded to reduce visibility of the lighting from off-site, and stray lighting should be limited or eliminated. Interior building lighting should be shielded such that window lighting is not visible from the exterior/wildland areas. This could be a condition of approval, and needs a consequence that is meaningful and enforceable.

Water Runoff: Low water use landscaping should be required. All water generated on-site needs to remain on-site through the use of detention basins and bio-swales. All too often waters have flowed from development into natural areas, causing severe erosion and flooding with consequences all the way to the ocean. Retaining water on-site will reduce polluting runoff from the paved areas of the project. Filters should be installed and maintained to help trap hydrocarbon runoff.

Landscaping: No invasive plants should be allowed. Exotic, decorative grasses should be prohibited because many decorative grasses have been and continue to be supplied by nurseries. Only later do we learn that they a prone to "escape" and cultivate natural lands. Natural grass species, such as deer grass, are compatible with open space preserves and commercially available.

Fire Safe Zone: The landscaping and buildings for this project should be approved such that all present and anticipated fire-safe zones are achieved through on-site mitigation, without trimming off-site vegetation.

Noxious Pests: Dumpsters must have lids closed at all times to prevent attracting scavenging birds and rodents. Trash containers must be emptied twice a week or more often if needed. No use of rodenticides, to prevent poisoned rodents (gophers, mice, rats, squirrels, rabbits) from being eaten by hawks, coyotes, bobcats, etc., who would also be poisoned by eating the dying/dead rodents.

Volunteer trails: Project should install appropriate fencing to restrict movement of employees and visitors into the natural area, and to help prevent wildlife from entering the development (and thereby increasing the chances of being killed).

Respectfully submitted,

Brian D. Swanson
3282 Meadow Crest Place
Escondido, CA 92027
swanlaw@att.net

DEPARTMENT OF TRANSPORTATION
DISTRICT 11
PLANNING DIVISION
4050 TAYLOR STREET, M.S. 240
SAN DIEGO, CA 92110
PHONE (619) 688-6960
FAX (619) 688-4299
TTY 711

Serious drought.
Help save water!

April 5, 2016

11-SD-56
PM 6.12
The Preserve at Torrey Highlands
NOP / SCH#2016031026

Ms. Elizabeth Shearer-Nguyen
City of San Diego
1222 First Avenue, MS-501
San Diego, CA 92101

Dear Ms. Shearer-Nguyen:

The California Department of Transportation (Caltrans) received a copy of the Notice of Preparation for the Draft Environmental Impact Report (EIR) for the proposed The Preserve at Torrey Highlands located near SR-56. Caltrans has the following comments:

- With an anticipated Average Daily Traffic (ADT) of 5,486 vehicles, please include in the scope for the Traffic Impact Study (TIS) the Camino Del Sur/SR-56 interchange.
- A TIS is necessary to determine this proposed project's near-term and long-term impacts to the State facilities – existing and proposed – and to propose appropriate mitigation measures. The study should use as a guideline the *Caltrans Guide for the Preparation of Traffic Impact Studies*. Minimum contents of the traffic impact study are listed in Appendix "A" of the TIS guide.
  www.dot.ca.gov/hq/tpp/offices/ocp/igr_ceqa_files/tis**guide**.pdf
- The data used in the TIS should not be more than 2 years old.
- Please provide electronic Synchro files with the TIS.
- Any work performed within Caltrans R/W will require discretionary review and approval by Caltrans and an encroachment permit will be required for any work within the Caltrans R/W prior to construction. As part of the encroachment permit process, the applicant must provide an approved final environmental document including the California Environmental Quality Act (CEQA) determination addressing any environmental impacts with the Caltrans' R/W, and any corresponding technical studies. Please see Section 600 of the Encroachment Permits Manual for requirements regarding utilities and state R/W:
  http://www.dot.ca.gov/hq/traffops/developserv/permits/pdf/manual/Chapter_6.pdf

If you have any questions, please contact Kimberly Dodson, of the Caltrans Development Review Branch, at (619) 688-2510 or by e-mail sent to kimberly.dodson@dot.ca.gov.

Sincerely,

JACOB ARMSTRONG, Chief
Development Review Branch

State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
South Coast Region
3883 Ruffin Road
San Diego, CA 92123
(858) 467-4201
www.wildlife.ca.gov

EDMUND G. BROWN JR., Governor
CHARLTON H. BONHAM, Director

April 6, 2016

Ms. Elizabeth Shearer-Nguyen
City of San Diego Development Services Department
1222 First Avenue, MS-501
San Diego, California 92101
DSDEAS@sandiego.gov

Subject: Comments on the Notice of Preparation of an Environmental Impact Report for the Preserve at Torrey Highlands, City of San Diego, San Diego County, (Project Number 442880, SCH # 2016031026)

Dear Ms. Shearer-Nguyen:

The California Department of Fish and Wildlife (Department) has reviewed the above-referenced Notice of Preparation (NOP) for the Preserve at Torrey Highlands Draft Environmental Impact Report (DEIR). The following statements and comments have been prepared pursuant to the Department's authority as Trustee Agency with jurisdiction over natural resources affected by the project (California Environmental Quality Act, [CEQA] Guidelines § 15386) and pursuant to our authority as a Responsible Agency under CEQA Guidelines section 15381 over those aspects of the proposed project that come under the purview of the California Endangered Species Act (CESA; Fish and Game Code § 2050 *et seq.*) and Fish and Game Code section 1600 *et seq*. The Department also administers the Natural Community Conservation Planning (NCCP) program. The City of San Diego (City) participates in the NCCP program by implementing its approved Multiple Species Conservation Program (MSCP) Subarea Plan (SAP).

The project proposes to construct a 450,000-square-foot commercial office development. Specifically, the project would construct a three building commercial campus comprised of one four-story, one five-story, and one six-story building; one single-story amenity building; and one above-grade parking structure. The project also proposes to construct appurtenant hardscape (surface parking, driveways, and walkways) and landscape. Construction is expected to take approximately 10 months. In addition the project would require a Community Plan Amendment, Rezone, and Site Development Permit.

The 11.10 acre project is located within the Torrey Highlands Subarea Plan, in the City of San Diego on undeveloped land located approximately one-quarter mile south of State Route (SR) 56 along the west side of the planned extension of Camino del Sur. The City's Multi-Habitat Preservation Area (MHPA) is adjacent to the site on three sides.

The Department is concerned about potential indirect impacts to vernal pools and the CESA and Endangered Species Act (ESA) listed species that occur therein. The proposed project may impact vernal pools occupied by the ESA-listed endangered San Diego fairy shrimp (*Branchinecta sandiegonensis*), CESA- and ESA-listed endangered San Diego mesa mint (*Pogogyne abramsii*), and CESA- and ESA-listed endangered San Diego button-celery (*Eryngium aristulatum* var. *parishii*). Additionally, the proposed project has the potential to

increase the intensity of anthropogenic stressors on existing MHPA which may result in impacts to CESA- and ESA- listed species (e.g., button celery and San Diego fairy shrimp).

We offer our comments and recommendations in the attached enclosure to assist the City in avoiding, minimizing, and adequately mitigating project-related impacts to biological resources, and to ensure that the project is consistent with all applicable requirements of the approved subarea plan.

Specific Comments

1. The DEIR should accurately disclose the relationship of this project to the City's MSCP and the general planning policies and design guidelines (i.e., manner consistent with Section 1.4 of the City's SAP) that are required to be considered and to adhere to minimizing impacts to the maximum extent practicable. The direct, indirect, and cumulative impact analysis should include figures of the designated preserve area adjacent to the project boundaries, as well as address the current status and long-term management obligations associated with this area and any potential impacts to this area that may result from the proposed project.

2. The DEIR should describe and analyze the effect on the adjoining MHPA of changing the proposed project site from a Commercial Limited (CL) land use designation to an Employment Center (EC) designation. In accordance with the Torrey Highlands Subarea Plan for North City Future Urbanizing Area Subarea IV (City of San Diego Planning Department; January, 2006), compatible uses for CL designated lands include religious facilities, trade schools, storage, veterinary clinics, nurseries, and garden centers with "d[D]iscretionary review to ensure compatibility with adjacent Deer Canyon." Specifically, we recommend that the DEIR analyze the biological effects (e.g., wildlife movement and behavioral responses) from project-related construction and operational (i.e., long-term) disturbances to biological resources from anthropogenic habitat encroachment, hydrological modifications to vernal pools, line-of-sight disturbances, noise, light, and glare associated with the proposed development. Additionally, the DEIR should specifically analyze the proposed project's potential impacts to Deer Canyon and the proposed project's consistency with the Torrey Highlands Subarea Plan's designated zoning.

3. The DEIR should analyze the proposed project's consistency with the City's Environmentally Sensitive Lands (ESL) regulations. The DEIR should describe the necessary minimum wetland buffer to protect the functions and values of the wetland [see ESL section 143.0110(c)]. In addition to analyzing the project's overall consistency with the ESL regulations, the DEIR should also map the extent of the vernal pool watershed in relation to the minimum ESL wetland buffer and the project. Additionally, while Site Plan Figure 3 identifies the "northern limit of the potential vernal pool watershed" it does not specify what analysis was used to delineate the extent of the vernal pool watershed. The Department recommends that the DEIR identify the data utilized to map the extent of vernal pool watershed (e.g., Historical Surveys, Vernal Pool Inventory, or the vernal pool database) and avoid impacts to the vernal pool or requisite watershed or if not already completed, we recommend that the U.S. Fish and Wildlife Service (USFWS) is consulted regarding the applicability of updated surveys in accordance with current USFWS fairy shrimp survey protocol.

4. We are aware of and have previously commented on two large-scale developments (Camino Del Sur and Merge 56 Planned Development), in addition to, and within the vicinity of, the proposed project. The development of multiple properties within this general area could have a cumulative effect on sensitive species and habitats known to occur on and adjacent to the proposed project site, as well as the preserve design of the SAP. Therefore, the DEIR should address the cumulative effects to sensitive species and habitats resulting from the proposed project and known proposed developments on adjacent projects, as well as cumulative effects to regional conservation planning (i.e., the Vernal Pool Habitat Conservation Plan).

5. Given the proximity of the project site to biological open space and associated sensitive species (e.g., vernal pools) and habitats that could be negatively affected or lost by the proposed project, the CEQA alternatives analysis for this project is extremely important. We are particularly interested in the DEIR describing a range of reasonable alternatives to the project that explore alternative project configurations, development densities, or restricted uses that maximize open space, while attaining most of the basic objectives of the project (albiet at an increased cost or reduced development density or intensity) but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. The Department will consider the alternatives analyzed in the context of their relative impacts on biological resources on both a local and a regional level.

General Comments

6. To enable the Department to adequately review and comment on the proposed project from the standpoint of the protection of plants, fish and wildlife, we recommend the following information be included in the DEIR.

   a) The document should contain a complete discussion of the purpose and need for, and description of, the proposed project, including all staging areas and access routes to the construction and staging areas.

   b) A range of feasible alternatives should be included to ensure that alternatives to the proposed project are fully considered and evaluated; the alternatives should avoid or otherwise minimize impacts to sensitive biological resources. Specific alternative locations should be evaluated in areas with lower resource sensitivity where appropriate.

Biological Resources within the project's Area of Potential Effect

7. The document should provide a complete assessment of the flora and fauna within and adjacent to the project area, with particular emphasis upon identifying endangered, threatened, sensitive, and locally unique species and sensitive habitats. This should include a complete floral and faunal species compendium of the entire project site, undertaken at the appropriate time of year. The DEIR should include the following information.

   a) CEQA Guidelines, section 15125(c), specifies that knowledge on the regional setting is critical to an assessment of environmental impacts and that special emphasis should be placed on resources that are rare or unique to the region.

b) A thorough assessment of rare plants and rare natural communities, following the Department's Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities (see: https://www.wildlife.ca.gov/Conservation/Plants, or R.F. Holland codes per the SAP Bio Guidelines, attachment II).

c) A current inventory of the biological resources associated with each habitat type on site and within the area of potential effect. The Department's California Natural Diversity Database in Sacramento should be contacted at www.wildlife.ca.gov/biogeodata/ to obtain current information on any previously reported sensitive species and habitat, including Significant Natural Areas identified under Chapter 12 of the Fish and Game Code.

d) An inventory of rare, threatened, and endangered, and other sensitive species on site and within the area of potential effect. Species to be addressed should include all those which meet the CEQA definition (see CEQA Guidelines, §15380). This should include sensitive fish, wildlife, reptile, and amphibian species. Seasonal variations in use of the project area should also be addressed. Focused species-specific surveys, conducted at the appropriate time of year and time of day when the sensitive species are active or otherwise identifiable, are required. Acceptable species-specific survey procedures should be developed in consultation with the Department and the USFWS.

Analyses of the Potential Project-Related Impacts on the Biological Resources

8. The DEIR should provide a thorough discussion of direct, indirect, and cumulative impacts expected to adversely affect biological resources, with specific measures to offset such impacts. This discussion should focus on maximizing avoidance, and minimizing impacts.

a) A discussion of potential adverse impacts from lighting, noise, human activity, exotic species, and drainage should also be included. The latter subject should address: project-related changes on drainage patterns on and downstream of the project site; the volume, velocity, and frequency of existing and post-project surface flows; polluted runoff; soil erosion and/or sedimentation in streams and water bodies; and post-project fate of runoff from the project site. The discussions should also address the proximity of
the extraction activities to the water table, whether dewatering would be necessary, and the potential resulting impacts on the habitat, if any, supported by the groundwater. Mitigation measures proposed to alleviate such impacts should be included.

b) Project impacts should be analyzed relative to their indirect impacts on biological resources, including resources in nearby public lands, open space, adjacent natural habitats, riparian ecosystems, and any designated and/or proposed or existing reserve lands. Impacts on, and maintenance of, wildlife corridor/ movement areas, including access to undisturbed habitats in adjacent areas, should be fully evaluated in the DEIR.

c) The zoning of areas for development projects or other uses that are nearby or adjacent to natural areas may inadvertently contribute to wildlife-human interactions. A discussion of possible conflicts and mitigation measures to reduce these conflicts should be included in the environmental document.

d) A cumulative effects analysis should be developed as described under CEQA Guidelines, section 15130. General and specific plans, as well as past, present, and anticipated future projects, should be analyzed relative to their impacts on similar plant communities and wildlife habitats.

Mitigation for the Project-related Biological Impacts

9. The DEIR should include measures to fully avoid and otherwise protect Rare Natural Communities from project-related impacts. The Department considers these communities as threatened habitats having both regional and local significance.

10. The DEIR should include mitigation measures for adverse project-related impacts to sensitive plants, animals, and habitats. Mitigation measures should emphasize avoidance and reduction of project impacts. For unavoidable impacts, on-site habitat restoration or enhancement should be discussed in detail. If on-site mitigation is not feasible or would not be biologically viable and therefore not adequately mitigate the loss of biological functions and values, off-site mitigation through habitat creation and/or acquisition and preservation in perpetuity should be addressed.

11. For proposed preservation and/or restoration, the DEIR should include measures to perpetually protect the targeted habitat values from direct and indirect negative impacts. The objective should be to offset the project-induced qualitative and quantitative losses of wildlife habitat values. Issues that should be addressed include restrictions on access, proposed land dedications, monitoring and management programs, control of illegal dumping, water pollution, increased human intrusion, etc.

    The Department recommends that measures be taken to avoid project impacts to nesting birds. Migratory nongame native bird species are protected by international treaty under the Federal Migratory Bird Treaty Act (MBTA) of 1918 (Title 50, § 10.13, Code of Federal Regulations). Sections 3503, 3503.5, and 3513 of the California Fish and Game Code prohibit take of all birds and their active nests including raptors and other migratory nongame birds (as listed under the Federal MBTA). Proposed project activities (including, but not limited to, staging and disturbances to native and nonnative vegetation, structures, and substrates) should occur outside of the avian breeding season which generally runs from February 1- September 1 (as early as January 1 for some raptors) to avoid take of birds or their eggs. If avoidance of the avian breeding season is not feasible, the Department recommends surveys by a qualified biologist with experience in conducting breeding bird surveys to detect protected native birds occurring in suitable nesting habitat that is to be disturbed and (as access to adjacent areas allows) any other such habitat within 300 feet of the disturbance area (within 500 feet for raptors). Project personnel, including all contractors working on site, should be instructed on the sensitivity of the area. Reductions in the nest buffer distance may be appropriate depending on the avian species involved, ambient levels of human activity, screening vegetation, or possibly other factors.

12. The Department generally does not support the use of relocation, salvage, and/or transplantation as mitigation for impacts to rare, threatened, or endangered species. Studies have shown that these efforts are experimental in nature and largely unsuccessful.

13. Plans for restoration and revegetation should be prepared by persons with expertise in southern California ecosystems and native plant revegetation techniques. Each plan should include, at a minimum: (a) the location of the mitigation site; (b) the plant species to be used, container sizes, and seeding rates; (c) a schematic depicting the mitigation area; (d) planting schedule; (e) a description of the irrigation methodology; (f) measures to control exotic vegetation on site; (g) specific success criteria; (h) a detailed monitoring program; (i) contingency measures should the success criteria not be met; and (j) identification of the party responsible for meeting the success criteria and providing for conservation of the mitigation site in perpetuity.

We appreciate the opportunity to comment on the referenced NOP. Questions regarding this letter and further coordination on these issues should be directed to Eric Weiss at (858) 467-4289 or eric.weiss@wildlife.ca.gov.

Sincerely,

Marilyn Luhaty for:

Gail K. Sevrens
Environmental Program Manager
South Coast Region

ec: Scott Morgan (State Clearinghouse)
Patrick Gower (U.S. Fish and Wildlife Service, Carlsbad)

To Whom It May Concern:

As a homeowner in the Torrey Highlands neighborhood in Rancho Penasquitos, I oppose the plan amendments that JVB Real Estate Advisors is proposing for the Torrey Highlands Subarea plan, also known as the "former Diocese lot." Changing the zoning from AR-1-1agricultural lot to an IP-3-1 industrial park will not benefit surrounding communities. The proposed Preserve project will negatively impact the protected habitat of our canyon preserve, and it will negatively impact the significant amount of traffic that already exists. When the community plan was developed, that area was specifically zoned as an AR-1-1 to meet the best interests of both the natural habitat and the people who would live in surrounding areas. That need has not changed, and the zoning should not either. **This rezoning does not take into account the master plan**.

Our region offers a unique, prime opportunity for San Diego to create a dynamic walkable community, as it is situated on a beautiful, popular canyon preserve that reaches to the ocean. Bikers and hikers flock to our community. We boast one of the top school districts that also includes a high offering of affordable housing. With such opportunity to build a beautiful community based on 21st century values, what a waste it would be to build an industrial park, a fortress against the residents of our community, rather than building mixed use, for business/residential use.

Industrial parks are not walkable. They are car dependent behemoths, not conducive to our environmentally sensitive community. According to a July 2015 national study, the "rising emphasis on walkability reflects a generational shift. Compared with older generations, millennials, ages 18 to 34, disproportionately prefer walking" (National Association of Realtors and the Transportation Research and Education Center at Portland State University). The statistics spell out 32% of millennials, to only 13% of older generations walking. (Real estate brokerage Redfin Jan 2016). It is time for community planners to address this trend.

Nationwide just 14 percent of neighborhoods, mostly located in Washington DC and Seattle, are walkable, with non-luxury priced homes AND near decent schools (Redfin, January 2016). Currently San Diego's walkable neighborhoods are either extremely expensive or offer low-rated public schools. Here's a chance to do something positive for San Diego.

This proposed industrial plan means car traffic only. Highway 56 is at its limit for commuters. The amount of traffic created by this rezoning negatively affects the walkability as well as increases the already heavy traffic in this area, with no suggestions for amelioration. It creates an undesirable and unsafe area to walk. This patchwork planning negates building for San Diego's future.

Torrey Highlands/Park Village community is poised to build for the future. Let's not destroy this prime opportunity by approving an imposing industrial park in our community.

The Torrey Highlands Subarea Plan limited dwelling units to no more than 2,600 and designated 50 percent of Torrey Highlands for residential development, 30 percent for parks and open space, 12 percent for schools, 5 percent for commercial, and 3 percent for employment center. With that

heavily residential plan, we homeowners expect much more community-friendly building. **Please accept my opposition to the Preserve at Torrey Highlands proposal and the rezoning of the property. For the preservation and protection of surrounding areas, it needs to remain zoned as an AR-1-1.** Thank you for your time and consideration.

Yours sincerely,

Celena Jacques

7163 Sherbourne Lane
San Diego, CA 92129

Please consider my comments on the EIR/Public Scoping for the The Preserve at Torrey Highlands/442880

Zoning
Please take a look at the zoning maps for grids:
31-33
35-37
40-41

https://www.sandiego.gov/development-services/zoning/zoninggridmap
I was going to attach them but its just as easy to click through on the city website.

In none of these areas is an IP-3-1. There are some isolated areas of I-P-2-1, in Carmel Mountain Ranch and Torrey Hills (Near Torrey Pines-La Jolla).

I question the need for Industrial Park 3-1 for this area that is contiguous with Wildlife Fish and Game land/Preserve on three sides. It is an extreme zoning change and would set disturbing precedent in an area that is still developing and still majority residential and retail. An IP-3-1 would allow for biohazard research, and buildings up to 13 stories.

Set Backs/Environment
There are clear concerns about set back of the property and the wild fire regulations of brush clearance - so are we going to clear into the preserve? I don't see on the plans whether they have the required brush clearance on their property - and is the property 9 or 11 acres?

Established trails will be disturbed and new trails will be created disturbing protected land. This is a significant quality of life issue for all trail users

Traffic
Traffic issues abound - Camino del Sur (CdS) and 56 intersections during clover-leaf construction, CA-56 Bike lane risks, CdS is necessary for fire evacuation egress for Park Village and will now be further congested by a large employment center rather than the A-R zone as it is now. VMT and LOS calculation will show significant disruptions. Traffic will divert directly in front of an elementary school and create unnecessary risk to students (pedestrian, bicycle, and vehicle) as they go to and from school daily.

Increased traffic on CdS towards the Los Pen Preserve, through Del Mar Mesa Preserve will further disrupt and cause risk to wildlife crossing.

GHG
Green House Gas issues abound with a 7-story concrete parking structure

No public transportation discussed

Visuals
Parking structure blocks visual of Merge-56 single family residences

Tall and potentially taller structures on this property would significantly disrupt existing and planned visuals described in the Torrey Highlands Community Plan.

Integrity of Community Panning Process
Question the spot zoning and Community Plan amendments that are made to satisfy developer requests rather than maintaining the integrity of the Community Plan process. The CP takes into account that property maintained at a A-R zone and not I-P zone.

This property was zoned AR in a clear compromise when the community plan for TH was originally drawn up. There were clear instructions on maintaining Open Space (Chapter 2) and Land Use (Chapter 4). The zone change requested would go directly against this plan and a community plan amendment for this purpose violates the integrity of the Community Planning Process.

The Developer bought this real estate property knowing the existing zone for it and with full knowledge of the Community Plan in place. We are under no obligation to approve the zoning change and the General and Community Plan amendments they are requesting. These changes are not consistent with our quality of life, existing zones in our community, or the protections we are obligated to provide for the adjacent contiguous preserve land.

Thanks
Darsh.
~~~~~~~~~~~~~~~~~~~~~~~~~~

Darshana Patel
Rancho Peñasquitos Town Council
Rancho Peñasquitos Planning Board
SDPD Captain's Advisory Board
Park Village Elementary PTA
Park Village Elementary Foundation
650-678-0705 (cell)
~~~~~~~~~~~~~~~~~~~~~~~~~~

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Via Email and U.S. Mail

April 6, 2016

Elizabeth Shearer-Nguyen
Environmental Planner
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1222 First Avenue, MS 501
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Will Zounes, Project Manager
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Development Services Department
1222 First Avenue, MS 301
San Diego, CA 92101
WZounes@sandiego.gov

Re: The Preserve at Torrey Highlands/ Project No. 442880

Dear Ms. Shearer-Nguyen and Mr. Zounes:

I am writing on behalf of the Laborers International Union of North America, Local Union 89 and its members living in the City of San Diego ("LiUNA"), regarding The Preserve at Torrey Highlands/ Project No. 442880, including all actions related or referring to the construction of a 450,000 sq. ft. commercial office development. ("Project").

We are commenting on the Notice of Preparation (NOP) of an environmental impact report (EIR). We request that the agency fully comply with CEQA and analyze all significant impacts and propose all feasible mitigation measures and environmentally superior alternatives.

We hereby request that the City of San Diego ("City)" send by electronic mail or U.S. mail to our firm at the address below notice of any and all actions or hearings related to activities undertaken, authorized, approved, permitted, licensed, or certified by the City and any of its subdivisions, and/or supported, in whole or in part, through contracts, grants, subsidies, loans or other forms of assistance from the City, including, but not limited to the following:

- Notice of any public hearing in connection with the Project as required by California Planning and Zoning Law pursuant to Government Code Section 65091.

- Any and all notices prepared for the Project pursuant to the California Environmental Quality Act ("CEQA"), including, but not limited to:

    - Notices of any public hearing held pursuant to CEQA.
    - Notices of determination that an Environmental Impact Report ("EIR") is required for a project, prepared pursuant to Public Resources Code Section 21080.4.
    - Notices of any scoping meeting held pursuant to Public Resources Code Section 21083.9.
    - Notices of preparation of an EIR or a negative declaration for a project, prepared pursuant to Public Resources Code Section 21092.
    - Notices of availability of an EIR or a negative declaration for a project, prepared pursuant to Public Resources Code Section 21152 and Section 15087 of Title 14 of the California Code of Regulations.
    - Notices of approval and/or determination to carry out a project, prepared pursuant to Public Resources Code Section 21152 or any other provision of law.
    - Notices of approval or certification of any EIR or negative declaration, prepared pursuant to Public Resources Code Section 21152 or any other provision of law.
    - Notices of determination that a project is exempt from CEQA, prepared pursuant to Public Resources Code section 21152 or any other provision of law.
    - Notice of any Final EIR prepared pursuant to CEQA.

Please note that we are requesting notices of CEQA actions and notices of any public hearings to be held under any provision of Title 7 of the California Government Code governing California Planning and Zoning Law. **This request is filed pursuant to Public Resources Code Sections 21092.2 and 21167(f), and Government Code Section 65092**, which requires agencies to mail such notices to any person who has filed a written request for them with the clerk of the agency's governing body.

In addition, we request that the City send to us via email or U.S. Mail a copy of all City Council or Planning Commission meeting and/or hearing agendas.

Please send notice by electronic mail or U.S. mail to:

Richard Drury
Theresa Rettinghouse
Lozeau Drury LLP
410 12th Street, Suite 250
Oakland, CA 94607
510 836-4200
richard@lozeaudrury.com
theresa@lozeaudrury.com

Please call should you have any questions. Thank you for your attention to this matter.

Sincerely,

Theresa Rettinghouse

Theresa Rettinghouse
Paralegal
Lozeau | Drury LLP

I am a concerned resident of the immediate area under consideration for development. There is already a large complex (intuit) which brings several thousand of persons and their vehicles to this vicinity. There is only one road into and out of the residential communities nearby. The amount of traffic, congestion, vehicle exhaust, etc. is already invasive, at times restricting the residential ingress and egress. The roads, air quality, and emergency access are hindered by this current traffic. Additional development would further restrict residents, vendors and city/county services, plus contaminate the air quality. The local vegetation and wild life habitat would be disrupted. The proposed height of the buildings would provide viewing by staff into surrounding homes, yards, and lives of residents. Knowledge of the area, residents, lifestyles etc., would encourage the increase of crimes.

It is my preference that this area be used for purposes other than industrial, large offices, and/or multi-story buildings that would increase traffic, pedestrians and crime. Buildings, if any, to be limited to 2 story, including any parking garage, or other amenities.

I am sure my statements are shared by many in this community.

Thank you for your consideration

Eileen Cunningham

March 29, 2016

E. Shearer-Nguyen
Environmental Analyst
City of San Diego Development Services Center
1222 First Avenue, MS 501
San Diego, CA 92101
DSDEAS@sandiego.gov

RE: The Preserve at Torrey Highlands/442880

Dear Ms. Shearer-Nguyen,

We have substantial concerns about "The Preserve at Torrey Highlands," which will be called "the proposed project" from here on so that it does not get confused with the real Del Mar Mesa Preserve that borders it on three sides. The commenters include a resident of Torrey Highlands (Dr. Landis) who is also a volunteer for City Parks who volunteers in Del Mar Mesa Preserve, who is finishing a flora of that area, and who is the conservation chair for the San Diego Chapter of the California Native Plant Society (CNPSSD). It is good that the proposed project will be subject to a full EIR, as it appears that it will have substantial and likely permanent, unmitigable impacts.

One major question for the City of San Diego going forward is how permitting projects like the one proposed will allow the City to attain the goals of its Climate Action Program. This project is particularly egregious in its traffic impacts to Torrey Highlands and Highway 56. Torrey Highlands has no public transportation and no plans to get it, so there is no way to ameliorate the impacts from a semi-permanent traffic jam around Camino Del Sur and Highway 56, should this project go in. Given that cement and concrete are both major emitters of greenhouse gases (thought to be 5% of world total emissions), the City cannot be a good environmental citizen and approve plopping down large piles of concrete in places where large numbers of people are forced to drive through traffic jams to get to them.

In order to facilitate the analysis of our additional comments, they are laid out in the order presented in NOP notice. The pages below refer to the scope of work sent to Cisterra.

P. 2
Project Location

- The location information for the project is incomplete, since it lists only two of the four parcels to be developed. This is a major oversight by Development Services that needs to be corrected.
- The boundaries for the proposed project need to be confirmed. According to SANDAG's interactive parcel map on SanGIS, the parcels appear to cover 11.1 acres. However, on the

SanGIS system, the parcel boundaries overlap with the boundaries of the US Fish and Wildlife Service (USFWS) land immediately to the south. On-the-ground GPS measurements of the corner markers and the apparent edge of the USFWS preserve suggest that the site is actually 9.49 acres. The northeast and northwest corner markers are marked with highly visible PVC pipe that one of us (Landis) visited and GPS'ed to determine their real-world location. The southern edge importantly is not obviously marked, but there is a barricade erected by parks personnel to keep people out of USFWS land, and that was taken as the property boundary.

Project Description:

- The description of the lands immediately surrounding the proposed project is vague. Here is a more precise description, and we strongly suggest that it be used henceforth for the surrounding lands. The land east of the proposed project is privately owned (Merge 56 proposed project) and slated to become a shopping center. The land to the north of the project is part of the Del Mar Mesa Preserve, City Parks land, and is a filled mitigation bank. The land to the west of the proposed project is City Parks land, part of the Del Mar Mesa Preserve. The land immediately to the south is owned by the USFWS as part of the San Diego National Wildlife Refuge. Land immediately to the south of the USFWS parcel is owned by the California Department of Fish and Wildlife (CDFW) and fenced off as a preserve for sensitive and listed species and for vernal pools and sensitive vegetation communities. Additionally, we note that another major office complex of the same size or larger as the proposed project is slated for the corner of Torrey Santa Fe Road and Camino Del Sur. This needs to be mentioned as well, because the cumulative impacts of one million plus square feet of office space in this bedroom community will be massive, especially since most of the employees will live outside the community.
- It is very unclear to us how the proposed project can attain a LEED silver certification, given (among other things discussed below) that it is immediately adjacent to high value natural habitat already purchased as filled mitigation bank and to a portion of the USFWS San Diego National Wildlife Refuge. Location matters in LEED certification, as does impact to sensitive resources. Given that Torrey Highlands has no public transportation and limited bike lanes, it appears that the vast majority of traffic planned for the project will be automobiles. Since LEED certification is only given once the project is complete and there is no penalty for non-compliance, at this point we consider this at best an aspirational claim, not a solid feature of the project.

P. 3

Access: It should be noted that the single-track paths through Del Mar Mesa Preserve are incompatible with bike commuting, as they are less than 3 feet wide throughout and less than 5 feet high in places. This area was designed as a wildlife preserve, not as a transportation corridor.

Construction: the site of the proposed project resembles human buttocks, in that it is sloped from south to north, and there are multiple draws running south to north. From Google Earth, it is evident that the lowest point on the northern edge is almost 100 feet lower than the highest point on the southern edge. Given the massive amount of fill that will be required to build the site level (and probably at the higher point), we question the fill estimates. We are also concerned

about where the fill face falls in the Preserve, since the site plan appears to show that the edge of the preserve (50-100' below grade) is 100' from the buildings. Is that slope too steep for the soils? Above all, we do not want to see ***any*** construction intruding on the Del Mar Mesa Preserve.

P. 6

- Land Use Issue 1: The proposed project conflicts with the community general plan by definition, since it requires a rezoning. This conflict needs to be analyzed, particularly in the context of new documents like San Diego's Climate Action Plan.
- Land Use Issue 2: It is unclear to us whether a deviation or variance would be necessary, so this needs to be clarified in the EIR and in any enabling motions in the local planning board or the City Council.
- Land Use Issue 3: This project will likely result in substantial impacts with the MSCP and possibly the MHPA, depending on where its boundary actually is. It will also likely impact the filled mitigation bank, thereby disrupting mitigation already carried out for other projects. These impacts need to be analyzed and mitigated.

P.7

"This project area is located within the City's Multiple Species Conservation Program (MSCP) area and located adjacent to the MHPA; no MHPA lands are located within the site." As noted, there is an apparent issue with the parcel boundaries of the proposed project. If the project is indeed 11.1 acres, then it may well contain lands within the MHPA, according to SanGIS. These boundaries must be confirmed to demonstrate that the project is outside the MHPA. Otherwise, MHPA impacts must be analyzed and mitigated.

Transportation

- Issue 1: Since the proposed project requires a rezoning for greater density, presumably the proposed project will generate excess traffic. These impacts need to be analyzed and mitigated.
- Issue 2: Highway 56 is routinely jammed during commute hours, and from watching the SigAlert website and app, the jam appears to start (morning) and end (evening) around Camino Del Sur and Black Mountain Road. If all the proposed developments in the area are built, there will be around 5,000 more people commuting into and out of this area every work day. There is no plan to widen Camino Del Sur, and we expect Highway 56 to be widened in at least a decade, if at all. These impacts need to be analyzed and mitigated.
- Issue 3: As noted above, there is a traffic jam at Highway 56 and Camino Del Sur. This impact needs to be analyzed and mitigated.
- Issue 4: As noted above. Even with the planned build-out of Highway 56, there is still likely to be a jam.

  Worse, during an emergency such as a fire, can the proposed project even be evacuated? How will it impact efforts to evacuate Rhodes Crossing or Park Village if it goes in? The southward extension of Camino Del Sur is justified in large part because it provides a second route of emergency egress for Park Village. This route will be unusable if thousands of office workers and shopping center patrons are trying to get onto a jammed Highway 56 during a Santa Ana driven fire. In emergency terms, this may be worse than not building the

road at all. The impacts to emergency services and to evacuation need to by analyzed and mitigated. Significant unavoidable impacts to emergency response are not acceptable.

- Issue 5: The proposed project must be analyzed for impacts to the following plans, specifically for trails and access by bicycles, hikers, and emergency personnel: The Del Mar Mesa land use plan, the Carmel Valley land use plan, the Rancho Peñasquitos land use plan, the Torrey Highlands land use plan. One of the trails runs across the proposed development. Impacts to these plans must be analyzed and mitigated. Note that none of these trails were designed or intended to handle commuter traffic, so they should not be regarded as a way to mitigate the traffic impacts caused by the proposed project.

P. 8

Air Quality Issue 1: The proposed project should be analyzed with regards to the City's Climate Action Plan, especially with regards to traffic, to determine whether the City can meet the goals of the plan and approve developments like this one.

P. 9

Biology

- Issue 1: The proposed project would directly impact a high value vegetation community: scrub oak chaparral. Depending on the boundaries, if the site is 11.1 acres, it likely will destroy a vernal pool currently managed by USFWS. These impacts need to be analyzed and mitigated.
- Issue 2: If the property is 11.1 acres, the proposed project will destroy a vernal pool currently managed by USFWS. If the property is smaller, then it will indirectly impact that pool by impacting its watershed and through pollution from the parking garage. Regardless of the proposed project's true extent, the site contains perched water tables that flood during heavy rains into the draw on the north side of the property. This intermittent spring ultimately drains through Deer Creek into the ocean at Peñasquitos Lagoon. These impacts need to be analyzed and mitigated.
- Issue 3: The proposed project would result in impact to sensitive species. Nuttall's scrub oak (*Quercus dumosa*) grows on the site. Note that the Nuttall's scrub oaks are larger than normal, but they are not "hybrids," and have been identified as Nuttall's scrub oaks by oak expert Fred Roberts who visited the site in 2012 in the company of Dr. Landis for the purpose of confirming the identity of the oaks in Del Mar Mesa Preserve. California gnatcatchers (*Polioptila californica*), orange-throated whiptail (*Aspidoscelis hyperythra beldingi*), and coast horned lizard (*Phrynosoma blainvillii*) have been observed adjacent to or on the site over the last five years by Dr. Landis. Fairy shrimp have been observed in the vernal pool. These species need to be surveyed for by qualified and properly permitted biologists using protocol surveys during the correct seasons as required by the agencies and in consultation with them, and impacts need to be analyzed and mitigated. This list should not be regarded as complete, either.
- Issue 4: Having large office buildings surrounded by Preserve land will likely result in bird deaths due to bird strikes on windows. This must be analyzed by the EIR and mitigated to the extent practical. The MSCP lands surrounding the proposed development are designated as both a wildlife preserve and a wildlife corridor moving through a bottleneck at the Rhodes Crossing Development into Darkwood Canyon. The impacts of the proposed project on wildlife movements through the area must be analyzed and mitigated.

- Issue 5: The proposed project must be analyzed for conflicts with the Carmel and Del Mar Mesa Preserves Natural Resources Management Plan. These impacts must be mitigated. Since the property to the north is a filled mitigation bank, all impacts to it from the proposed project should be doubly mitigated, especially if the impacts cannot be mitigated within the footprint of the proposed project.
- Issue 6: Given the proposed project will fill in a canyon dominated by high-value, old growth chaparral and will impose a steep fill face onto Preserve lands, along with industrial uses next to a wildlife preserve, the edge effects of the project must be analyzed and mitigated on the site of the proposed project below significance.

  The proposed project's LEED certification analysis must include its impacts to surrounding lands.
- Issue 7: Existing developments surrounding the Del Mar Mesa Preserve have introduced numerous non-native species into the Preserve and have also improved conditions for these invaders through runoffs of fertilizer, water, trash, and construction debris. Current invasives near Camino Del Sur range from noxious weeds like *Euphorbia terracina* to argentine ants and an unidentified, invasive snail, and more are likely to follow. The proposed development will likely introduce argentine ants deeper into the Preserve. These ants will drive away coast horned lizards that feed only on native ants. The impacts of introductions of both non-native plants and insects must be analyzed by the EIR for the proposed project and mitigated.

  In the case of insects, impacts favoring argentine and other non-native ants generated by the proposed project may reach deep into areas designated for wildlife preservation, and these impacts must be analyzed and mitigated. Measures for control of runoff and control of invasive species must be included in the design of the proposed project. The proposed project should control for the spread of argentine ants as well.

  If the proposed project is designed to use reclaimed water, which is too salty for humans to drink, we note that the sensitive vegetation immediately downstream from the proposed project is chaparral, and is not known to be extensively salt tolerant or hydrophilic. Use of reclaimed water around the Intuit building to the west has favored weeds like tumbleweed and Australian saltbush. If reclaimed water is to be used for landscaping, those impacts should be analyzed as well and mitigated.

P. 10

Geology Issue 2: Given that the proposed project will require extensive fill on the north and west, resulting in a substantial fill face, and given the amount of erosion that has happened to the pile of fill on the Merge 56 property despite active management, substantial increase in soil erosion is inevitable, and the impacts to the wildlands that are immediately downstream must be analyzed and mitigated.

P. 12

Hydrology

- Issue 1: The Del Mar Mesa Preserve is downstream of the proposed project and will receive all of its runoff. The proposed project will create impervious surfaces over a large majority of the site. Impacts from that runoff must be analyzed and mitigated.
- Issue 2: As noted, the proposed project will create impervious surfaces over a large majority of the site. The Del Mar Mesa Preserve is downstream of this hardscape and will receive all its runoff. Impacts from that runoff must be analyzed and mitigated. Additionally, since the

proposed project will fill in the canyons that currently contain existing runoff, it is likely that new gullies will be carved with the sediment ending up in the Del Mar Mesa Preserve, as seen on other fill faces in the area. Impacts from altered drainage patterns must be analyzed and mitigated.

P. 13

- Noise Issue 1: The proposed project will substantially increase ambient noise. While Del Mar Mesa Preserve is not silent, it is so quiet inside that it is normal to hear construction noises from over one mile away while walking its trails. Additionally, the trails through dense chaparral have poor sight lines, so hikers routinely hear oncoming mountain bikes long before they see them. Additional noise from the proposed project will impair the ability of hikers and bikers to hear each other and act in time, and this may result in increased collisions and injuries. The noise impacts need to be analyzed and mitigated, not just as stated in the scope of work, but also for people using the nearby trails in Del Mar Mesa Preserve.

P. 14

Public Services and Facilities Issue 1: The impacts of the proposed project to the surrounding parkland must be analyzed and mitigated. The impacts to the USFWS National Wildlife Refuge lands must be analyzed and mitigated. These impacts will likely call for greater workloads for two organizations that are already stretched tight in this area.

P. 16

Water Quality Issue 1: Deer Creek has been a perennial creek for the last decade due to urban runoff. It ultimately drains to Peñasquitos Lagoon. This project will result in increased, contaminated runoff into Deer Creek via a path that is currently dry, discharging pollutants like pesticides, fertilizers, and whatever industrial chemicals are used onsite through chaparral as it is turned into a weedy riparian channel. Runoff impacts need to be analyzed and mitigated. Indeed, if the plan is to bring in a single tenant to the proposed project, the tenant's industrial uses need to be analyzed for their impacts, and mitigated accordingly. This is not the place for hazardous or medical waste disposal, given that a public park with public access is immediately downstream.

P. 17

Significant Unavoidable Impacts

- This project will impact a vernal pool that contains fairy shrimp, as well as sensitive species. It will change the hydrology of the Del Mar Mesa Preserve, increase noise, reroute its trails, add pollution, change hydrology wipe out lichens and probably other species, massively increase foot traffic, and introduce invasive species.
- The proposed project will help turn Highway 56 into a parking lot.
- We must note that most of the impacts happen to Torrey Highlands and to the Del Mar Mesa Preserve, but most of the benefits go to out-of-area landlords and to City coffers. The proposed project poses a significant negative impact to the local area, especially since it is designed for a single, out-of-area leaseholder, rather than to foster local jobs and decrease commute distances.

Growth Inducement:

- Given the amount of empty office space in nearby Mira Mesa, we candidly expect office space in Torrey Highlands, from the proposed project and others, to sit empty for years at a time during economic downturns, but we will be left with the impacts of these piles of concrete nonetheless, and their ongoing impacts will not be managed if there is no tenant to fund maintenance or keep up the landscaping.

P. 18

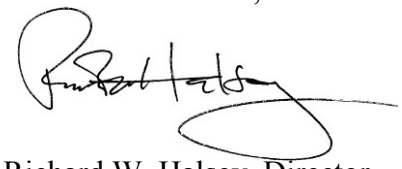
Cumulative Impacts

- The proposed project is not the only office building proposed for the site. There is already an office complex of similar size permitted to go in two blocks away at the corner of Torrey Santa Fe and Camino Del Sur. The cumulative impacts to traffic, infrastructure, and the market for office space need to be analyzed and mitigated.
- The proposed project is across the street from a proposed shopping center and office complex (Merge 56) the scale of which is unclear, and immediately north of a proposed housing development (Rhodes Crossing). The cumulative impacts of all these developments need to be analyzed and mitigated.
- During an emergency such as a fire, can the proposed project even be evacuated? How will it impact efforts to evacuate Rhodes Crossing and Park Village if it goes in? The effects of the proposed project on emergency services and on evacuation patterns need to be analyzed and mitigated. Camino Del Sur serves no purpose as an evacuation route if it is routinely jammed by commuting office workers. These impacts MUST be analyzed and mitigated.

Thank you for taking our comments. We reserve the right to comment on all the other issues should the design change or new information come forward.

Sincerely,

Frank Landis, PhD
Conservation Chair, California Native Plant Society San Diego



Richard W. Halsey, Director
The Chaparral Institute

Van K. Collinsworth
Geographer / Director, Preserve Wild Santee
Conservation Coordinator / California Chaparral Institute

To whom it may concern,

I am a resident of the Park Village neighborhood in Rancho Penasquitos. I oppose the proposed rezoning of the Torrey Highlands Subarea plan, also known as the "former Diocese lot" from AR-1-1agricultural lot to an IP-3-1 industrial park. The current site is approved to build a church, a school, or a garden nursery that would add value to the neighborhood while having a minor impact on the area. However, the proposed 'Preserve' project will construct 450,000 square foot of office space that will have a major negative impact to the community and the environment.

The 'Preserve' project is surrounded on 3 sides by protected open space. There are numerous sensitive biological concerns in the area, vernal pools, old native oak growth forests, other native vegetation and wild life. The construction phase will require extensive excavation of the site with an estimated 63,000 cubic yards of soil that will be excavated. There is significant danger to the nearby vernal pools and local water table due to erosion and runoff caused by thunder storms and potential man made accidents during the construction phase. Construction will also lead to increased air pollution and noise pollution due to all of the heavy machinery that will be required. Once the project is operational, the negative environmental impact will remain as storm water runoff that may include herbicides, pesticides from landscape maintenance, and engine oil from the many cars on the property may all flow directly into the surrounding canyon preserve.

Traffic during construction phase will be a major negative impact to the community. Over 1700 parking stalls will be constructed at the 'Preserve'. After construction, the additional 1700 cars on the roads and freeway that service that area will permanently negatively impact the community due to increased congestion and increased noise and air pollution. During an emergency, over 1700 cars from the 'Preserve' will congest the road ways and hinder hasty emergency evacuations.

The addition of 6 story glass and steel buildings sitting overlooking the actual Canyon preserve do not provide any additional benefit to the community. If anything, the giant glass and steel buildings will be an eyesore to residents and visitors who frequent the open space trails in the canyon preserve,

I see no value in rezoning the "former Diocese lot" and building 450,000 square feet of industrial office space in the middle of the canyon persereve. Please accept my opposition to the Preserve at Torrey Highlands proposal.

Regards,
Guy Oshiro, Ph.D.
12177 Salix Way
San Diego, CA 92129

To Whom It May Concern:

As a resident of the Park Village neighborhood in Rancho Penasquitos, I oppose the plan amendments that JVB Real Estate Advisors is proposing for the Torrey Highlands Subarea plan, also known as the "former Diocese lot." Changing the zoning from AR-1-1agricultural lot to an IP-3-1 industrial park will not benefit surrounding communities. The proposed Preserve project will negatively impact the protected habitat of our canyon preserve, and it will negatively impact the significant amount of traffic that already exists. When the community plan was developed, that area was specifically zoned as an AR-1-1 to meet the best interests of both the natural habitat and the people who would live in surrounding areas. That need has not changed, and the zoning should not either.

What precedence are we setting by allowing big commercial developers to purchase land zoned for a specific purpose, and then change the zoning requirements to fit their own desires without regard to the original intent of that property? Currently, the development proposal is for several office buildings and a parking structure. Although it may appear relatively harmless to both the protected habitat and people in the surrounding area, changing the zoning to an industrial park will invite companies that can potentially harm the surrounding area.

Please accept my opposition to the Preserve at Torrey Highlands proposal and the rezoning of the property. For the preservation and protection of surrounding areas, it needs to remain zoned as an AR-1-1. Thank you for your time and consideration.

best regards,
Hendry

Hello Elizabeth Shearer-Nguyen,

This email is to send my comments on the proposed "Reserve" project which is for a 450K sq ft office complex next to Del Mar Mesa. I am a long time employee at the Intuit campus nearby. I am a resident of the area. And i am member of the California Native plant society (CNPS).
As a member of CNPS and someone who treasures our unique and special remaining natural environment in San Diego, I am greatly concerned about the impacts this project will have on the special and rare habitat of Del Mar Mesa. There is no denying that the project will degrade this area with increased invasive species, altered and polluted run off and negative human impact.
As a employee of the Intuit campus I am greatly concerned about the increased traffic and human congestion.
As a resident of the area I am greatly concerned of the aesthetics of our region. I don't value further urban development in a site of open land and beauty.
I have just recently become informed about the details of the project and process for voicing my opinion. This email was written hastily as I found today was a deadline for comments.
I do plan to involve every possible coworker at Intuit who is like minded in opposition to the development. I will plan to inform them with specifics that I learn from the CNPS conservation committee so we can prevent the development and at the very least mitigate its very worst impacts.

Thank you
Jeff Geisler

April 2, 2016

E. Shearer-Nguyen
Environmental Planner
City of San Diego Development Services Department
1222 First Avenue MS501
San Diego, CA 92101

Dear Environmental Planning Department,

I am writing concerning the proposed development called The Preserve at Torrey Highlands/442880. I am a resident of Rancho Penasquitos off Carmel Mountain Road. When I moved to PQ almost 24 years ago there was no 56. Carmel Valley was a dirt road that you needed 4WD to traverse as it passed what seemed like miles of strawberry and tomato fields. I mourn the loss of the natural beauty and space of the area. I feel as though the construction of new buildings and packing people and businesses in tighter and tighter will never stop.
The approved density that was determined 12 years ago already increases traffic and destroys the natural beauty of Penasquitos and Deer Canyons. I am very concerned about the increase of traffic in an already congested area. I learned at the meetings I attend that there is an estimated increase of 2700 vehicles to use exit Camino Del Sur for resident or work use. This will greatly impact the noise and air quality in the area. The permanent damage and loss of the natural vegetation and trails of Deer Canyon can never be restored.

The land that was designated as church property is now asking for approval to build a large business complex on the site. This business compound alone includes 1400 parking spaces according to the builders as well as massive buildings including a 6 story office building. Their name is a contradiction of terms. By building the complex they are destroying our preserve, not preserving it.

Please vote to preserve our Preserve and to protect Penasquitos from over growth. Do not approve requests to increase density. Each builder coming in wants to up their density and increase the amount of people and construction they were originally zoned for. Vote to put a stop to this!

Sincerely a concerned homeowner,
Jennifer Burstedt
12637 Via Colmenar
San Diego, CA 92129

As a home owner in Torrey Highlands, I strongly object to the carte blanche re-designated zoning within the Torrey Highlands Subarea Plan from Commercial Limited (CL) to Employment Center (EC), a REZONE from AR-1-1 (agricultural - residential, requiring minimum 10-acre lots) to IP-3-1 (industrial park - allowing for research and development, office and residential uses) as no residential/public use is proposed as part of this project), in other words, from the mixed use opportunity a to an industry project.

To be acceptable to our community, the project must have a masterplan to make it attractive to residents to enhance, not discourage walkability. If plans were to combine mixed use, such as residences within the building, subterranean parking with trees and public parkland--or the building--overhead (no parking lot vistas), first floor public shops and restaurants, with highway 56 widened to accommodate traffic, then I believe a compromise could be reached, in regards to building height and congestion concerns.

Our region offers a unique, prime opportunity for San Diego to create a dynamic walkable community, as it is situated on a beautiful, popular canyon preserve that reaches to the ocean. Bikers and hikers flock to our community. We boast one of the top school districts that also includes a high offering of affordable housing. With such opportunity to build a beautiful community based on 21st Century values, what a waste it would be to build an Industrial park, a fortress against the residents of our community, rather than building mixed use, for business/residential use.

Industrial parks are not walkable. They are car dependent behemoths, not conducive to our environmentally sensitive community. According to a July 2015 national study, the "rising emphasis on walkability reflects a generational shift. Compared with older generations, millennials, ages 18 to 34, disproportionately prefer walking" (National Association of Realtors and the Transportation Research and Education Center at Portland State University). The statistics spell out 32% of millennials, to only 13% of older generations walking. (Real estate brokerage Redfin Jan 2016). It is time for community planners to address this trend.

This proposed industrial plan means car traffic only. Our Highway 56 is at its limit for commuters. It creates an undesirable place to walk by. This patchwork planning negates building for San Diego's future.

Nationwide just 14 percent of neighborhoods, mostly located in Washington DC and Seattle, are walkable, with non-luxury priced homes AND near decent schools (Redfin, January 2016). Currently San Diego's walkable neighborhoods are either extremely expensive or offer low-rated public schools. Here's a chance to do something positive for San Diego.

Torrey Highlands/Park Village community is poised to build for the future. Let's not destroy this prime opportunity by approving an imposing industrial park in our community.

The Torrey Highlands Subarea Plan limited dwelling units to no more than 2,600 and designated 50 percent of Torrey Highlands for residential development, 30 percent for parks and open space, 12 percent for schools, 5 percent for commercial, and 3 percent for employment center. With that heavily residential plan, we homeowners expect much more community-friendly building.

Sincerely,
Kathryn Peterson

Torrey Highland Homeowner

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sandag.org

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Imperial County
California Department of Transportation
Metropolitan Transit System
North County Transit District
United States Department of Defense
San Diego Unified Port District
San Diego County Water Authority
Southern California Tribal Chairmen's Association
Mexico

April 4, 2016

File Number 3300300

Ms. Elizabeth Shearer-Nguyen
Environmental Planner
City of San Diego – Development Services Department
1222 First Avenue, Mail Station 501
San Diego, CA 92101

Dear Ms. Shearer-Nguyen:

SUBJECT: The Preserve at Torrey Highlands Notice of Preparation of an Environmental Impact Report (Project Number 442880)

Thank you for the opportunity to comment on The Preserve at Torrey Highlands Notice of Preparation. Our comments are based on policies included in San Diego Forward: The Regional Plan (Regional Plan) and are submitted from a regional perspective emphasizing the need for land use, transportation coordination, and implementation of smart growth and sustainable development principles. The Regional Plan sets forth a multimodal approach to meeting the region's transportation needs. Therefore, the San Diego Association of Governments (SANDAG) recommends the following issues be addressed:

Smart Growth

A key goal of the Regional Plan is to focus growth in smart growth opportunity areas. The proposed project is located within a potential Community Center identified on the Smart Growth Concept Map (SD THD-1). The Community Center designation calls for a residential density of 20 dwelling units per acre. The Torrey Highlands plan designates this area as local mixed-use, and low-medium density residential (5 to 10 dwelling units per acre). The Regional Plan does not call for qualified transit service in this area; therefore, it remains a potential Community Center on the Smart Growth Concept Map. It is important to consider the impact on the regional transportation system; incorporating improved bike access can help to mitigate the traffic effects and provide mobility options for employees at the proposed office buildings. Additionally, the inclusion of transportation demand management (TDM) measures is encouraged.

Transportation Demand Management

SANDAG encourages incorporating TDM measures into The Preserve at Torrey Highlands to encourage the use of transportation alternatives and to assist with reducing traffic congestion in and around the proposed project area.

TDM measures could include parking management strategies that encourage alternatives to driving alone, such as shared parking, priced parking, parking cash-out, and priority parking for carpools and vanpools. It is also suggested that the project establish a designated Transportation Coordinator to promote, manage, and monitor commuter programs for employees at the three proposed office buildings. The proximity of State Route 56 (SR 56) provides an incentive for employees to carpool or vanpool and to take advantage of regional TDM programs and services, such as SANDAG's vanpool program, online ride-matching services, multimodal trip planning, and the Guaranteed Ride Home service. Similarly, bicycle amenities, such as secure and convenient bicycle parking, locker rooms, and bicycle repair stands, would be beneficial for commuters utilizing the SR 56 bike path.

These suggestions can assist with reducing traffic congestion and greenhouse gas emissions associated with the project. Information on TDM programs mentioned above can be accessed through iCommuteSD.com, and the SANDAG TDM division can assist with integration of TDM programs into this project.

Other Considerations

SANDAG seeks clarification from the City if it plans to preserve the existing right-of-way on SR 56 for future roadway improvements, as it relates to the project.

We encourage, where appropriate, consideration of the following tools in evaluating this project based on these SANDAG publications (which can be found on our website at sandag.org/igr):

1. SANDAG Regional Parking Management Toolbox

2. Riding to 2050, the San Diego Regional Bike Plan

3. Regional Multimodal Transportation Analysis: Alternative Approaches for Preparing Multimodal Transportation Analysis in Environmental Impact Reports

4. Designing for Smart Growth, Creating Great Places in the San Diego Region

5. Planning and Designing for Pedestrians, Model Guidelines for the San Diego Region

6. Trip Generation for Smart Growth

7. Parking Strategies for Smart Growth

When available, please send the Draft Environmental Impact Report to:

Intergovernmental Review
c/o SANDAG
401 B Street, Suite 800
San Diego, CA 92101

We appreciate the opportunity to comment on The Preserve at Torrey Highlands Notice of Preparation. If you have any questions, please contact me at (619) 699-1943 or via e-mail at susan.baldwin@sandag.org.

Sincerely,

SUSAN B. BALDWIN, AICP
Senior Regional Planner

SBA/KHE/asa

KAY STEWART
Landscape Architect

3585 Fifth Ave., Suite 100
San Diego, California 92103
(619) 234-2668
info@kaylarch.com

April 6, 2016

E. Shearer-Nguyen, Environmental Analyst
City of San Diego Development Services Center
1222 First Avenue, MS 501 San Diego, CA 92101
DSDEAS@sandiego.gov

RE: The Preserve at Torrey Highlands/442880

Dear Ms. Shearer-Nguyen,

As a resident since 1984 of the City, I oppose the proposed "The Preserve at Torrey Highlands," which I will refer to as "the proposed project" (so that it does not get confused with the Del Mar Mesa Preserve that borders it on three sides.) A member of the California Native Plant Society found that the proposed project is mapped badly, and failed to assess the elevation changes and subsequent grading that would be needed. If it were to create the building pad as proposed, it would require around a hundred-yard tongue of fill encroaching on the actual Preserve. This would destroy and damage preserved MHPA/MSCP lands which have been bought by the public, and that are dedicated to provide natural habitat for wildlife links from coast to the foothills. This alone should be grounds for rejecting the proposed project.

There are also other serious problems with this project. It proposes to build a very large commercial property on the (improperly graded) site. The resulting influx of daily occupants would cause traffic that would exceed the capacity of Highway 56 in that area, which is already at capacity during morning and evening traffic. This would be very annoying to the people who already use this highway and would cause danger if a wildfire required evacuation of people.

The potential traffic problem is not a surprise, because the general plan never anticipated such a large addition of people at that location: the proposed project conflicts with the community general plan, since it requires a rezoning to a much more intense use than was anticipated for this area. And, additional vehicle miles need to be looked at in light of San Diego's Climate Action Plan. The general plan did not take GHG into consideration when it was developed, but now we do.

In short, I am of the opinion that the proposed project does not belong in this location.

Kay Stewart

Kay Stewart, CA Landscape Architect # 2967
2750 Wheatstone Street # 102 San Diego CA 92111 (District 7)

Cc: District 7 City Council Member Scott Sherman scottsherman@sandiego.gov

This is an EIR and Scoping meeting for public input on the Cisterra project titled The Preserve at Torrey Highlands
Get the full notice at:
http://docs.sandiego.gov/citybulletin_pu...

I, Kenny Fok and family, have been living in Torrey Highlands since 14 yrs ago, and I love this community. Witht eh proposed change, it destroys the original nature of the the community, which was one of the reasons for us purchasing the house.

Please stop this non sense proposed change and keep our community as is. Please work on something more productive and less destructive to the community.

Del Mar Mesa Community Planning Board

3525 Del Mar Heights Road, Box 246, San Diego, California 92130

City of San Diego Development Service Department
1222 First Avenue, MS 501
San Diego, CA 92101
c/o E. Shearer-Nguyen, Environmental Planner

Re: The Preserve At Torrey Highlands/442880

The Del Mar Mesa Planning Board as an advisory body to the San Diego Planning Commission and San Diego City Council submits this letter, approved unanimously at the April 14, 2016 meeting, outlining issues that should be addressed in the Environmental Impact Study for the proposed development called The Preserve At Torrey Highlands.

Cisterra Development is seeking an amendment to the City's General Plan and an amendment to the Torrey Highlands Subarea Community Plan to re-designate the project site from Commercial Limited to Employment Center, a re-zone from AR1-1 (agricultural or residential 1 per 10-acre lots) to IP-3-1 (industrial park) to construct a 450,000 square foot office complex on an 11-acre site formerly owned by the Catholic Diocese at the eastern end of Del Mar Mesa Preserve.

While the site is within the Torrey Highlands Community Plan Area, it is surrounded on three sides by Del Mar Mesa Preserve, which lies within the Del Mar Mesa Community Plan Area.

The proposed project will be visible from neighborhoods within Del Mar Mesa and is adjacent to popular undeveloped trails that connect to the 10-mile trail system within the community.

The Board commends San Diego City Staff for the comprehensive list of questions that the project applicant must answer about the environmental impacts of the project in the study.

However, the Del Mar Mesa Planning Board wants to ensure that the EIR details impacts to the Del Mar Mesa Community specifically, and more broadly, the cumulative effect on the larger ecosystem of interconnected habitat areas essential for the survival of Del Mar Mesa Preserve.

And so in addition to the issues outlined in the city staff EIR Scoping Document, the Board asks that the applicant describe the following.

1. Effects on the community character of Del Mar Mesa neighborhoods, including:
    a. Visual impacts to homeowners in neighborhoods The Preserve, Bougainvillea, Duck Pond, Alta Vista, and future homes on the east end of the community. These should be outlined and graphic representations of those views included
    b. Effects of noise levels and night lighting during daily operation
    c. Noise and air quality during construction, including effects of exporting 63,000 cubic yards of soil

2. Compatibility with the Del Mar Mesa/Carmel Mountain Preserves Resource Management Plan, approved by the Del Mar Mesa Planning Board and San Diego City Council, which took over a decade to enact representing a compromise agreement between various recreational user groups, environmentalists, and state, federal and local park agencies:
    a. Show that the same criteria for vernal pool avoidance required of trail planners by wildlife and park agencies when mapping the Resource Management Plan will be followed.
    b. Identify any trails defined by the Management Plan that will be disrupted or blocked.
    c. Describe impacts to the special trail "Tunnel 1" through Deer Canyon.

3. Del Mar Mesa and Del Mar Mesa Preserve are home to popular public biking, hiking and equestrian trails. Recreation should be deemed a *significant* area to review:
    a. Visual graphics that clearly show what the project will look like from view points along the trail systems memorialized in the Resource Management Plan
    b. Description of any additional stress on the trails both inside Del Mar Mesa Preserve and on the connected 10-mile public trail system within the Del Mar Mesa community
    c. Disruptions to the quiet enjoyment of Del Mar Mesa Preserve and Los Penasquitos Canyon, should be part of any community character assessment, including but not confined to, noise and visual effects, loss of wildlife, and elimination of sensitive plants, during construction and from daily operation
    d. Identify funding for affected trail maintenance

4. As stated previously, Del Mar Mesa Preserve is a functioning part of a larger interconnected ecosystem that includes Los Penasquitos Canyon, Carmel Mountain, Los Penasquitos Lagoon and Torrey Pines State Park. Therefore the following should be analyzed:
    a. Cumulative impacts to the entire Preserve system.
    b. Adjacency effects on protected Federal, State and City lands at the edges of the project, including vernal pools.

5. Community Benefit
    a. Community Plan Amendments require that projects of this magnitude substantially benefit the community. Any of those benefits must be within the Torrey Highlands and Del Mar Mesa Community Planning Areas.
    b. Benefits should substantially enhance the preservation goals of the Del Mar Mesa Preserve and the interconnected habitats of Los Penasquitos Canyon Preserve, Carmel Mountain Preserve, Los Penasquitos Lagoon and Torrey Pines State Park.

Finally, but no less important, is that higher uses than the proposed project are allowable if the applicant wins approval for a Community Plan and General Plan Amendment. Given the biological sensitivity and recreational popularity of Del Mar Mesa Preserve, along with direct and indirect on surrounding communities, the range of potential uses, facility density, and building heights should be made very clear to the public.

Respectfully,

Lisa Ross
Chair, The Preserve At Torrey Highlands Subcommittee
Del Mar Mesa Planning Board

To whom it may concern,

I am oppposed to the re-zoning of the area from AR-1-1agricultural lot to an IP-3-1 industrial park. I seems ludicrous just typing it that such a drastic change in zoning is being considered. The owners of the property knew what the zoning was when they purchased the property. We can't just let them change it and build 3 office buildings and a 7 story (7 STORIES) parking garage in an area that was supposed to be residential. It was zoned as such when the homeowners purchased the property nearby, and they paid premiums for those lots due to that designation.

Please do not approve this change in zoning.
Thanks,
Malinda

Environmental Planning,

I live in the Park Village neighborhood of Rancho Penasquitos and am concerned about the proposed zoning changes for the Preserve at Torrey Highlands. Having a tall building or parking structure isn't fair to the homes nearby who bought there when the zoning did not permit this. Also the zoning change would allow industrial development in an area that had been agricultural. That is a ridiculous change from one extreme to another! I don't want to live near an industrial area. That is why I bought here. Also, I don't want the traffic to/from an industrial area impacting our area and, specifically, Park Village Elementary School which is off Camino Del Sur. That would be a major safety issue. Also, having an industrial area right on the Canyon does not benefit the wildlife and environment. The developer purchased this plan knowing how it was zoned, so should not be allowed to pressure the city into a change. The integrity of the community plan should be preserved.

Thank you for your time.
Matthew Harris

STATE OF CALIFORNIA
NATIVE AMERICAN HERITAGE COMMISSION
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691
Phone (916) 373-3710
Fax (916) 373-5471
Email: nahc@nahc.ca.gov
Website: http://www.nahc.ca.gov
Twitter: @CA_NAHC

Edmund G. Brown Jr., Governor

March 11, 2016

Elizabeth Shearer-Nguyen
City of San Diego
1222 First Avenue, MS-501
San Diego, CA 92101

Sent via e-mail:
DSDEAS@sandiego.gov
Number of pages: 4

RE: SCH# 2016031026, The Preserve at Torrey Highlands Project, City of San Diego, San Diego County, California

Dear Ms. Shearer-Nguyen:

The Native American Heritage Commission has received the Notice of Preparation (NOP) for the project referenced above. The California Environmental Quality Act (CEQA) (Pub. Resources Code § 21000 et seq.), specifically Public Resources Code section 21084.1, states that a project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.1; Cal. Code Regs., tit.14, § 15064.5 (b) (CEQA Guidelines Section 15064.5 (b)). If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, an environmental impact report (EIR) shall be prepared. (Pub. Resources Code § 21080 (d); Cal. Code Regs., tit. 14, § 15064 subd.(a)(1) (CEQA Guidelines § 15064 (a)(1)). In order to determine whether a project will cause a substantial adverse change in the significance of a historical resource, a lead agency will need to determine whether there are historical resources with the area of project effect (APE).

CEQA was amended significantly in 2014. Assembly Bill 52 (Gatto, Chapter 532, Statutes of 2014) (AB 52) amended CEQA to create a separate category of cultural resources, "tribal cultural resources" (Pub. Resources Code § 21074) and provides that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.2). Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource. (Pub. Resources Code § 21084.3 (a)). **AB 52 applies to any project for which a notice of preparation or a notice of negative declaration or mitigated negative declaration is filed on or after July 1, 2015.** If your project involves the adoption of or amendment to a general plan or a specific plan, or the designation or proposed designation of open space, on or after March 1, 2005, it may also be subject to Senate Bill 18 (Burton, Chapter 905, Statutes of 2004) (SB 18). **Both SB 18 and AB 52 have tribal consultation requirements.** If your project is also subject to the federal National Environmental Policy Act (42 U.S.C. § 4321 et seq.) (NEPA), the tribal consultation requirements of Section 106 of the National Historic Preservation Act of 1966 (154 U.S.C. 300101, 36 C.F.R. § 800 et seq.) may also apply.

The NAHC recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources. Below is a brief summary of portions of AB 52 and SB 18 as well as the NAHC's recommendations for conducting cultural resources assessments. **Consult your legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws.**

AB 52

AB 52 has added to CEQA the additional requirements listed below, along with many other requirements:

1. Fourteen Day Period to Provide Notice of Completion of an Application/Decision to Undertake a Project: Within fourteen (14) days of determining that an application for a project is complete or of a decision by a public agency to undertake a project, a lead agency shall provide formal notification to a designated contact of, or tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, to be accomplished by at least one written notice that includes:
   a. A brief description of the project.
   b. The lead agency contact information.
   c. Notification that the California Native American tribe has 30 days to request consultation. (Pub. Resources Code § 21080.3.1 (d)).
   d. A "California Native American tribe" is defined as a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of Statutes of 2004 (SB 18). (Pub. Resources Code § 21073).

2. Begin Consultation Within 30 Days of Receiving a Tribe's Request for Consultation and Before Releasing a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report: A lead agency shall begin the consultation process within 30 days of receiving a request for consultation from a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project. (Pub. Resources Code § 21080.3.1, subds. (d) and (e)) and prior to the release of a negative declaration, mitigated negative declaration or environmental impact report. (Pub. Resources Code § 21080.3.1(b)).
   a. For purposes of AB 52, "consultation shall have the same meaning as provided in Gov. Code § 65352.4 (SB 18). (Pub. Resources Code § 21080.3.1 (b)).

3. Mandatory Topics of Consultation If Requested by a Tribe: The following topics of consultation, if a tribe requests to discuss them, are mandatory topics of consultation:
   a. Alternatives to the project.
   b. Recommended mitigation measures.
   c. Significant effects. (Pub. Resources Code § 21080.3.2 (a)).

4. Discretionary Topics of Consultation: The following topics are discretionary topics of consultation:
   a. Type of environmental review necessary.
   b. Significance of the tribal cultural resources.
   c. Significance of the project's impacts on tribal cultural resources.
   d. If necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend to the lead agency. (Pub. Resources Code § 21080.3.2 (a)).

5. Confidentiality of Information Submitted by a Tribe During the Environmental Review Process: With some exceptions, any information, including but not limited to, the location, description, and use of tribal cultural resources submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with Government Code sections 6254 (r) and 6254.10. Any information submitted by a California Native American tribe during the consultation or environmental review process shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public. (Pub. Resources Code § 21082.3 (c)(1)).

6. Discussion of Impacts to Tribal Cultural Resources in the Environmental Document: If a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document shall discuss both of the following:
   a. Whether the proposed project has a significant impact on an identified tribal cultural resource.
   b. Whether feasible alternatives or mitigation measures, including those measures that may be agreed to pursuant to Public Resources Code section 21082.3, subdivision (a), avoid or substantially lessen the impact on the identified tribal cultural resource. (Pub. Resources Code § 21082.3 (b)).

7. Conclusion of Consultation: Consultation with a tribe shall be considered concluded when either of the following occurs:
   a. The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or
   b. A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. (Pub. Resources Code § 21080.3.2 (b)).

8. Recommending Mitigation Measures Agreed Upon in Consultation in the Environmental Document: Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code section 21080.3.2 shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program, if determined to avoid or lessen the impact pursuant to Public Resources Code section 21082.3, subdivision (b), paragraph 2, and shall be fully enforceable. (Pub. Resources Code § 21082.3 (a)).

9. Required Consideration of Feasible Mitigation: If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, the lead agency shall consider feasible mitigation pursuant to Public Resources Code section 21084.3 (b). (Pub. Resources Code § 21082.3 (e)).

10. Examples of Mitigation Measures That, If Feasible, May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:
    a. Avoidance and preservation of the resources in place, including, but not limited to:
       i. Planning and construction to avoid the resources and protect the cultural and natural context.
       ii. Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.
    b. Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:
       i. Protecting the cultural character and integrity of the resource.
       ii. Protecting the traditional use of the resource.
       iii. Protecting the confidentiality of the resource.
    c. Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.
    d. Protecting the resource. (Pub. Resource Code § 21084.3 (b)).
    e. Please note that a federally recognized California Native American tribe or a nonfederally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed. (Civ. Code § 815.3 (c)).
    f. Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. (Pub. Resources Code § 5097.991).

11. Prerequisites for Certifying an Environmental Impact Report or Adopting a Mitigated Negative Declaration or Negative Declaration with a Significant Impact on an Identified Tribal Cultural Resource: An environmental impact report may not be certified, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:
    a. The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code sections 21080.3.1 and 21080.3.2 and concluded pursuant to Public Resources Code section 21080.3.2.
    b. The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.
    c. The lead agency provided notice of the project to the tribe in compliance with Public Resources Code section 21080.3.1 (d) and the tribe failed to request consultation within 30 days. (Pub. Resources Code § 21082.3 (d)).

    This process should be documented in the Cultural Resources section of your environmental document.

The NAHC's PowerPoint presentation titled, "Tribal Consultation Under AB 52: Requirements and Best Practices" may be found online at: http://nahc.ca.gov/wp-content/uploads/2015/10/AB52TribalConsultation_CalEPAPDF.pdf

SB 18

SB 18 applies to local governments and requires local governments to contact, provide notice to, refer plans to, and consult with tribes prior to the adoption or amendment of a general plan or a specific plan, or the designation of open space. (Gov. Code § 65352.3). Local governments should consult the Governor's Office of Planning and Research's "Tribal Consultation Guidelines," which can be found online at: https://www.opr.ca.gov/docs/09_14_05_Updated_Guidelines_922.pdf

Some of SB 18's provisions include:

1. Tribal Consultation: If a local government considers a proposal to adopt or amend a general plan or a specific plan, or to designate open space it is required to contact the appropriate tribes identified by the NAHC by requesting a "Tribal Consultation List." If a tribe, once contacted, requests consultation the local government must consult with the tribe on the plan proposal. **A tribe has 90 days from the date of receipt of notification to request consultation unless a shorter timeframe has been agreed to by the tribe.** (Gov. Code § 65352.3 (a)(2)).
2. No Statutory Time Limit on SB 18 Tribal Consultation. There is no statutory time limit on SB 18 tribal consultation.
3. Confidentiality: Consistent with the guidelines developed and adopted by the Office of Planning and Research pursuant to Gov. Code section 65040.2, the city or county shall protect the confidentiality of the information concerning the specific identity, location, character, and use of places, features and objects described in Public Resources Code sections 5097.9 and 5097.993 that are within the city's or county's jurisdiction. (Gov. Code § 65352.3 (b)).
4. Conclusion of SB 18 Tribal Consultation: Consultation should be concluded at the point in which:
    a. The parties to the consultation come to a mutual agreement concerning the appropriate measures for preservation or mitigation; or
    b. Either the local government or the tribe, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached concerning the appropriate measures of preservation or mitigation. (Tribal Consultation Guidelines, Governor's Office of Planning and Research (2005) at p. 18).

Agencies should be aware that neither AB 52 nor SB 18 precludes agencies from initiating tribal consultation with tribes that are traditionally and culturally affiliated with their jurisdictions before the timeframes provided in AB 52 and SB 18. For that reason, we urge you to continue to request Native American Tribal Contact Lists and "Sacred Lands File" searches from the NAHC. The request forms can be found online at: http://nahc.ca.gov/resources/forms/

NAHC Recommendations for Cultural Resources Assessments

To adequately assess the existence and significance of tribal cultural resources and plan for avoidance, preservation in place, or barring both, mitigation of project-related impacts to tribal cultural resources, the NAHC recommends the following actions:

1. Contact the appropriate regional California Historical Research Information System (CHRIS) Center (http://ohp.parks.ca.gov/?page_id=1068) for an archaeological records search. The records search will determine:
    a. If part or all of the APE has been previously surveyed for cultural resources.
    b. If any known cultural resources have been already been recorded on or adjacent to the APE.
    c. If the probability is low, moderate, or high that cultural resources are located in the APE.
    d. If a survey is required to determine whether previously unrecorded cultural resources are present.

2. If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
    a. The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.
    b. The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.

3. Contact the NAHC for:
    a. A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project's APE.
    b. A Native American Tribal Consultation List of appropriate tribes for consultation concerning the project site and to assist in planning for avoidance, preservation in place, or, failing both, mitigation measures.

4. Remember that the lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence.
    a. Lead agencies should include in their mitigation and monitoring reporting program plan provisions for the identification and evaluation of inadvertently discovered archaeological resources per Cal. Code Regs., tit. 14, section 15064.5(f) (CEQA Guidelines section 15064.5(f)). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources should monitor all ground-disturbing activities.
    b. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans.
    c. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the treatment and disposition of inadvertently discovered Native American human remains. Health and Safety Code section 7050.5, Public Resources Code section 5097.98, and Cal. Code Regs., tit. 14, section 15064.5,

subdivisions (d) and (e) (CEQA Guidelines section 15064.5, subds. (d) and (e)) address the processes to be followed in the event of an inadvertent discovery of any Native American human remains and associated grave goods in a location other than a dedicated cemetery.

Please contact me if you need any additional information at gayle.totton@nahc.ca.gov.

Sincerely,

Gayle Totton
Associate Governmental Program Analyst

cc: State Clearinghouse

E. Shearer-Nguyen,

The area surrounding this proposed project on three sides is MHPA land and is designated by the City of San Diego as a preserve. The Del Mar Mesa Preserve. How can this proposed project, an industrial park, be called a “preserve”?

Preston Drake
Resident: City of San Diego
Community Area: Del Mar Mesa
Council District: 1

Sir/Madam,

As a home owner in Park Village, and I strongly object to the carte blanche re-designated zoning within the Torrey Highlands Subarea Plan from Commercial Limited (CL) to Employment Center (EC), a REZONE from AR-1-1 (agricultural - residential, requiring minimum 10-acre lots) to IP-3-1 (industrial park - allowing for research and development, office and residential uses) as no residential/public use is proposed as part of this project, in other words, from the mixed use opportunity a to an industry project.

This is a drastic change with significant downsides to the current residents in this area. Can you please let us know for the reason behind such a change? And what the residents of this area will gain by this? It is obvious that there are significant commercial motives for the city of san diego, but these commercial motives can be satisfied by approving such a project in the more denser and commercial parts of the city like clairemont that can use the money generated by such a venture. It is bad enough that the number of houses that are popping up along the I-56 are an eye sore, now we have to deal with mutli-storied buildings as well.

To conclude, I object vehemently and there are no two ways about this. Please consider this objection as a reason enough to look deeper into the proposal and the significant environmental impact this will have to the only preserve that san diego city has that every one loves to hike and bike in.

Best Regards
Raga Ramachandra

Environmental Planning,

I live in the Park Village neighborhood of Rancho Penasquitos and am concerned about the proposed zoning changes for the Preserve at Torrey Highlands. Having a tall building or parking structure isn't fair to the homes nearby who bought there when the zoning did not permit this.
Also the zoning change would allow industrial development in an area that had been agricultural. That is a ridiculous change from one extreme to another! I don't want to live near an industrial area. That is why I bought here. Also, I don't want the traffic to/from an industrial area impacting our area and, specifically, Park Village Elementary School which is off Camino Del Sur. That would be a major safety issue. Also, having an industrial area right on the Canyon does not benefit the wildlife and environment. The developer purchased this plan knowing how it was zoned, so should not be allowed to pressure the city into a change. The integrity of the community plan should be preserved.

Thank you for your time.
Rachel Bittker

To whom it may concern:

I oppose this project. The original agreed project was to have housing on the west side of Cam Del Sur. This would allow a access to the preserve and tie in the environmental beauty of the preserve to a living community environment. There is already an undeveloped commercial site near the Intuit bldg and that should be sufficient commercial industry along with Merge 56 project that will have office buildings as well. Enough!!!! Do not sell out the beauty of this community to interests that want to push even more development. We want livable communities not commercial towers in this area. Save the preserve. Please connect me with those who will fight this project.

Sincerely,

LTC Robert Blessing
rbless@aol.com
858-437-1544

Re: The Preserve at Torrey Highlands/ 442880
Dear City Planner,
I am writing to express my outrage ~~concern~~ about the proposed development plan for The Preserve at Torrey Highlands in Council District 6. In particular, the environmental impact of this project on the community and surround habitat would be devastating.
I have reviewed the proposed project plan presented by applicant JVB Real Estate Advisors. The project should not be approved because of the following reasons:

1. Land Use
The land is currently open nature, untouched by the hand of mankind and cherished by the natural fauna, vernal pools, and wildlife. The current property abuts a hiking trail, horseback trail, creek, and open-space preserve. There is no logic to placing 3 six-story buildings directly abutting such an environment. Logical flow of land use would be to gradually decrease the density of developed land until it tapers into an open preserve. The proposed plan would make this border look more like the border around Central Park in Manhattan rather than the community character Rancho Penasquitos is known for.
2. Transportation/Circulation
The proposed project will massively increase transportation and increase traffic congestion on nearby roads. The Merge 56 project is debating whether to build a single- or dual-lane road from Camino del Sur south to the Merge 56 property. The increase in traffic from the 18 stories (3 six-story buildings) worth of additional commuters would create chaos during commute times on this road. In addition, as anyone who lives or commutes near Highway 56 can attest, Highway 56 is already clogged during commute hours. Any additional development will make this already unbearable thoroughfare even more miserable, resulting in additional pollution, economic waste (labor loss due to increase commute times), and noise. There is no rational justification for allowing any increase in traffic in the surrounding area.

3. Air Quality/ Greenhouse Gas Emissions
Adding the equivalent of 18 stories (3 six-story buildings) of commercial use will massively increase pollution in the area. The replacement of natural wildlife (which can reduce greenhouse emissions by natural photosynthesis of plant life) with concrete buildings would alter the air quality in such a manner that could not be reversed. This proposed project will increase greenhouse gas emissions from the cars occupying the 7-story parking garage, the result in the increase in traffic on the local roads and highways (including the increase in commute times for everyone else on Highway 56), and from the operation of the 3 six-story buildings (HVAC, etc.) will massively decrease the local air quality and increase the aggregate greenhouse gas emissions.

4. Biological Resources
As you may have noticed, San Diego is currently suffering through 4 years of drought. There is no plan to increase water storage in this proposed development. This proposed development will be a burden on the local water use, waste management, and air quality.

5. Energy
There is no indication that this proposed development will be zero-carbon neutral in emissions, energy use, and water recycling. As such, this proposed development would use up more energy than it would possibly product (via solar panels). Where is this energy coming from?

6. Hydrology
As described above under “Land Use” this property abuts a natural creek. Any waste runoff from this proposed development would harm this creek water quality.

7. Noise
Not very many 7-story parking garages operate in “silent mode.” This project would result in massive traffic noise, building operations noise (HVAC, etc.), and personel noise (over 1000 proposed inhabitants – talking!).

8. Historical Resources
This property came out of “Rancho Penasquitos.” It is not a city. How many 6-story buildings do you encounter on ranches? Why convert a “ranch” into a “city”. This proposed development is incongruous with the historical character of the area.

9. Visual Effects/Neighborhood Character
The proposed project includes 3 six-story buildings and one seven-story parking garage. No other property in Rancho Penasquitos has even one six-story building. No other property in Rancho Penasquitos has any seven-story parking garages. The proposed project is very out of character with the surrounding neighborhood.
10. Cumulative Effects
In summary, this proposed project should NOT be approved.

Regards,
Ryan Smith
13217 Ireland Lane
San Diego, CA 92129

To Whom It May Concern,

As a resident of the Park Village neighborhood in Rancho Penasquitos, I oppose the plan amendments that JVB Real Estate Advisors is proposing for the Torrey Highlands Subarea plan, also known as the "former Diocese lot." Changing the zoning from AR-1-1agricultural lot to an IP-3-1 industrial park will not benefit surrounding communities. The proposed Preserve project will negatively impact the protected habitat of our canyon preserve, and it will negatively impact the significant amount of traffic that already exists. When the community plan was developed, that area was specifically zoned as an AR-1-1 to meet the best interests of both the natural habitat and the people who would live in surrounding areas. That need has not changed, and the zoning should not either.

What precedence are we setting by allowing big commercial developers to purchase land zoned for a specific purpose, and then change the zoning requirements to fit their own desires without regard to the original intent of that property? Currently, the development proposal is for several office buildings and a parking structure. Although it may appear relatively harmless to both the protected habitat and people in the surrounding area, changing the zoning to an industrial park will invite companies that can potentially harm the surrounding area.

Please accept my opposition to the Preserve at Torrey Highlands proposal and the rezoning of the property. For the preservation and protection of surrounding areas, it needs to remain zoned as an AR-1-1. Thank you for your time and consideration.

Regards,
Sandra Oshiro

To Whom It May Concern:
As a resident of the Park Village neighborhood in Rancho Penasquitos, I oppose the plan amendments that JVB Real Estate Advisors is proposing for the Torrey Highlands Subarea plan, also known as the "former Diocese lot." Changing the zoning from AR-1-1agricultural lot to an IP-3-1 industrial park will not benefit surrounding communities. The proposed Preserve project will negatively impact the protected habitat of our canyon preserve, and it will negatively impact the significant amount of traffic that already exists. When the community plan was developed, that area was specifically zoned as an AR-1-1 to meet the best interests of both the natural habitat and the people who would live in surrounding areas. That need has not changed, and the zoning should not either.

What precedence are we setting by allowing big commercial developers to purchase land zoned for a specific purpose, and then change the zoning requirements to fit their own desires without regard to the original intent of that property? Currently, the development proposal is for several office buildings and a parking structure. Although it may appear relatively harmless to both the protected habitat and people in the surrounding area, changing the zoning to an industrial park will invite companies that can potentially harm the surrounding area.

Please accept my opposition to the Preserve at Torrey Highlands proposal and the rezoning of the property. For the preservation and protection of surrounding areas, it needs to remain zoned as an AR-1-1. Thank you for your time and consideration.

I live in the Park Village neighborhood of Rancho Penasquitos and am concerned about the proposed zoning changes for the Preserve at Torrey Highlands. Having a tall building or parking structure isn't fair to the homes nearby who bought there when the zoning did not permit this. Also the zoning change would allow industrial development in an area that had been agricultural. That is a ridiculous change from one extreme to another! I don't want to live near an industrial area. That is why I bought here. Also, I don't want the traffic to/from an industrial area impacting our area and, specifically, Park Village Elementary School which is off Camino Del Sur. That would be a major safety issue. Also, having an industrial area right on the Canyon does not benefit the wildlife and environment. The developer purchased this plan knowing how it was zoned, so should not be allowed to pressure the city into a change. The integrity of the community plan should be preserved.

In Reply Refer To:

FWS-SDG-16B0239-16TA0517

Dear Ms. Shearer-Nguyen:

The U.S. Fish and Wildlife Service (Service) have reviewed the Notice of Preparation (NOP) dated March 8, 2016, for the proposed Draft Environmental Impact Report (DEIR) for the Preserve at Torrey Highlands project. The comments and recommendations provided herein are based on the information provided in the NOP, our knowledge of sensitive and declining vegetation communities in the region, and our participation in the Multiple Species Conservation Program (MSCP) and the City's MSCP Subarea Plan (SAP).

The project proposes to construct a 450,000-square-foot commercial office development. Specifically, the project would construct a three building commercial campus comprised of four stories, five stories and six stories; one, one-story amenity building; and one above-grade parking structure. Various site improvements would also be constructed that include associated hardscape (surface parking, driveways, and walkways) and landscape. Construction is expected to take approximately 10 months. In addition the project would require a Community Plan Amendment, Rezone and Site Development Permit.

The 11.10 acre project is located within the Torrey Highlands Subarea Plan, in the City of San Diego on undeveloped land located approximately one-quarter mile south of State Route (SR) 56 along the west side of the planned extension of Camino del Sur. The project is located within the City's Multiple Species Conservation Plan (MSCP) area with the City's MSCP Multi-Habitat Preservation Area adjacent to the site on three sides. In addition the project is within the City's draft Vernal Pool Habitat Conservation Plan (VPHCP) area.

We offer our comments and recommendations in the below to assist the City in avoiding, minimizing, and adequately mitigating project-related impacts to biological resources and to ensure that the project is consistent with the MSCP and other

regional planning efforts. If you have questions or comments regarding this letter, please contact Patrick Gower at 760-431-9440.

U.S. Fish and Wildlife Service Comments and Recommendations on the Notice of Preparation of a Draft Environmental Impact Report For the Preserve at Torrey Highlands Project

General Comments

To enable us to adequately review and comment on the proposed project from the standpoint of the protection of plants, fish, and wildlife, we recommend the following information be included in the Draft Environmental Impact Report (DEIR):

1. A complete discussion of the purpose and need for, and description of, the proposed project, including all staging areas and access routes to the construction and staging areas.

2. A complete list and assessment of the flora and fauna within and adjacent to the project area, with particular emphasis upon identifying State or federally listed rare, threatened, endangered, or proposed candidate species, California Species-of-Special Concern and/or State Protected or Fully Protected species, and any locally unique species and sensitive habitats. Specifically, the DEIR should include:

   a. A thorough assessment of Rare Natural Communities on site and within the area of impact. We recommend following the California Department of Fish and Wildlife's Guidelines for Assessing Impacts to Rare Plants and Rare Natural Communities.

   b. A current inventory of the biological resources associated with each habitat type on site and within the area of impact.

   c. An inventory of rare, threatened, and endangered species on site and within the area of impact.

   d. Discussions regarding seasonal variations in use by sensitive species of the project site as well as the area of impact on those species, using acceptable species-specific

survey procedures as determined through consultation with the Wildlife Agencies. Focused species-specific surveys, conducted in conformance with established protocols at the appropriate time of year and time of day when the sensitive species are active or otherwise identifiable, are required.

3. A thorough discussion of direct, indirect, and cumulative impacts expected to adversely affect biological resources. All facets of the project should be included in this assessment. Specifically, the DEIR should provide:

a. Specific acreage and descriptions of the types of wetlands, vernal pools, coastal sage scrub, and other sensitive habitats that will or may be affected by the proposed project or project alternatives. Maps and tables should be used to summarize such information.

b. Discussions regarding the regional setting, pursuant to the CEQA Guidelines, Section 15125(a), with special emphasis on resources that are rare or unique to the region that would be affected by the project. This discussion is critical to an assessment of environmental impacts.

c. Detailed discussions, including both qualitative and quantitative analyses, of the potentially affected listed and sensitive species (fish, wildlife, plants), and their habitats on the proposed project site, area of impact, and alternative sites, including information pertaining to their local status and distribution. The anticipated or real impacts of the project on these species and habitats should be fully addressed.

d. Discussions regarding indirect project impacts on biological resources, including resources in nearby public lands, open space, adjacent natural habitats, riparian ecosystems, and any designated and/or proposed NCCP reserve lands. Impacts on, and maintenance of, wildlife corridor/movement areas, including access to undisturbed habitats in adjacent areas, should be fully evaluated and provided. A discussion of potential adverse impacts from lighting, noise, human activity, exotic species, and drainage. The latter subject should address: project-related changes on drainage patterns on and downstream of the project site; the volume, velocity, and frequency of existing and post-project surface flows; polluted runoff; soil erosion and/or sedimentation in streams and water bodies; and post-project fate of runoff from the project site.

e. Discussions regarding possible conflicts resulting from wildlife-human interactions at the interface between the development project and natural habitats. The zoning of areas for development projects or other uses that are nearby or adjacent to natural areas may inadvertently contribute to wildlife-human interactions.

f. An analysis of cumulative effects, as described under CEQA Guidelines, Section 15130. General and specific plans, and past, present, and anticipated future projects, should be analyzed concerning their impacts on similar plant communities and wildlife habitats.

g. An analysis of the effect that the project may have on implementation of regional and/or subregional conservation programs such a the City's MSCP and VPHCP . We recommend that the Lead Agency ensure that the development of this and other proposed projects do not interfere with the goals and objectives of established or planned long-term preserves and that projects conform with other requirements of the NCCP program.

4. Mitigation measures for unavoidable adverse project-related impacts on sensitive plants, animals, and habitats. Mitigation measures should emphasize avoidance, and where avoidance is infeasible, reduction of project impacts. For unavoidable impacts, off-site mitigation through acquisition and preservation in perpetuity of the affected habitats should be addressed. We generally do not support the use of relocation, salvage, and/or transplantation as mitigation for impacts on rare, threatened, or endangered species. Studies have shown that these efforts are experimental in nature and largely unsuccessful.

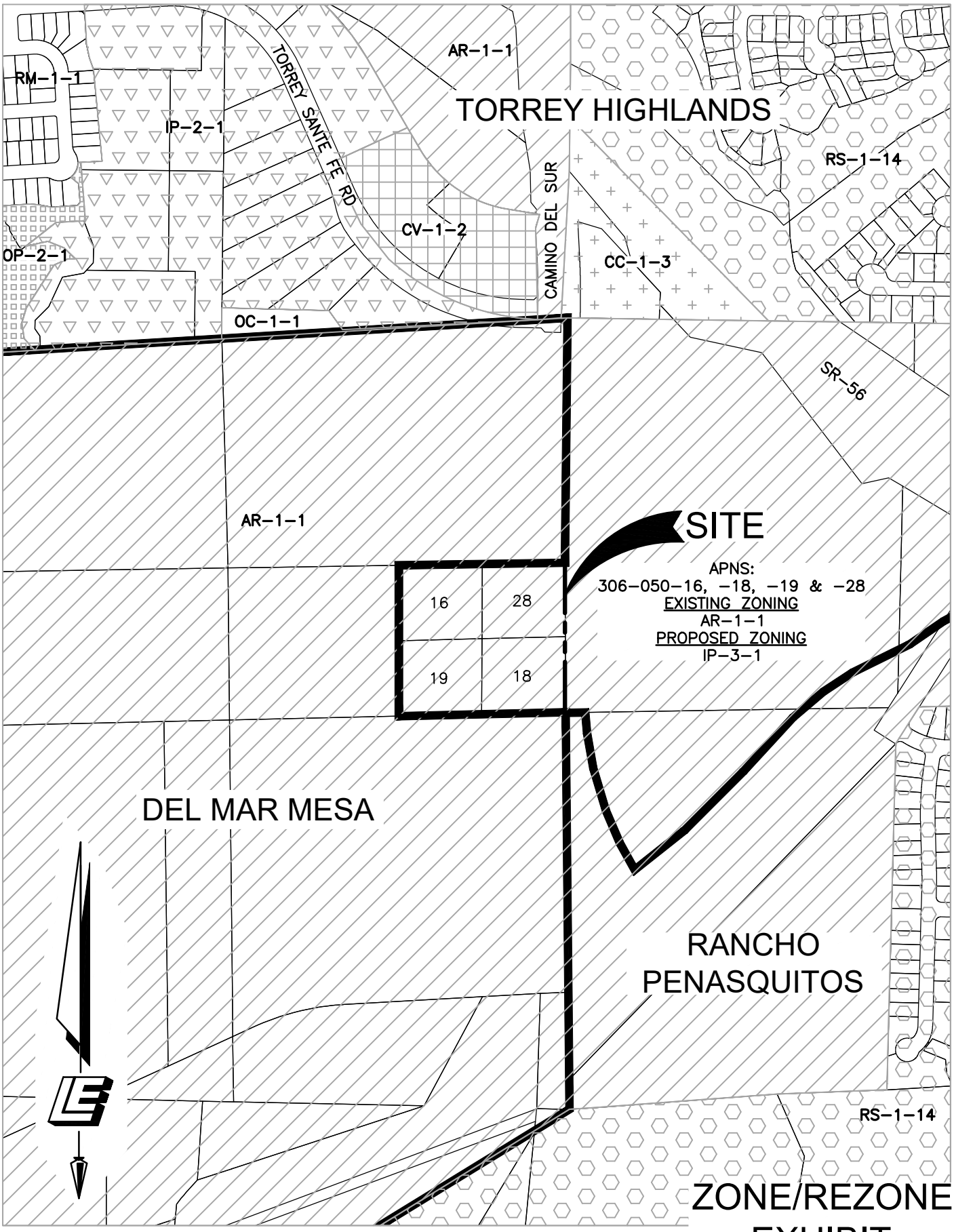
Specific Comments

1. The DEIR should summarize the biological purpose and management requirements of the conservation easement placed in the south west corner of the site. The project should also provide an assessment of how the project will maintain the biological integrity of the conserved land including the protection of vernal pools from direct and indirect impacts and long term management.

Patrick Gower
Fish and Wildlife Biologist
Carlsbad Fish and Wildlife Office
(760) 431-9440 ext 352

APPENDIX B

Amendments to the
Torrey Highland Subarea Comments

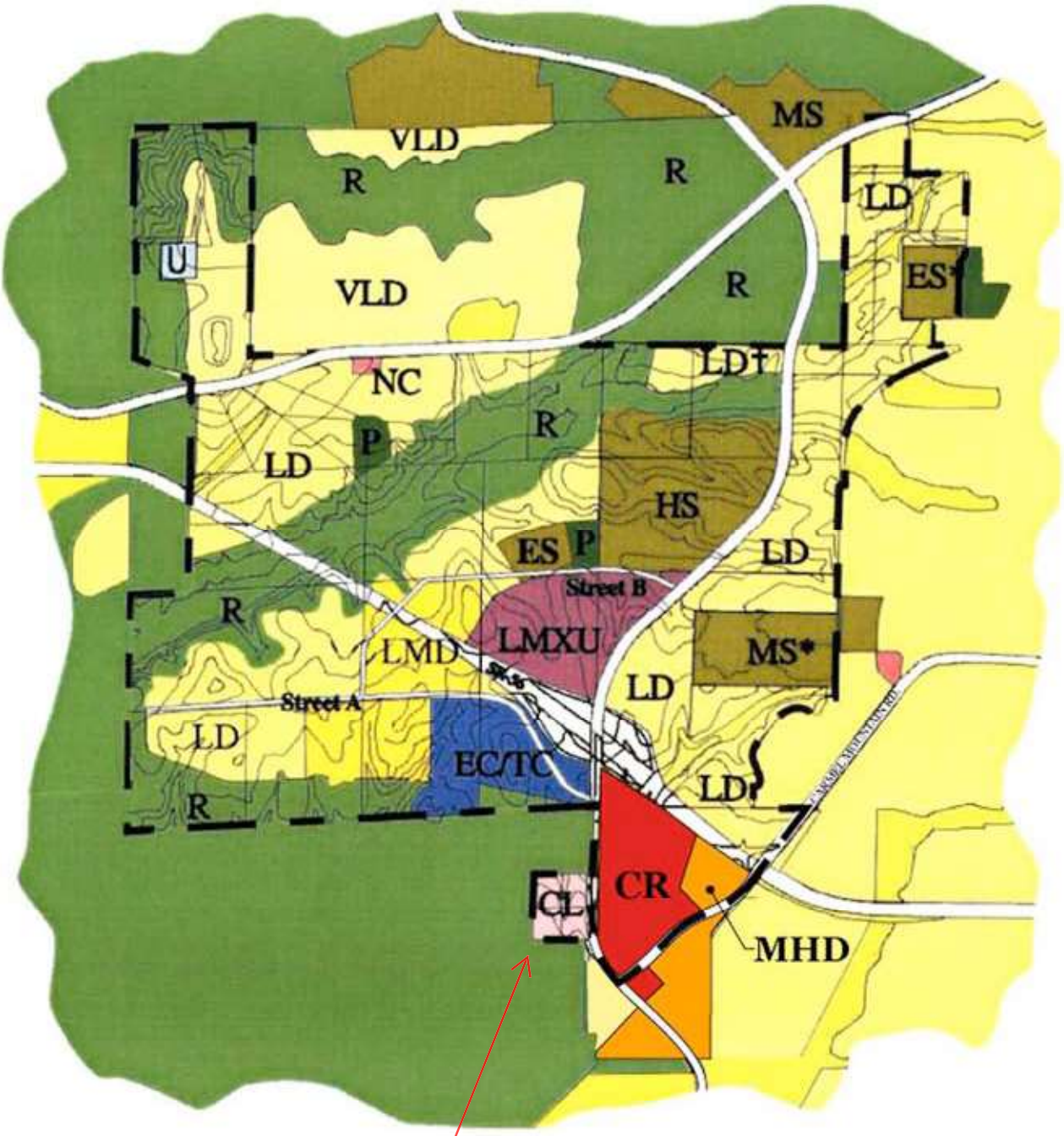


ZONE/REZONE
EXHIBIT

TORREY HIGHLANDS COMMUNITY PLAN

The following amendments have been incorporated into this January 2006 posting of this Plan:

Amendment	Date Adopted by Planning Commission	Resolution Number	Date Adopted by City Council	Resolution Number
Torrey Highlands Subarea Plan adopted			August 5, 1996	R-287749
Redesignated a portion of the Employment Center to LD and LMD Residential (Torrey Santa Fe)	December 2, 1999		December 7, 1999	R-292591
Redesignated 2 small areas from Institutional to LMXU and LMD Residential to Commercial Regional (Greystone Homes)	October 26, 2000		November 14, 2000	R-294053
Redesignated 39 acres from LD Residential to LMD Residential (Shaw)	August 1, 2002		September 24, 2002	R-297097
Reconfigured residential, commercial and open space areas and adjusted the community plan boundary on a 147-acre site (Rhodes Crossing)	February 5, 2004		March 30, 2004	R-299054
Redesignated 10.5 Acres from Commercial Limited to Employment Center (The Preserve at TH)				



Revise from CL to EC

0 800 1600 2400 3200 4000 FT

Land Use Plan **4-1**

Torrey Highlands Subarea Plan FIGURE

VLD	Very Low-Density (Less than 1 D.U./Gross Acre)
LD	Low-Density (2.5 D.U./Gross Acre)
	Future Low-Density
LMD	Low Medium-Density (5-10 D.U./Gross Acre)
MHD	Medium High-Density (20-40 D.U./Gross Acre)
LMXU	Local Mixed Use
NC	Commercial Neighborhood
CR	Commercial Regional
CL	Commercial Limited
U	Utilities
EC/TC	Employment Center/Transit Center
HS	High School*
MS	Middle School
ES	Elementary School*
P	Neighborhood Park
R	Resource (Proposed MSCP Preserve)
OS	Open Space
	25-Foot Contour

* Elementary School and High School designated as LD for underlying land use. Development of the school sites as LD will require a rezoning.

Land Use Legend **4-2**
Torrey Highlands Subarea Plan FIGURE

TABLE 4-2
TORREY HIGHLANDS LAND USE ACREAGE

		DU or Acres
Residential		2,600 DU
VLD	Very Low-Density (Less than 1 du/acre)	28.3 Acres
LD	Low-Density (2-5 du/acre)*	363.85 Acres
LMD	Low-Moderate Density (5-10 du/acre)	62.08 Acres
MHD	Medium-High Density (20-40 du/acre)	7 Acres
LMXU	Local Mixed Use	43.5 Acres
CN	Commercial Neighborhood	1.5 Acres
CR	Commercial Regional	35 Acres
~~CL~~	~~Commercial Limited~~	~~10.5 Acres~~
EC/TC	Employment Center/Transit Center	~~34 Acres~~ 44.5 Acres
Schools		
ES	Elementary School (Existing)	12 Acres
MS	Middle School (Existing)	30 Acres
ES	Elementary School (Proposed)**	11 Acres
HS	High School (Proposed)	68.5 Acres
MS	Middle School (Proposed)***	0.3 Acres
P	Neighborhood Park	10 Acres
R	Resource (MSCP)	273. Acres
OS	Open Space	11 Acres
ROW	Right-of-Way	120 Acres
U	Utilities	3.7 Acres
Total		**1125.8 Acres**

* Total low-density acreage does not include acreage for the underlying LD acreage designated for schools.

** Elementary school and high school designated as LD for underlying land Use. Development of the school site as LD will require a rezoning of the property to implement that designation.

*** Approximately 10 acres of proposed middle school located in Fairbanks Highlands, 15 acres located in Subarea I.

Low- to Moderate-Density Residential

Single-family homes will be the predominant use in the low- to moderate-density residential neighborhood. Average gross densities will range from five to ten dwelling units per acre. A range of dwelling unit types will be allowed, including conventional single-family dwellings, small-lot developments, single-family with accessory units, duplexes, triplexes and town homes. While multifamily developments will be a permitted use based on overall density, the predominant development will be single-family. A well-planned system of trails connects the residential areas with the neighborhood parks, the open space system and with other destinations including schools and the Local Mixed Use Center. **Chapter 5, Community Design Guidelines**, contains site design and development guidelines to achieve a mix of housing types.

Low-Density Residential

Areas of Torrey Highlands designated low-density residential will allow single-family development at average gross densities of two to five dwelling units per acre. Dwelling unit types may include single-family, single-family with companion units and clustered development.

Low-density residential areas on the east side of Camino Ruiz, and within 500-feet west of the Rancho Peñasquitos community, will relate to existing residential development in Rancho Peñasquitos through the use of minimum lot sizes of 7,500 square feet* and compatible scale and type of building. Additional design policies are contained in **Chapter 5**, **Community Design Guidelines**.

4.2.3 Subregional Land Uses

Torrey Highlands' projected population of approximately 7,280 persons, together with projected population from the entire NCFUA and existing communities, creates demand for a centralized area to provide subregional goods, services and job opportunities.

The subregional uses are located to take advantage of:

- One of the two freeway interchange locations (Camino Ruiz and SR-56) within the NCFUA.
- The absence of comparable uses in the adjacent community of Rancho Peñasquitos.

Subregional facilities including an Employment Center, ~~Commercial Limited~~ and Commercial Regional uses are sited in the southern portion of Torrey Highlands. Their location takes advantage of freeway proximity.

* The minimum lot size for low-density residential within Parcel #306-021-05 is 5,000 square feet

Employment Center

The commute from home to work typically generates approximately one-third of all automobile trips. By providing Employment Centers within Torrey Highlands, a reduction in traffic may be possible. The Employment Centers will contribute to an employment base for the North City. The close proximity of the Employment Centers to the Local Mixed Use Center and residential areas will decrease the dependency on private automobiles for residents of Torrey Highlands. There are two (2) Employment Center sites within Torrey Highlands: the Northern Employment Center comprising approximately 34 acres, and the Southern Employment Center comprising approximately 11 acres. The Southern Employment Center is restricted to a maximum of 450,000 square feet plus a small amenity café. The Northern Employment Center area is estimated to include 600,000 square feet. The two Employment Center sites may contain:

- Scientific research, and research and development uses
- Light industrial and manufacturing uses
- Professional and corporate office uses
- Business support and other convenience facilities
- Drive-through services are not permitted in the Employment Center

The provisions for business support and other convenience facilities is an essential element of the Torrey Highlands Employment Center. These support facilities provide services and products to employees without competing with the LMXU.

The Employment Center may also integrate design considerations in the event that transit services the area. As of June 1996, the MTDB has indicated that it will not provide transit services to the community. However, transit support facilities should be incorporated within the Employment Center to allow for private shuttles or eventual service by MTDB. The MTDB will make the actual determination when and under what circumstances transit service will be provided to the community prior to the issuance of tentative maps associated with the Employment Center site. Siting and design guidelines for the Employment Center are contained in **Chapter 5, Community Design Guidelines.**

Commercial Regional

There are two separate and distinct regional commercial areas identified in the Torrey Highlands Community. The primary Commercial Regional area covers approximately 23 acres north of the intersection of Camino Ruiz and Carmel Mountain Road, and the northern Commercial Regional area covers approximately two acres at the southeastern quadrant of the intersection of SR-56 and Camino Ruiz. Commercial Regional uses include: neighborhood-serving commercial uses, area-serving retail sales, automotive uses, commercial recreation facilities, visitor-serving commercial uses and offices.

The Commercial Regional locations benefit from the high visibility of the major routes including SR-56 and Camino Ruiz, easy access through the SR-56/Camino Ruiz interchange and central location within the region.

The primary Commercial Regional area allows for a broad range of retail commercial uses and is intended to serve both the Torrey Highlands and Rancho Peñasquitos communities. Up to 250,000 square feet of commercial development and 275,000 square feet of self-storage will occur on approximately 23 acres with the current alignment of Carmel Mountain Road and Camino Ruiz. Even if the acreage of the Commercial Regional site should increase based on the final alignments of Carmel Mountain Road and Camino Ruiz, the commercial square footage will remain at 250,000 square feet.

The northern Commercial Regional area is designated for auto-oriented Commercial Regional uses. Development of this parcel is restricted to a maximum of 10,000 square feet and 6,000 average daily trips (ADT). The Design Guidelines for the Commercial Regional Center and two conceptual site plans, illustrating potential development phases, have been approved for this parcel. To assure development consistent with the guidelines and other applicable ordinances, development of this parcel will require approval of a site-specific Planned Development Permit (PDP) and any necessary use permits. Chapter **5**, **Community Design Guidelines**, contains specific siting and design guidelines for the Commercial areas.

~~**Commercial Limited**~~

~~Approximately 10.5 acres west of Camino Ruiz are designated for Commercial Limited uses. These uses are somewhat dependent on automobiles but are appropriate for the more isolated location of this site.~~

~~This category of land use includes: religious facilities, trade schools, storage facilities, nurseries, garden centers and veterinary clinics.~~

4.3 LAND USE PATTERN

4.3.1 Land Use Concept

The Torrey Highlands community is based on a traditional planning concept which emphasizes bicycle, equestrian and pedestrian paths, and focuses community activities around this concept. Commercial, civic and residential uses will be integrated in the community core and the circulation element will accommodate pedestrian, bicycle, transit and equestrian access with comparable ease to what motorized vehicles enjoy. In addition, a diverse variety of housing options are provided to ensure that residential opportunities are available to accommodate a range of incomes from very low to very high. To achieve a fine-grained development pattern which will implement these planning principles, Torrey Highlands is divided into four distinct planning areas as shown in **Figure 4-3** and described below:

APPENDIX C

Greenhouse Gas Emissions Technical Analysis

Greenhouse Gas Emissions Technical Analysis for The Preserve at Torrey Highlands Project City of San Diego, California

Prepared for:

City of San Diego
Development Services Department
Land Development Review Division
1222 First Avenue
San Diego, California 92101

Prepared by:

DUDEK
605 Third Street
Encinitas, California 92024
Contact: Jennifer Reed
949.373.8333

~~JUNE~~ MARCH 2018

Printed on 30% post-consumer recycled material.

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ACRONYMS AND ABBREVIATIONS

Acronym/Abbreviation	Definition
°C	degrees Celsius
°F	degrees Fahrenheit
AB	Assembly Bill
BAU	Business-As-Usual
Btu	British thermal unit
CalEEMod	California Emissions Estimator Model
CALGreen	California Green Building Standards Code
CAP	Climate Action Plan
CARB	California Air Resources Board
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CH_4	methane
CO_2	carbon dioxide
EO	Executive Order
GHG	greenhouse gas
GWP	global warming potential
HCFC	hydrochlorofluorocarbon
HFC	hydrofluorocarbon
IPCC	Intergovernmental Panel on Climate Change
MMT CO_2E	million metric tons of carbon dioxide equivalent
MOU	Memorandum of Understanding
MT CO_2E	metric tons carbon dioxide equivalent
N_2O	nitrous oxide
NHTSA	National Highway Traffic Safety Administration
O_3	ozone
PFC	perfluorocarbon
RPS	Renewables Portfolio Standard
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
SANDAG	San Diego Association of Governments
SB	Senate Bill
SDG&E	San Diego Gas & Electric
SF_6	sulfur hexafluoride
SLCP	short-lived climate pollutant
TPA	transit priority area
ZEV	zero emissions vehicle
ZNE	zero net energy

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EXECUTIVE SUMMARY

The purpose of this technical analysis is to assess the potential greenhouse gas (GHG) emissions impacts associated with implementation of The Preserve at Torrey Highlands (project or proposed project) to support the California Environmental Quality Act (CEQA) review for the project. This analysis evaluates the project's consistency with the City of San Diego's (City's) 2015 Final Climate Action Plan (CAP) to determine whether the project would result in GHG emissions that would conflict with the underlying assumptions in the CAP.

Project Overview

The project would include a community plan amendment, a rezone, planned development permit, and a site development permit to construct a 450,000-square-foot business office development. The Community Plan land use designation would change from Commercial Limited (CL) to Employment Center (EC). The rezone would change the project site zone from Agriculture-Residential (AR-1-1) to Industrial Park (IP-3-1). Development under the proposed community plan amendment would be capped at 450,000 square feet and any development greater than 450,000 square feet would not be permitted. Moreover, the proposed community plan amendment places a limit on the allowable building square footage that could otherwise be developed on the site under the proposed I-P-3 zone alone. The project is consistent with the City's existing 2015 General Plan designation of Commercial Employment, Retail, and Services.

City of San Diego Climate Action Plan Consistency

The City adopted the CAP in December 2015. With implementation of the CAP, the City aims to reduce emissions 15% below the baseline to approximately 11.1 million metric tons of carbon dioxide equivalent (MMT CO_2E) by 2020, 40% below the baseline to approximately 7.8 MMT CO_2E by 2030, and 50% below the baseline to approximately 6.5 MMT CO_2E by 2035. The City has identified the following five CAP strategies to reduce GHG emissions to achieve the 2020 and 2035 targets: (1) energy- and water-efficient buildings; (2) clean and renewable energy; (3) bicycling, walking, transit, and land use; (4) zero waste (gas and waste management); and (5) climate resiliency. The City's CAP Consistency Checklist, adopted July 12, 2016 and subsequently revised June 2017, is the primary document used by the City's adopted GHG Significance Threshold to ensure project-by-project consistency with the underlying assumptions in the CAP and thereby to ensure that the City would achieve the emission reduction targets identified in its CAP.

A project's consistency with the CAP consistency checklist is generally evaluated in three steps: (1) consistency with existing land use designation; (2) consistency with CAP strategies; and (3) consistency with the City of Villages strategy, the Mobility Element, pedestrian improvements, the Bicycle Master Plan, and transit-oriented development in a transit priority area (TPA). The first

step is to assess a project's consistency with the growth projections utilized in the development of the CAP, as determined through the CAP Consistency Checklist. The second step is to review and evaluate a project's consistency with applicable strategies and actions of the CAP. The third step is to determine whether a project with a land use and/or zone designation change within a TPA would be consistent with the assumptions of the CAP. Step 3 would only apply if Step 2 is answered in the affirmative under Option B.

To analyze the project's consistency with the CAP under Step 1, two scenarios were analyzed for comparative purposes as part of the quantitative analysis: 1) development under existing land use and zoning designations, and 2) buildout of the proposed project. The project site's land use designation is Commercial Limited (CL), which permits religious facilities, trade schools, storage facilities, nurseries, garden centers, and veterinary clinics. Additionally, the site is currently zoned Agriculture-Residential (AR-1-1). This zoning allows for recreational, agriculture, residential, and childcare uses. For purposes of this comparative analysis, the previously approved Our Lady of Mount Carmel Church project was utilized as the buildout scenario under the existing land use and zoning designations. Our Lady of Mount Carmel Church proposed a 1,200-seat church and a 500 student school (K-8). As analyzed in Chapter 6, Impact Analysis, GHG emissions associated with the proposed project would be greater than the GHG emissions anticipated for the representative project under existing land use designations.

Step 2 of the CAP Consistency Checklist includes the list of measures each project would be required to implement to be consistent with the CAP strategies and mitigate GHG emissions. The proposed project would be implement all applicable CAP strategies identified in the CAP Consistency Checklist. These sustainability measures would reduce GHG emissions in accordance with each of the CAP strategies. In addition, the project proposes to meet at a minimum the Leadership in Energy and Environmental Design (LEED) Silver certification.

The project would not be consistent with Step 1 of the CAP Consistency Checklist as described and analyzed in Chapter 6. Therefore, according to the City's CAP consistency evaluation methodology, the project would result in a potentially significant impact to climate change. As determined through the Step 2 checklist, the project has applied all feasible mitigation, but the impact would remain significant and unavoidable. Step 3 of the CAP is not applicable to the proposed project because the project is not located within a City-designated Transit Priority Area.

Proposed Project Emissions

Buildout of the project would be comprised of 450,000 square feet of business office space including a business office campus composed of three buildings with four, five, and six stories, with one level of subterranean parking, one one-story amenity building, and one above-grade parking structure. As previously discussed, development under the proposed community plan

amendment would be capped at 450,000 square feet and any development greater than 450,000 square feet would not be permitted. Moreover, the proposed community plan amendment places a limit on the allowable building square footage that could otherwise be developed on the site under the proposed I-P-3 zone alone.

Operation of the proposed project would result in GHG emissions from mobile sources, area sources, energy sources, solid waste, and water supply and wastewater generation. The estimated annual operational project-generated emissions would be approximately 7,416 metric tons (MT) carbon dioxide equivalent (CO_2E) per year. The project would have a significant and unavoidable impact because the project would be inconsistent with the CAP; therefore, the project would implement MM-GHG-1 through MM-GHG-13. Resulting emissions following implementation of MM-GHG-1 through MM-GHG-13 would be 7,189 MT CO_2E. Impacts would remain significant and unavoidable following mitigation, because the project would remain inconsistent with the CAP.

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1 INTRODUCTION

1.1 Report Purpose

The purpose of this analysis is to evaluate the potential greenhouse gas (GHG) emissions impacts of the proposed The Preserve at Torrey Highlands (project or proposed project), a business office development within the Torrey Highlands Subarea within the City of San Diego (City). Impacts are evaluated for their significance based on consistency with the City's *Final Climate Action Plan* (CAP) and associated CAP Consistency Checklist (City of San Diego 2015a, 2017a).

1.2 Regional and Local Setting

The project site is located on 11.1 acres (including Assessor's Parcel Numbers 306-050-1600 and 306-050-1800) of undeveloped land located approximately 0.25 miles south of State Route 56 (SR-56) along the western side of the planned extension of Camino del Sur in San Diego, California (see Figure 1, Regional Map, and Figure 2, Vicinity Map). The proposed project site is designated Commercial Employment, Retail, and Services in the San Diego General Plan (City of San Diego 2015b). Additionally, the project site is designated Commercial Limited (CL) under the Torrey Highlands Subarea Plan, with an Agriculture-Residential (AR-1-1) zone (City of San Diego 1996).

The land surrounding the project site is vacant and undeveloped. The site is surrounded on three sides by the City's Multi-Habitat Preservation Area. A gas station is located north of the project site just south of SR-56 and the SR-56 Bike Trail on the eastern side of Camino del Sur. Commercial and residential land uses are located north and west of the project site. Specifically, the Kilroy Santa Fe Summit Intuit corporate campus is located northwest of the project site and consists of four buildings totaling 480,000 square feet of business office in addition to a 492,000-square-foot parking structure. This corporate campus is entitled for an expansion in the future to build up to 600,000 square feet of office space (Figure 3, Site Plan).

1.3 Climate Action Plan Consistency Analysis

As discussed in Chapter 4, Thresholds of Significance, Chapter 5, Analysis Methodology and Assumptions, and Chapter 6, Impact Analysis, to evaluate the potential for the project to result in a significant GHG impact, the City's Significant Determination Thresholds were followed. A project's significance as evaluated by consistency with the CAP is generally evaluated in three steps: (1) consistency with existing land use; (2) consistency with CAP strategies; and (3) consistency with the City of Villages strategy, the Mobility Element, pedestrian improvements, the Bicycle Master Plan, and transit-oriented development in a TPA.

Step 1 consists of an evaluation to determine the project's consistency with the existing Community Plan land use designations, and zoning designations for the site. If the project would be consistent with existing Community Plan, and zoning designations for the site, or if the project can demonstrate consistency with existing land uses by comparing the proposed project's GHG emissions with those that would be generated under existing land uses, then the answer to Step 1 would be "yes."

The project would retain the project site's General Plan land use designation but would change the Community Plan designation from Commercial Limited (CL) to Employment Center (EC). Additionally, the project would rezone from Agriculture-Residential (AR-1-1) to Industrial Park (IP-3-1), which would allow for research and development, office, and residential uses. Development in the Industrial Park (IP-3-1) zone is limited to a maximum floor area ratio of 2.0. The project would include a 450,000-square-foot business office development consisting of a business campus composed of three buildings with four, five, and six stories, with one level of subterranean parking, one one-story amenity building, and one above-grade parking structure. Therefore, because the proposed project would involve a change in the community plan land use designation and zoning of the project site, the project would be considered inconsistent with the CAP under Step 1. A consistency analysis pursuant to Step 1 is provided in Section 6.2.1.

A consistency analysis pursuant to Step 2 of the CAP is provided in Section 6.2.2.

Step 3 of the CAP is not applicable to the proposed project because the project site is not located within a TPA.

The Preserve atTorrey Highlands

Regional Map

Greenhouse Gas Emissions Technical Report Project No. 442880

CITY OF SAN DIEGO - DEVELOPMENT SERVICES

FIGURE 1

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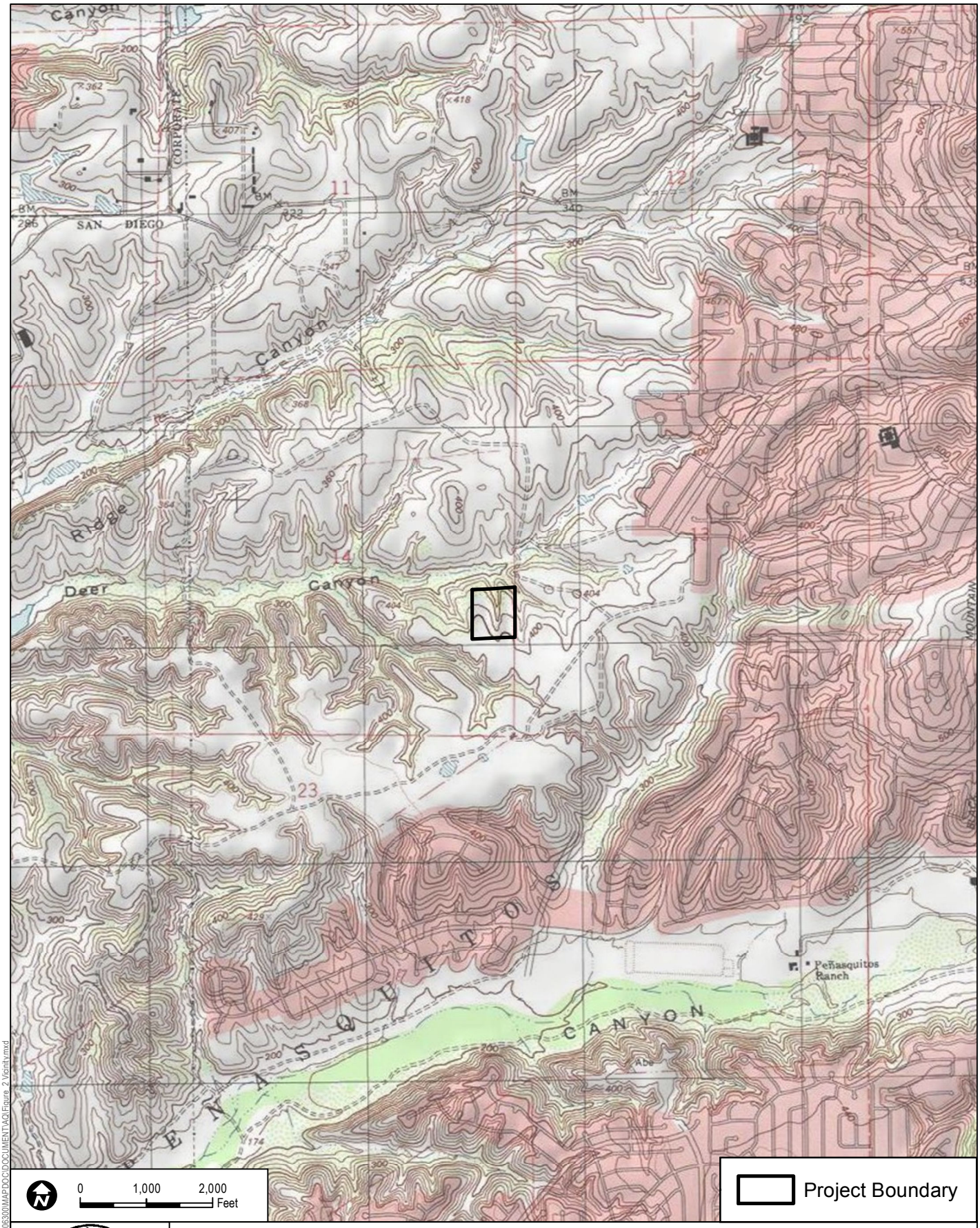

SOURCE: USGS 7.5-Minute Series Del Mar Quadrangle

The Preserve at Torrey Highlands

Vicinity Map

Greenhouse Gas Emissions Technical Report Project No. 442880

CITY OF SAN DIEGO - DEVELOPMENT SERVICES

FIGURE

2

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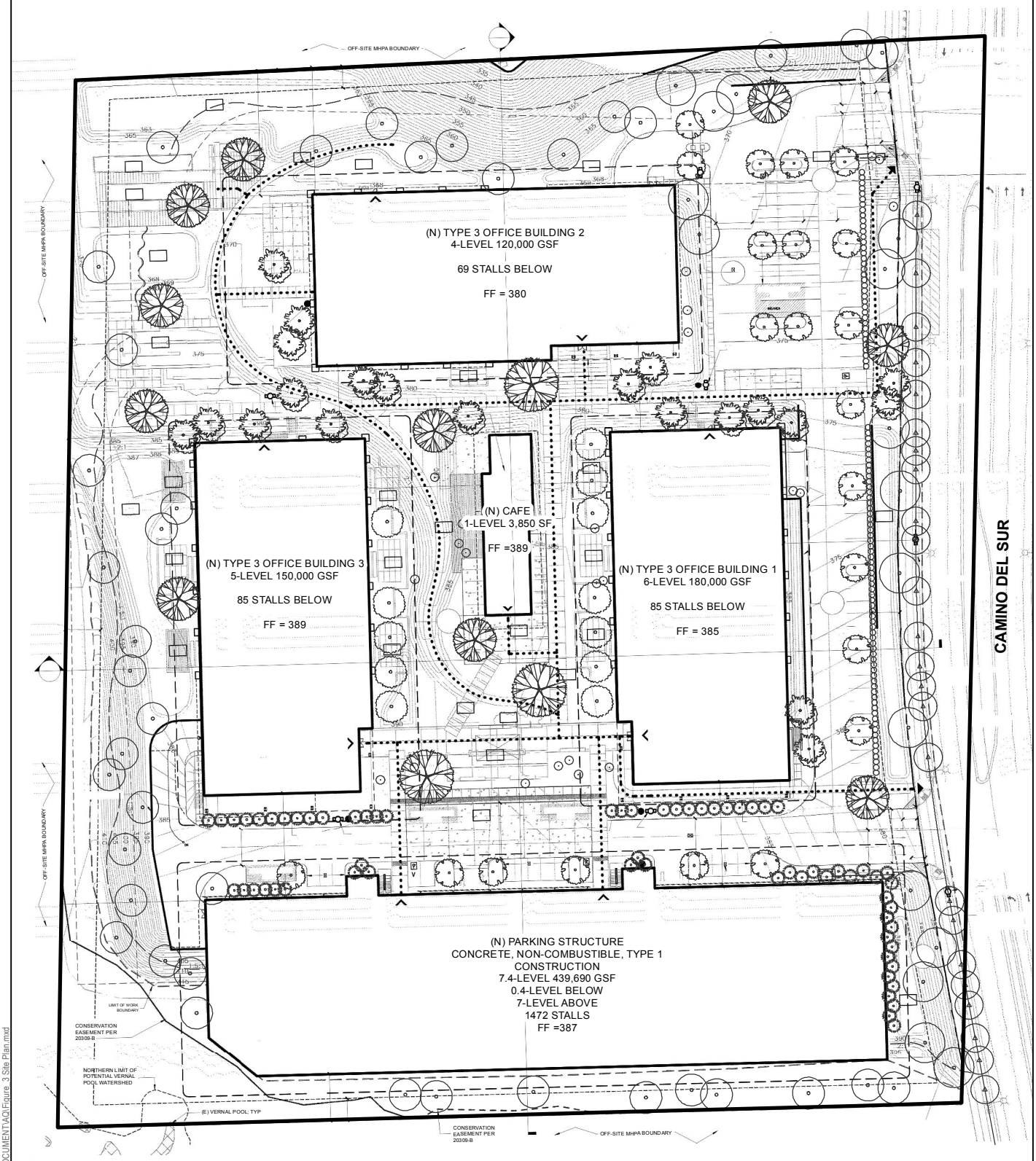

0 50 100 Feet

SOURCE: Leppert, 2015

The Preserve at Torrey Highlands

Site Plan

Greenhouse Gas Emissions Technical Report Project No. 442880

CITY OF SAN DIEGO - DEVELOPMENT SERVICES

FIGURE 3

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2 ENVIRONMENTAL SETTING

2.1 Climate Change Overview

Climate change refers to any significant change in measures of climate, such as temperature, precipitation, or wind, lasting for an extended period (decades or longer). Gases that trap heat in the atmosphere are often called GHGs. The greenhouse effect traps heat in the troposphere through a threefold process as follows: Short-wave radiation emitted by the Sun is absorbed by the Earth, the Earth emits a portion of this energy in the form of long-wave radiation, and GHGs in the upper atmosphere absorb this long-wave radiation and emit it into space and toward the Earth. This "trapping" of the long-wave (thermal) radiation emitted back toward the Earth is the underlying process of the greenhouse effect.

Principal GHGs include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), ozone (O_3), and water vapor. Some GHGs, such as CO_2, CH_4, and N_2O, occur naturally and are emitted to the atmosphere through natural processes and human activities. Of these gases, CO_2 and CH_4 are emitted in the greatest quantities from human activities. Emissions of CO_2 are largely byproducts of fossil fuel combustion, whereas CH_4 results mostly from off-gassing associated with agricultural practices and landfills. Human-made GHGs, which have a much greater heat-absorption potential than CO_2, include fluorinated gases, such as hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, and nitrogen trifluoride, which are associated with certain industrial products and processes.

The effect each GHG has on climate change is measured as a combination of the mass of its emissions and the potential of a gas or aerosol to trap heat in the atmosphere, known as its "global warming potential" (GWP). GWP varies between GHGs; for example, the GWP of CH_4 is 21, and the GWP of N_2O is 310. Total GHG emissions are expressed as a function of how much warming would be caused by the same mass of CO_2. Thus, GHG gas emissions are typically measured in terms of pounds or tons of CO_2 equivalent (CO_2E).[1]

[1] The CO_2 equivalent for a gas is derived by multiplying the mass of the gas by the associated GWP, such that metric tons of CO_2E = (metric tons of a GHG) × (GWP of the GHG). The California Emissions Estimator Model assumes that the GWP for CH_4 is 21, which means that emissions of 1 metric ton of CH_4 are equivalent to emissions of 21 metric tons of CO_2, and the GWP for N_2O is 310 based on the Intergovernmental Panel on Climate Change (IPCC) Second Assessment Report. Although the IPCC has released subsequent Assessment Reports with updated GWPs, CARB reporting and other statewide documents use the GWP in the IPCC Second Assessment Report. As such, it is appropriate to use the hardwired GWP values in the California Emissions Estimator Model from the IPCC Second Assessment Report.

2.2 Contributions to Greenhouse Gas Emissions

Per the Inventory of *U.S. Greenhouse Gas Emissions and Sinks: 1990–2015* by the U.S. Environmental Protection Agency (EPA) (2017), total U.S. GHG emissions were approximately 6,586.7 million metric tons of carbon dioxide equivalent (MMT CO_2E) in 2015. The primary GHG emitted by human activities in the United States was CO_2, which represented approximately 82.2% of total GHG emissions (5,411.4 MMT CO_2E). The largest source of CO_2, and of overall GHG emissions, was fossil fuel combustion, which accounted for approximately 93.3% of CO_2 emissions in 2015 (5,049.8 MMT CO_2E). Relative to 1990, gross U.S. GHG emissions in 2015 were higher by 3.5%, down from a high of 15.5% above 1990 levels in 2007. GHG emissions decreased from 2014 to 2015 by 2.3% (153.0 MMT CO_2E), and overall, net emissions in 2015 were 11.5% below 2005 levels (EPA 2017).

According to California's 2000–2015 GHG emissions inventory (2017 edition), California emitted 440.36 MMT CO_2E in 2015, including emissions resulting from out-of-state electrical generation (CARB 2017a). The sources of GHG emissions in California include transportation, industrial uses, electric-power production from both in-state and out-of-state sources, commercial and residential uses, agriculture, high-GWP substances, and recycling and waste. The California GHG emission source categories (as defined in the California Air Resources Board's (CARB's) *Climate Change Scoping Plan: A Framework for Change* (Scoping Plan) (CARB 2008)) and their relative contributions in 2015 are presented in Table 1.

Table 1
Greenhouse Gas Emissions Sources in California

Source Category	Annual GHG Emissions (MMT CO_2E)	Percent of Total
Transportation	164.63	37%
Industrial uses[b]	91.71	21%
Electricity generation[c]	83.67	19%
Residential and commercial uses	37.92	9%
Agriculture	34.65	8%
High GWP substances	19.05	4%
Recycling and waste	8.73	2%
Totals	**440.36**	**100%**

Source: CARB 2017a.
Notes: GHG = greenhouse gas; MMT CO_2E = million metric tons of carbon dioxide equivalent; GWP = global warming potential.
Emissions reflect 2015 California GHG inventory.
[a] Percentage of total has been rounded, and total may not sum due to rounding.
[b] The Aliso Canyon natural gas leak event released 1.96 MMT CO_2E of unanticipated emissions in 2015 and 0.52 MMT CO_2E in 2016. These leak emissions would be fully mitigated according to a legal settlement and are tracked separately from routine inventory emissions.
[c] Includes emissions associated with imported electricity, which account for 33.74 MMT CO_2E.

2.3 Potential Effects of Human Activity on Climate Change

Globally, climate change has the potential to affect numerous environmental resources through uncertain impacts related to future air temperatures and precipitation patterns. The 2014 *Intergovernmental Panel on Climate Change Synthesis Report* indicated that warming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia. Signs that global climate change has occurred include warming of the atmosphere and ocean, diminished amounts of snow and ice have, and rising sea levels (IPCC 2014).

In California, climate change impacts have the potential to affect sea-level rise, agriculture, snowpack and water supply, forestry, wildfire risk, public health, and electricity demand and supply (CCCC 2012). The primary effect of global climate change has been a 0.2 degrees Celsius (°C) (0.36 degrees Fahrenheit (°F)) rise in average global tropospheric temperature per decade, determined from meteorological measurements worldwide between 1990 and 2005. Scientific modeling predicts that continued emissions of GHGs at or above current rates would induce more extreme climate changes during the twenty-first century than were observed during the twentieth century. A warming of about 0.2°C (0.36°F) per decade is projected, and there are identifiable signs that global warming could be taking place.

Although climate change is driven by global atmospheric conditions, climate change impacts are felt locally. A scientific consensus confirms that climate change is already affecting California. The average temperatures in California have increased, leading to more extreme hot days and fewer cold nights; shifts in the water cycle have been observed, with less winter precipitation falling as snow, and both snowmelt and rainwater running off earlier in the year; sea levels have risen; and wildland fires are becoming more frequent and intense due to dry seasons that start earlier and end later (CAT 2010).

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3 REGULATORY SETTING

3.1 Federal

Massachusetts v. EPA. In *Massachusetts v. EPA* (April 2007), the U.S. Supreme Court directed the EPA administrator to determine whether GHG emissions from new motor vehicles cause or contribute to air pollution that may reasonably be anticipated to endanger public health or welfare, or the science is too uncertain to make a reasoned decision. In December 2009, the administrator signed a final rule with the following two distinct findings regarding GHGs under Section 202(a) of the federal Clean Air Act:

- The administrator found that elevated concentrations of GHGs—CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6—in the atmosphere threaten the public health and welfare of current and future generations. This is the "endangerment finding."
- The administrator further found the combined emissions of GHGs—CO_2, CH_4, N_2O, and HFCs—from new motor vehicles and new motor vehicle engines contribute to the GHG air pollution that endangers public health and welfare. This is the "cause or contribute finding."

These two findings were necessary to establish the foundation for regulation of GHGs from new motor vehicles as air pollutants under the Clean Air Act.

Energy Independence and Security Act. The Energy Independence and Security Act of 2007 (December 2007), among other key measures, would do the following, which would aid in the reduction of national GHG emissions (HR 6):

- Increase the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard requiring fuel producers to use at least 36 billion gallons of biofuel in 2022.
- Set a target of 35 miles per gallon for the combined fleet of cars and light trucks by model year 2020 and direct the National Highway Traffic Safety Administration (NHTSA) to establish a fuel economy program for medium- and heavy-duty trucks and create a separate fuel economy standard for work trucks.
- Prescribe or revise standards affecting regional efficiency for heating and cooling products and procedures for new or amended standards, energy conservation, energy efficiency labeling for consumer electronic products, residential boiler efficiency, electric motor efficiency, and home appliances.

Federal Vehicle Standards. In response to the U.S. Supreme Court ruling discussed above, the Bush Administration issued Executive Order (EO) 13432 in 2007 directing the EPA, the U.S. Department of Transportation, and the U.S. Department of Energy to establish regulations that reduce GHG emissions from motor vehicles, non-road vehicles, and non-road engines by 2008. In 2009, the NHTSA issued a final rule regulating fuel efficiency and GHG emissions from cars and light-duty trucks for Model Year 2011, and in 2010, the EPA and NHTSA issued a final rule regulating cars and light-duty trucks for Model Years 2012–2016.

In 2010, President Obama issued a memorandum directing the U.S. Department of Transportation, U.S. Department of Energy, EPA, and NHTSA to establish additional standards regarding fuel efficiency and GHG reduction, clean fuels, and advanced vehicle infrastructure. In response to this directive, EPA and NHTSA proposed stringent, coordinated federal GHG and fuel economy standards for light-duty vehicles for Model Years 2017–2025. The proposed standards projected to achieve 163 grams/mile of CO_2 in Model Year 2025 on an average industry fleet-wide basis, which is equivalent to 54.5 miles per gallon if this level were achieved solely through fuel efficiency. The final rule was adopted in 2012 for Model Years 2017–2021, and NHTSA intends to set standards for Model Years 2022–2025 in a future rulemaking.

In addition to these regulations applicable to cars and light-duty trucks, in 2011, EPA and NHTSA announced fuel economy and GHG standards for medium- and heavy-duty trucks for Model Years 2014–2018. The standards for CO_2 emissions and fuel consumption are tailored to three main vehicle categories: combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles. According to the EPA, this regulatory program will reduce GHG emissions and fuel consumption for the affected vehicles by 6%–23% over the 2010 baselines.

In August 2016, EPA and NHTSA announced the adoption of the phase two program related to the fuel economy and GHG standards for medium- and heavy-duty trucks. The phase two program will apply to Model Year 2018–2027 vehicles for certain trailers, and Model Years 2021–2027 for semitrucks, large pickup trucks, vans, and all types and sizes of buses and work trucks. The final standards are expected to lower CO_2 emissions by approximately 1.1 billion MT and reduce oil consumption by up to two billion barrels over the lifetime of the vehicles sold under the program (EPA and NHTSA 2016).

Clean Power Plan and New Source Performance Standards for Electric Generating Units. In October 2015, EPA published a final rule (effective December 2015) establishing the Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units (80 FR 64510–64660), also known as the Clean Power Plan. These guidelines prescribe how states must develop plans to reduce GHG emissions from existing fossil-fuel-fired electric generating units. The guidelines establish CO_2 emission performance rates representing the best

system of emission reduction for the following two subcategories of existing fossil-fuel-fired electric generating units: (1) fossil-fuel-fired electric utility steam-generating units and (2) stationary combustion turbines. Concurrently, the EPA published a final rule in October 2015 establishing Standards of Performance for Greenhouse Gas Emissions from New, Modified, and Reconstructed Stationary Sources: Electric Utility Generating Units (80 FR 64661–65120). The rule prescribes CO_2 emission standards for newly constructed, modified, and reconstructed affected fossil-fuel-fired electric utility generating units. Implementation of the Clean Power Plan has been stayed by the U.S. Supreme Court pending resolution of several lawsuits; additionally, President Trump has called upon the EPA to review the Clean Power Plan.

3.2 State

The statewide GHG emissions regulatory framework is summarized below by category: state climate change targets, building energy, renewable energy and energy procurement, mobile sources, solid waste, water, and other state regulations and goals. The following text describes EOs, legislation, regulations, and other plans and policies that would directly or indirectly reduce GHG emissions or address climate change issues.

3.2.1 State Climate Change Targets

Executive Order S-3-05. EO S-3-05 (June 2005) established the following statewide goals: GHG emissions should be reduced to 2000 levels by 2010, 1990 levels by 2020, and 80% below 1990 levels by 2050.

Assembly Bill 32 and CARB's Scoping Plan. To further the goals established in EO S-3-05, the Legislature enacted Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006. AB 32 requires California to reduce its GHG emissions to 1990 levels by 2020.

Under AB 32, CARB is responsible for and is recognized as having the expertise to carry out and develop the programs and requirements necessary to achieve the GHG emissions reduction mandate of AB 32. Under AB 32, CARB must adopt regulations requiring the reporting and verification of statewide GHG emissions from specified sources. This program is used to monitor and enforce compliance with established standards. CARB also is required to adopt rules and regulations to achieve the maximum technologically feasible and cost-effective GHG emission reductions. AB 32 authorized CARB to adopt market-based compliance mechanisms to meet the specified requirements. Finally, CARB is ultimately responsible for monitoring compliance and enforcing any rule, regulation, order, emission limitation, emission reduction measure, or market-based compliance mechanism adopted.

In 2007, CARB approved a limit on the statewide GHG emissions level for year 2020 consistent with the determined 1990 baseline (427 MMT CO_2E). CARB's adoption of this limit is in accordance with Health and Safety Code, Section 38550.

Further, in 2008, CARB adopted the Scoping Plan in accordance with Health and Safety Code, Section 38561. The Scoping Plan establishes an overall framework for the measures that will be adopted to reduce California's GHG emissions for various emission sources/sectors to 1990 levels by 2020. The Scoping Plan evaluates opportunities for sector-specific reductions, integrates all CARB and Climate Action Team early actions and additional GHG reduction features by both entities, identifies additional measures to be pursued as regulations, and outlines the role of a cap-and-trade program. The key elements of the Scoping Plan include the following (CARB 2008):

1. Expanding and strengthening existing energy efficiency programs, as well as building and appliance standards
2. Achieving a statewide renewable energy mix of 33%
3. Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system and caps sources contributing 85% of California's GHG emissions
4. Establishing targets for transportation-related GHG emissions for regions throughout California, and pursuing policies and incentives to achieve those targets
5. Adopting and implementing measures pursuant to existing state laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard
6. Creating targeted fees, including a public goods charge on water use, fees on high GWP gases, and a fee to fund the administrative costs of the State of California's long-term commitment to AB 32 implementation

In the Scoping Plan (CARB 2008), CARB determined that achieving the 1990 emissions level in 2020 would require a reduction in GHG emissions of approximately 28.5% from the otherwise projected 2020 emissions level (i.e., those emissions that would occur in 2020) absent GHG-reducing laws and regulations (referred to as Business-As-Usual (BAU)). To calculate this percentage reduction, CARB assumed that all new electricity generation would be supplied by natural gas plants, no further regulatory action would impact vehicle fuel efficiency, and building energy efficiency codes would be held at 2005 standards.

In the 2011 Final Supplement to the AB 32 Scoping Plan Functional Equivalent Document (CARB 2011a), CARB revised its estimates of the projected 2020 emissions level in light of the economic recession and the availability of updated information about GHG reduction regulations. Based on the new economic data, CARB determined that achieving the 1990 emissions level by 2020 would require a reduction in GHG emissions of 21.7% (down from 28.5%) from the BAU conditions. When the 2020 emissions level projection was updated to account for newly implemented regulatory measures, including Pavley I (model years 2009–2016) and the Renewables Portfolio Standard (RPS) (12% to 20%), CARB determined that achieving the 1990 emissions level in 2020 would require a reduction in GHG emissions of 16% (down from 28.5%) from the BAU conditions.

In 2014, CARB adopted the First Update to the Climate Change Scoping Plan: Building on the Framework (First Update; CARB 2014). The stated purpose of the First Update is to "highlight California's success to date in reducing its GHG emissions and lay the foundation for establishing a broad framework for continued emission reductions beyond 2020, on the path to 80% below 1990 levels by 2050" (CARB 2014). The First Update found that California is on track to meet the 2020 emissions reduction mandate established by AB 32, and noted that California could reduce emissions further by 2030 to levels squarely in line with those needed to stay on track to reduce emissions to 80% below 1990 levels by 2050 if the state realizes the expected benefits of existing policy goals.

In conjunction with the First Update, CARB identified "six key focus areas comprising major components of the state's economy to evaluate and describe the larger transformative actions that will be needed to meet the state's more expansive emission reduction needs by 2050" (CARB 2014). Those six areas are (1) energy, (2) transportation (vehicles/equipment, sustainable communities, housing, fuels, and infrastructure), (3) agriculture, (4) water, (5) waste management, and (6) natural and working lands. The First Update identifies key recommended actions for each sector that will facilitate achievement of EO S-3-05's 2050 reduction goal (CARB 2014).

Based on CARB's research efforts presented in the First Update, it has a "strong sense of the mix of technologies needed to reduce emissions through 2050" (CARB 2014). Those technologies include energy demand reduction through efficiency and activity changes; large-scale electrification of on-road vehicles, buildings, and industrial machinery; decarbonizing electricity and fuel supplies; and the rapid market penetration of efficient and clean energy technologies.

As part of the First Update, CARB recalculated the state's 1990 emissions level using more recent GWPs identified by the IPCC. Using the recalculated 1990 emissions level (431 MMT CO_2E) and the revised 2020-emissions-level projection identified in the 2011 Final Supplement, CARB determined that achieving the 1990 emissions level by 2020 would require

a reduction in GHG emissions of approximately 15% (instead of 28.5% or 16%) from the BAU conditions (CARB 2014).

In December 2017, CARB released The 2017 Climate Change Scoping Plan Update (Second Update; CARB 2017b). This update contains CARB's strategy for achieving the state's 2030 GHG target as established in Senate Bill (SB) 32 (discussed below), including continuing the Cap-and-Trade Program through 2030, and includes a new approach to reduce GHGs from refineries by 20%. The Second Update incorporates approaches to cutting short-lived climate pollutants (SLCPs) under the Short-Lived Climate Pollutant Reduction Strategy (a planning document that was adopted by CARB in March 2017), acknowledges the need for reducing emissions in agriculture, and highlights the work underway to ensure that California's natural and working lands increasingly sequester carbon. During development of the Second Update, CARB held a number of public workshops in the Natural and Working Lands, Agriculture, Energy, and Transportation sectors to inform development of the 2030 Scoping Plan Update (CARB 2016).

Executive Order B-30-15. EO B-30-15 (April 2015) identified an interim GHG reduction target in support of targets previously identified under S-3-05 and AB 32. EO B-30-15 set an interim target goal of reducing statewide GHG emissions to 40% below 1990 levels by 2030 to keep California on its trajectory toward meeting or exceeding the long-term goal of reducing statewide GHG emissions to 80% below 1990 levels by 2050 as set forth in EO S-3-05. To facilitate achievement of this goal, EO B-30-15 calls for an update to CARB's Scoping Plan to express the 2030 target in terms of MMT CO_2E. EO B-30-15 also calls for state agencies to continue to develop and implement GHG emission reduction programs in support of the reduction targets. EO B-30-15 does not require local agencies to take any action to meet the new interim GHG reduction target.

Senate Bill 32 and Assembly Bill 197. SB 32 and AB 197 (enacted in 2016) are companion bills that set new statewide GHG reduction targets, make changes to CARB's membership, increase legislative oversight of CARB's climate change–based activities, and expand dissemination of GHG and other air quality–related emissions data to enhance transparency and accountability. More specifically, SB 32 codified the 2030 emissions reduction goal of EO B-30-15 by requiring CARB to ensure that statewide GHG emissions are reduced to 40% below 1990 levels by 2030. AB 197 established the Joint Legislative Committee on Climate Change Policies, consisting of at least three members of the Senate and three members of the Assembly, in order to provide ongoing oversight over implementation of the state's climate policies. AB 197 added two members of the Legislature to CARB as nonvoting members; requires CARB to make available and update (at least annually via its website) emissions data for GHGs, criteria air pollutants, and

toxic air contaminants from reporting facilities; and requires CARB to identify specific information for GHG emissions reduction measures when updating the Scoping Plan.

Senate Bill 605 and Senate Bill 1383. SB 605 (2014) requires CARB to complete a comprehensive strategy to reduce emissions of SLCPs in the state, and SB 1383 (2016) requires CARB to approve and implement that strategy by January 1, 2018. SB 1383 also establishes specific targets for the reduction of SLCPs (40% below 2013 levels by 2030 for CH_4 and HFCs, and 50% below 2013 levels by 2030 for anthropogenic black carbon) and provides direction for reductions from dairy and livestock operations and landfills. Accordingly, and as mentioned above, CARB adopted its Short-Lived Climate Pollutant Reduction Strategy (CARB 2017c) in March 2017. The SLCP Reduction Strategy (CARB 2017c) establishes a framework for the statewide reduction of emissions of black carbon, CH_4, and fluorinated gases.

3.2.2 Building Energy

California Code of Regulations

Title 24, Part 6. Title 24 of the California Code of Regulations was established in 1978 and serves to enhance and regulate California's building standards. While not initially promulgated to reduce GHG emissions, Part 6 of Title 24 specifically establishes Building Energy Efficiency Standards that are designed to ensure new and existing buildings in California achieve energy efficiency and preserve outdoor and indoor environmental quality. These energy efficiency standards are reviewed every few years by the Building Standards Commission and the California Energy Commission (CEC) (and revised if necessary) (California Public Resources Code, Section 25402(b)(1)). The regulations receive input from members of industry, as well as the public, with the goal of "reducing of wasteful, uneconomic, inefficient, or unnecessary consumption of energy" (California Public Resources Code, Section 25402). These regulations are carefully scrutinized and analyzed for technological and economic feasibility (California Public Resources Code, Section 25402(d)) and cost effectiveness (California Public Resources Code, Sections 25402(b)(2) and (b)(3)). These standards are updated to consider and incorporate new energy efficient technologies and construction methods. As a result, these standards save energy, increase electricity supply reliability, increase indoor comfort, avoid the need to construct new power plants, and help preserve the environment.

The 2016 Title 24 standards are the currently applicable building energy efficiency standards and became effective on January 1, 2017. In general, single-family homes built to the 2016 standards are anticipated to use approximately 28% less energy for lighting, heating, cooling, ventilation, and water heating than those built to the 2013 standards, and nonresidential

buildings built to the 2016 standards will use an estimated 5% less energy than those built to the 2013 standards (CEC 2015a).

Title 24, Part 11. In addition to the CEC's efforts, in 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (Part 11 of Title 24) is commonly referred to as "CALGreen," and establishes minimum mandatory standards and voluntary standards pertaining to the planning and design of sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and interior air quality. The CALGreen standards took effect in January 2011 and instituted mandatory minimum environmental performance standards for all ground-up, new construction of commercial, low-rise residential, and state-owned buildings and schools and hospitals. The CALGreen 2016 standards became effective on January 1, 2017. The mandatory standards require the following (24 CCR Part 11):

- Mandatory reduction in indoor water use through compliance with specified flow rates for plumbing fixtures and fittings
- Mandatory reduction in outdoor water use through compliance with a local water efficient landscaping ordinance or the California Department of Water Resources' Model Water Efficient Landscape Ordinance
- Diversion of 65% of construction and demolition waste from landfills
- Mandatory inspections of energy systems to ensure optimal working efficiency
- Inclusion of electric vehicle charging stations or designated spaces capable of supporting future charging stations
- Low-pollutant-emitting exterior and interior finish materials, such as paints, carpets, vinyl flooring, and particle board

The CALGreen standards also include voluntary efficiency measures that are provided at two separate tiers and implemented at the discretion of local agencies and applicants. CALGreen's Tier 1 standards call for a 15% improvement in energy requirements, stricter water conservation, 65% diversion of construction and demolition waste, 10% recycled content in building materials, 20% permeable paving, 20% cement reduction, and cool/solar-reflective roofs. CALGreen's more rigorous Tier 2 standards call for a 30% improvement in energy requirements, stricter water conservation, 75% diversion of construction and demolition waste, 15% recycled content in building materials, 30% permeable paving, 25% cement reduction, and cool/solar-reflective roofs (24 CCR Part 11).

The California Public Utilities Commission, CEC, and CARB also have a shared, established goal of achieving zero net energy (ZNE) for new construction in California. The key policy timelines include the following: (1) all new residential construction in California will be ZNE by 2020, and (2) all new commercial construction in California will be ZNE by 2030 (CPUC 2013).[2] As most recently defined by the CEC in its 2015 Integrated Energy Policy Report (CEC 2015b), a ZNE code building is "one where the value of the energy produced by on-site renewable energy resources is equal to the value of the energy consumed annually by the building" using the CEC's Time Dependent Valuation metric.

Title 20. Title 20 of the California Code of Regulations requires manufacturers of appliances to meet state and federal standards for energy and water efficiency. Performance of appliances must be certified through the CEC to demonstrate compliance with standards. New appliances regulated under Title 20 include refrigerators, refrigerator-freezers, and freezers; room air conditioners and room air-conditioning heat pumps; central air conditioners; spot air conditioners; vented gas space heaters; gas pool heaters; plumbing fittings and plumbing fixtures; fluorescent lamp ballasts; lamps; emergency lighting; traffic signal modules; dishwaters; clothes washers and dryers; cooking products; electric motors; low voltage dry-type distribution transformers; power supplies; televisions and consumer audio and video equipment; and battery charger systems. Title 20 presents protocols for testing for each type of appliance covered under the regulations and appliances must meet the standards for energy performance, energy design, water performance, and water design. Title 20 contains three types of standards for appliances: federal and state standards for federally regulated appliances, state standards for federally regulated appliances, and state standards for non-federally regulated appliances.

Other Regulations

Senate Bill 1. SB 1 (2006) established a $3 billion rebate program to support the goal of the state to install rooftop solar energy systems with a generation capacity of 3,000 megawatts through 2016. SB 1 added sections to the California Public Resources Code, including Chapter 8.8 (California Solar Initiative), that require building projects applying for ratepayer-funded incentives for photovoltaic systems to meet minimum energy efficiency levels and performance requirements. Section 25780 states that it is a goal of the state to establish a self-sufficient solar industry in which solar energy systems are a viable mainstream option for homes and businesses within 10 years of adoption, and to place solar energy systems on 50% of new homes within 13 years of adoption. SB 1, also termed "GoSolarCalifornia," was previously titled "Million Solar Roofs."

[2] It is expected that achievement of the ZNE goal will occur through revisions to the Title 24 standards.

Assembly Bill 1470. This bill established the Solar Water Heating and Efficiency Act of 2007. The bill makes findings and declarations of the Legislature relating to the promotion of solar water-heating systems and other technologies that reduce natural gas demand. The bill defines several terms for purposes of the act. The bill requires the commission to evaluate the data available from a specified pilot program, and if it makes a specified determination, to design and implement a program of incentives for the installation of 200,000 solar water-heating systems in homes and businesses throughout the state by 2017.

Assembly Bill 1109. Enacted in 2007, AB 1109 required the CEC to adopt minimum energy efficiency standards for general purpose lighting and to reduce electricity consumption by 50% for indoor residential lighting and 25% for indoor commercial lighting.

3.2.3 Renewable Energy and Energy Procurement

Senate Bill 1078. SB 1078 (2002) established the RPS program, which requires an annual increase in renewable generation by the utilities equivalent to at least 1% of sales, with an aggregate goal of 20% by 2017. This goal was subsequently accelerated, requiring utilities to obtain 20% of their power from renewable sources by 2010.

Senate Bill 1368. SB 1368 (2006) requires the CEC to develop and adopt regulations for GHG emission performance standards for the long-term procurement of electricity by local publicly owned utilities. These standards must be consistent with the standards adopted by the California Public Utilities Commission. This effort will help protect energy customers from financial risks associated with investments in carbon-intensive generation by allowing new capital investments in power plants whose GHG emissions are as low as or lower than new combined-cycle natural gas plants by requiring imported electricity to meet GHG performance standards in California and by requiring that the standards be developed and adopted in a public process.

Senate Bill X1 2. SB X1 2 (2011) expanded the RPS by establishing that 20% of the total electricity sold to retail customers in California per year by December 31, 2013, and 33% by December 31, 2020, and in subsequent years be secured from qualifying renewable energy sources. Under the bill, a renewable electrical generation facility is one that uses biomass, solar thermal, photovoltaic, wind, geothermal, fuel cells using renewable fuels, small hydroelectric generation of 30 megawatts or less, digester gas, municipal solid waste conversion, landfill gas, ocean wave, ocean thermal, or tidal current, and that meets other specified requirements with respect to its location. In addition to the retail sellers previously covered by the RPS, SB X1 2 added local, publicly owned electric utilities to the RPS.

Senate Bill 350. SB 350 (2015) further expanded the RPS by establishing that 50% of the total electricity sold to retail customers in California per year by December 31, 2030, be secured from

qualifying renewable energy sources. In addition, SB 350 includes the goal to double the energy-efficiency savings in electricity and natural gas final end uses (such as heating, cooling, lighting, or class of energy uses on which an energy-efficiency program is focused) of retail customers through energy conservation and efficiency. The bill also requires the California Public Utilities Commission, in consultation with the CEC, to establish efficiency targets for electrical and gas corporations consistent with this goal.

3.2.4 Mobile Sources

Assembly Bill 1493. AB 1493 was enacted in July 2002 in a response to the transportation sector accounting for more than half of California's CO_2 emissions. AB 1493 required CARB to set GHG emission standards for passenger vehicles, light-duty trucks, and other vehicles determined by the state board to be vehicles that are primarily used for noncommercial personal transportation in the state. The bill required that CARB set GHG emission standards for motor vehicles manufactured in 2009 and all subsequent model years. CARB adopted the standards in September 2004. When fully phased in, the near-term (2009–2012) standards will result in a reduction of approximately 22% in GHG emissions compared to the emissions from the 2002 fleet, while the mid-term (2013–2016) standards will result in a reduction of approximately 30%.

Executive Order S-1-07. Issued on January 18, 2007, EO S-1-07 sets a declining Low Carbon Fuel Standard for GHG emissions measured in CO_2E grams per unit of fuel energy sold in California. The target of the Low Carbon Fuel Standard is to reduce the carbon intensity of California passenger vehicle fuels by at least 10% by 2020. The carbon intensity measures the amount of GHG emissions in the lifecycle of a fuel, including extraction/feedstock production, processing, transportation, and final consumption, per unit of energy delivered. CARB adopted the implementing regulation in April 2009. The regulation is expected to increase the production of biofuels, including those from alternative sources, such as algae, wood, and agricultural waste.

Senate Bill 375. SB 375 (2008) addresses GHG emissions associated with the transportation sector through regional transportation and sustainability plans. SB 375 required CARB to adopt regional GHG reduction targets for the automobile and light-truck sector for 2020 and 2035. Regional metropolitan planning organizations are then responsible for preparing a Sustainable Communities Strategy (SCS) within their Regional Transportation Plan (RTP). The goal of the SCS is to establish a forecasted development pattern for the region that, after considering transportation measures and policies, will achieve, if feasible, the GHG reduction targets. If a SCS is unable to achieve the GHG reduction target, a metropolitan planning organization must prepare an Alternative Planning Strategy demonstrating how the GHG reduction target would be achieved through alternative development patterns, infrastructure, or additional transportation measures or policies.

Pursuant to California Government Code, Section 65080(b)(2)(K), a sustainable communities strategy does not (1) regulate the use of land; (2) supersede the land use authority of cities and counties; or (3) require that a city's or county's land use policies and regulations, including those in a general plan, be consistent with it. Nonetheless, SB 375 makes regional and local planning agencies responsible for developing those strategies as part of the federally required metropolitan transportation planning process and the state-mandated housing element process.

In 2010, CARB adopted the SB 375 targets for the regional metropolitan planning organizations. The targets for the San Diego Association of Governments (SANDAG) are a 7% reduction in emissions per capita by 2020 and a 13% reduction by 2035.

SANDAG completed and adopted its 2050 RTP/SCS in October 2011. In November 2011, CARB, by resolution, accepted SANDAG's GHG emissions quantification analysis and determination that, if implemented, the 2050 RTP/SCS would achieve CARB's 2020 and 2035 GHG emissions reduction targets for the region.

After SANDAG's 2050 RTP/SCS was adopted, a lawsuit was filed by the Cleveland National Forest Foundation and others. The matter is pending before the California Supreme Court (Case No. S223603) for determination of whether an Environmental Impact Report for a regional transportation plan must include an analysis of the plan's consistency with the GHG reduction goals reflected in EO S-3-05 to comply with CEQA.

Although the Environmental Impact Report for SANDAG's 2050 RTP/SCS is pending before the California Supreme Court, in 2015, SANDAG adopted the next iteration of its RTP/SCS in accordance with statutorily mandated timelines, and no subsequent litigation challenge was filed. More specifically, in October 2015, SANDAG adopted San Diego Forward: The Regional Plan. Like the 2050 RTP/SCS, this planning document meets CARB's 2020 and 2035 reduction targets for the region (SANDAG 2015). In December 2015, CARB, by resolution, accepted SANDAG's GHG emissions quantification analysis and determination that, if implemented, the RTP/SCS would achieve CARB's 2020 and 2035 GHG emissions reduction targets for the region.

Advanced Clean Cars Program. In January 2012, CARB approved the Advanced Clean Cars Program, a new emissions-control program for Model Years 2015–2025. The program combines the control of smog- and soot-causing pollutants and GHG emissions into a single coordinated package. The package includes elements to reduce smog-forming pollution, reduce GHG emissions, promote clean cars, and provide the fuels for clean cars (CARB 2011b). To improve air quality, CARB has implemented new emission standards to reduce smog-forming emissions beginning with Model Year 2015 vehicles. It is estimated that in 2025, cars will emit 75% less smog-forming pollution than the average new car sold before 2012. To reduce GHG emissions,

CARB, in conjunction with the EPA and the NHTSA, has adopted new GHG standards for Model Year 2017–2025 vehicles; the new standards are estimated to reduce GHG emissions by 34% in 2025. The Zero Emissions Vehicle (ZEV) Program will act as the focused technology of the Advanced Clean Cars Program by requiring manufacturers to produce increasing numbers of ZEVs and plug-in hybrid electric vehicles in Model Years 2018–2025. The Clean Fuels Outlet regulation will ensure that fuels such as electricity and hydrogen are available to meet the fueling needs of the new advanced technology vehicles as they come to the market.

Executive Order B-16-12. EO B-16-12 (2012) directs state entities under the Governor's direction and control to support and facilitate development and distribution ZEVs. This EO also sets a long-term target of reaching 1.5 million ZEVs on California's roadways by 2025. On a statewide basis, EO B-16-12 also establishes a GHG emissions reduction target from the transportation sector equaling 80% less than 1990 levels by 2050. To further this EO, the Governor convened an Interagency Working Group on ZEVs that has published multiple reports regarding the progress made on the penetration of ZEVs in the statewide vehicle fleet.

Assembly Bill 1236. AB 1236 (2015), as enacted in California's Planning and Zoning Law, requires local land use jurisdictions to approve applications for the installation of electric vehicle charging stations, as defined, through the issuance of specified permits unless there is substantial evidence in the record that the proposed installation would have a specific, adverse impact on the public health or safety, and there is no feasible method to satisfactorily mitigate or avoid the specific, adverse impact. The bill provides for appeal of that decision to the planning commission as specified. The bill requires local land use jurisdictions with a population of 200,000 or more residents to adopt an ordinance by September 30, 2016, that creates an expedited and streamlined permitting process for electric vehicle charging stations as specified. Prior to this statutory deadline, in August 2016, the County Board of Supervisors adopted Ordinance No. 10437 (N.S.) adding a section to its County Code related to the expedited processing of electric vehicle charging stations permits consistent with AB 1236.

Senate Bill 350. In 2015, SB 350—the Clean Energy and Pollution Reduction Act—was enacted into law. As one of its elements, SB 350 establishes a statewide policy for widespread electrification of the transportation sector, recognizing that such electrification is required for achievement of the state's 2030 and 2050 reduction targets (California Public Utilities Code, Section 740.12).

3.2.5 Solid Waste

Assembly Bill 939. In 1989, AB 939, known as the Integrated Waste Management Act (California Public Resources Code, Sections 40000 et seq.), was passed because of the increase

in waste stream and the decrease in landfill capacity. The statute established the California Integrated Waste Management Board, which oversees a disposal reporting system. AB 939 mandated a reduction of waste being disposed where jurisdictions were required to meet diversion goals of all solid waste through source reduction, recycling, and composting activities of 25% by 1995 and 50% by the year 2000.

Assembly Bill 341. AB 341 (2011) amended the California Integrated Waste Management Act of 1989 to include a provision declaring that it is the policy goal of the state that no less than 75% of solid waste be generated be source-reduced, recycled, or composted by the year 2020 and annually thereafter. In addition, AB 341 required the California Department of Resources Recycling and Recovery to develop strategies to achieve the state's policy goal. The California Department of Resources Recycling and Recovery has conducted multiple workshops and published documents that identify priority strategies that they would assist the state in reaching the 75% goal by 2020.

3.2.6 Water

Executive Order B-29-15. In response to the ongoing drought in California, EO B-29-15 (April 2015) set a goal of achieving a statewide reduction in potable urban water usage of 25% relative to water use in 2013. The term of the EO extended through February 28, 2016, although many of the directives have since become permanent water-efficiency standards and requirements. The EO includes specific directives that set strict limits on water usage in the state. In response to EO B-29-15, the California Department of Water Resources has modified and adopted a revised version of the Model Water Efficient Landscape Ordinance that, among other changes, significantly increases the requirements for landscape water use efficiency and broadens its applicability to include new development projects with smaller landscape areas.

3.2.7 Other State Regulations and Goals

Senate Bill 97. SB 97 (Dutton) (August 2007) directed the Governor's Office of Planning and Research to develop guidelines under CEQA for the mitigation of GHG emissions. In 2008, OPR issued a technical advisory as interim guidance regarding the analysis of GHG emissions in CEQA documents. The advisory indicated that the lead agency should identify and estimate a project's GHG emissions, including those associated with vehicular traffic, energy consumption, water usage, and construction activities (OPR 2008). The advisory further recommended that the lead agency should determine the significance of the impacts and impose all mitigation measures necessary to reduce GHG emissions to a level that is less than significant. The California Natural Resources Agency adopted the CEQA Guidelines amendments in December 2009, which became effective in March 2010.

Under the amended CEQA Guidelines, a lead agency has the discretion to determine whether to use a quantitative or qualitative analysis or apply performance standards to determine the significance of GHG emissions resulting from a particular project (14 CCR 15064.4(a)). The CEQA Guidelines require a lead agency to consider the extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions (14 CCR 15064.4(b)). The CEQA Guidelines also allow a lead agency to consider feasible means of mitigating the significant effects of GHG emissions, including reductions in emissions through the implementation of project features or off-site measures. The adopted amendments do not establish a GHG emission threshold; instead they allow a lead agency to develop, adopt, and apply its own thresholds of significance or those developed by other agencies or experts. The California Natural Resources Agency also acknowledges that a lead agency may consider compliance with regulations or requirements when implementing AB 32 in determining the significance of a project's GHG emissions (CNRA 2009).

With respect to GHG emissions, the CEQA Guidelines (14 CCR 15064.4(a)) state that lead agencies should "make a good faith effort, to the extent possible on scientific and factual data, to describe, calculate or estimate" GHG emissions. The CEQA Guidelines note that an agency may identify emissions by either selecting a "model or methodology" to quantify the emissions or by relying on "qualitative analysis or other performance based standards" (14 CCR 15064.4(a)). Section 15064.4(b) states that the lead agency should consider the following when assessing the significance of impacts from GHG emissions on the environment: (1) the extent a project may increase or reduce GHG emissions compared to the existing environmental setting; (2) whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project; and (3) the extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions (14 CCR 15064.4(b)).

Executive Order S-13-08. EO S-13-08 (November 2008) is intended to hasten California's response to the impacts of global climate change, particularly sea-level rise. Therefore, the EO directs state agencies to take specified actions to assess and plan for such impacts. The final 2009 California Climate Adaptation Strategy: A Report to the Governor of the State of California in Response to Executive Order S-13-2008 (CNRA 2009) was issued in December 2009, and an update, Safeguarding California: Reducing Climate Risk – An Update to the 2009 California Climate Adaptation Strategy (CNRA 2014), followed in July 2014. To assess the state's vulnerability, the reports summarizes key climate change impacts to the state for the following areas: agriculture, biodiversity and habitat, emergency management, energy, forestry, ocean and coastal ecosystems and resources, public health, transportation, and water. Issuance of the Safeguarding California: Implementation Action Plans followed in March 2016 (CNRA 2016). Currently, a draft of the

Safeguarding California Plan: 2017 Update is being prepared to communicate current and needed actions that state government should take to build climate change resiliency (CNRA 2017).

2015 State of the State Address. In January 2015, in his inaugural address and annual report to the Legislature, Governor Jerry Brown established supplementary goals that would further reduce GHG emissions over the next 15 years. These goals include an increase in California's renewable energy portfolio from 33% to 50%, a reduction in vehicle petroleum use for cars and trucks by up to 50%, measures to double the efficiency of existing buildings, and the decrease emissions associated with heating fuels.

2016 State of the State Address. In his January 2016 address, Governor Brown established a statewide goal to bring per capita GHG emission down to two tons per person, which reflects the goal of the Global Climate Leadership Memorandum of Understanding (Under 2 MOU) to limit global warming to less than 2°C by 2050. The Under 2 MOU agreement pursues emission reductions of 80% to 95% below 1990 levels by 2050 and/or reach a per capita annual emissions goal of less than 2 MT by 2050. A total of 135 jurisdictions representing 32 countries and 6 continents, including California, have signed or endorsed the Under 2 MOU (Under2 Coalition 2016).

3.3 Local

City of San Diego Climate Action Plan

The City of San Diego adopted a Climate Action Plan (CAP) that quantifies GHG emissions, establishes citywide reduction targets for 2020 and 2035, identifies strategies and measures to reduce GHG levels, and provides guidance for monitoring progress on an annual basis (City of San Diego 2015a). The CAP identifies a comprehensive set of goals, policies, and actions that the City can use to reduce GHG emissions. The CAP includes five strategies: (1) water- and energy-efficient buildings; (2) clean and renewable energy; (3) bicycling, walking, transit, and land use; (4) zero waste; and (5) climate resiliency.

CAP Consistency Checklist

To provide a mechanism for CEQA tiering, the City developed a CAP Consistency Checklist to provide a streamlined review process for GHG emissions for development subject to CEQA. The checklist contains measures that are required to be implemented on a project-by-project basis to ensure that the specified emission targets identified in the CAP are achieved. Implementation of the measures identified in the checklist would ensure that new development is consistent with the CAP's assumptions for relevant CAP strategies toward achieving identified GHG reduction targets (City of San Diego 2017a).

2050 Regional Transportation Plan

The SANDAG Board of Directors adopted the Regional Plan of record and associated EIR on October 5, 2015. The current Regional Plan, San Diego Forward, consists of an RTP and, as required by SB 375, an SCS that demonstrates how the region would achieve GHG emission reduction targets for passenger vehicles set by CARB. Since SANDAG is required by law to update its RTP every 4 years, the 2019 Regional Plan represents the next iteration of SANDAG's blueprint of future transportation investments and forecasted regional growth and land use change across the County through 2050.

The Cleveland National Forest Foundation (CNFF) and Center for Biological Diversity (CBD) filed a lawsuit on SANDAG's Board of Director's approval of the current Regional Plan and related Program EIR. CNFF and CBD was critical of the Program EIR's description of existing toxic air pollution, analysis of toxic air contaminant–related impacts on public health, and evaluation of GHG emissions/demonstration of consistency with GHG reduction goals established in Executive Order S-3-05. While the Supreme Court found that SANDAG did not abuse its discretion by declining to explicitly engage in an analysis of the consistency of projected 2050 GHG emissions with the goals in Executive Order S-3-05, the Supreme Court cautioned that the GHG analysis impacts employed by SANDAG for the 2011 RTP/SCS EIR will not necessarily be sufficient going forward.

City of San Diego General Plan

The City's General Plan (City of San Diego 2008) includes various goals and policies designed to help result in a reduction in GHG emissions. As discussed in the General Plan, climate change and GHG reduction policies are addressed in multiple chapters of the General Plan. The policies related to agricultural resources relevant to the project are as follows (City of San Diego 2008):

Goals

- To reduce the City's overall carbon dioxide footprint by improving energy efficiency, increasing use of alternative modes of transportation, employing sustainable planning and design techniques, and providing environmentally sound waste management.

Policies

CE-A.4 Pursue the development of "clean" or "green" sector industries that benefit San Diego's environment and economy.

CE-A.5 Employ sustainable or "green" building techniques for the construction and operation of buildings.

CE-A.6 Design new and major remodels to City buildings, and where feasible, long term building leases for City facilities, to achieve at a minimum, the Silver Rating goal identified by the Leadership in Energy and Environmental Design (LEED™) Green Building Rating System to conserve resources, including but not limited to energy and renewable resources.

CE-A.7 Construct and operate buildings using materials, methods, and mechanical and electrical systems that ensure a healthful indoor air quality. Avoid contamination by carcinogens, volatile organic compounds, fungi, molds, bacteria, and other known toxins.

CE-A.8 Reduce construction and demolition waste in accordance with Public Facilities Element, Policy PF-I.2, or by renovating or adding on to existing buildings, rather than construction new buildings.

CE-A.9 Reuse building materials, use materials that have recycled content, or use materials that are derived from sustainable or rapidly renewable sources to the extent possible.

CE-A.10 Include features in buildings to facilitate recycling of waste generated by building occupants and associated refuse storage areas.

CE-A.12 Reduce the San Diego Urban Heat Island, through actions such as:

- Using cool roofing materials, such as reflective, low heat retention tiles, membranes and coatings, or vegetated eco-roofs to reduce heat build-up;
- Planting trees and other vegetation, to provide shade and cool air temperatures. In particular, properly position trees to shade buildings, air conditioning units, and parking lots; and
- Reducing heat build-up in parking lots through increased shading or use of cool paving materials as feasible.

CE-A.13 Regularly monitor, update and implement the City's Climate Protection Action Plan to ensure, at a minimum compliance with all applicable federal state and local laws.

4 THRESHOLDS OF SIGNIFICANCE

According to the City's Significance Determination Thresholds, projects that are consistent with the City's CAP, as determined through the CAP Consistency Checklist, would result in a less-than-significant cumulative impact regarding GHG emissions. If a project is not consistent with the City's CAP, as determined through the CAP Consistency Checklist, potentially significant cumulative GHG impacts would occur.

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5 ANALYSIS METHODOLOGY AND ASSUMPTIONS

5.1 Construction GHG Emissions and Carbon Sequestration

5.1.1 Construction Emissions

For the purposes of modeling, it was assumed that construction of the proposed project would begin in fall 2018. Earthwork for the project would require the export of approximately 49,000 cubic yards of soil. Construction of the project from start to finish is estimated to take approximately 22 months. The analysis contained herein is based on the following assumptions (duration of phases is approximate):

- Site preparation – 7 days
- Grading – 17 days
- Utilities – 2.5 months
- Building construction (~~Phase~~ stage 1) – 1.5 years
- Building construction (~~Phase~~ stage 2) – 1 year
- Building construction (~~Phase~~ stage 3) – 1.5 years
- Site work – 1.5 years
- Paving – 2 months
- Application of architectural coating (~~Phase~~ application 1) – 8 months
- Application of architectural coating (~~Phase~~ application 2) – 1 year
- Application of architectural coating (~~Phase~~ application 3) – 9.5 months
- Landscaping – 6 months

The construction phasing and equipment mix used for estimating the construction emissions of the project is based on information provided by the applicant (Appendix A). For the analysis, it was generally assumed that heavy construction equipment would be operating at the site for approximately 8 hours per day, 5 days per week (22 days per month), during project construction. Construction-worker trip, vendor trip, and haul truck trip estimates by construction phase were also provided by the applicant. A detailed depiction of the construction schedule—including information regarding subphases and equipment used during each subphase—is included in Appendix A of this analysis. The information in Appendix A was used for CalEEMod model inputs.

5.2 Operational GHG Emissions

CalEEMod, Version 2013.3.2,[3] was used to estimate potential project-generated operational GHG emissions from area sources (landscape maintenance), energy sources (natural gas and electricity), mobile sources, solid waste, and water supply and wastewater treatment. Two scenarios were analyzed for comparative purposes as part of this quantitative analysis:

- Development under existing land use and zoning designations
- Buildout of the proposed project

Emissions from each category are discussed in the following text with respect to both the development consistent with existing land use designations (and thus consistent with Step 1 of the CAP) and the proposed project.

5.2.1 Project Consistent with Existing Land Uses

As previously described, the project site's land use designation is Commercial Limited (CL), which permits religious facilities, trade schools, storage facilities, nurseries, garden centers, and veterinary clinics. Additionally, the site is currently zoned Agriculture-Residential (AR-1-1). This zoning allows for recreational, agriculture, residential, and childcare uses. For purposes of this comparative analysis, the previously approved Our Lady of Mount Carmel Church project was utilized as the buildout scenario under the existing land use and zoning designations. Our Lady of Mount Carmel Church proposed a 1,200-seat church and a 500 student school (K-8).

Area Sources

CalEEMod was used to estimate operational emissions from area sources, including emissions from hearths and landscape maintenance equipment. Emissions associated with natural gas use in space heating, water heating, and stoves are calculated in the building energy use module of CalEEMod, as described in the following text.

Landscape maintenance includes fuel combustion emissions from equipment such as lawn mowers, rototillers, shredders/grinders, blowers, trimmers, chainsaws, and hedge trimmers. The emissions associated with landscape equipment use are estimated based on CalEEMod default values for emission factors (grams per square foot of nonresidential building space per day) and

[3] CalEEMod is a statewide land use emissions computer model designed to provide a uniform platform to calculate construction and operational emissions from land use development projects. The model was developed for the California Air Pollution Control Officers Association in collaboration with multiple air districts across the state. Numerous lead agencies in the state, including the San Diego Air Pollution Control District, use CalEEMod to estimate GHG emissions.

number of summer days (when landscape maintenance would generally be performed) and winter days. Default CalEEMod assumptions were used to estimate area source emissions.

Energy Sources

As represented in CalEEMod, energy sources include emissions associated with building electricity and natural gas usage (non-hearth). Electricity use would contribute indirectly to GHGs since GHG emissions occur at the site of the power plant, which is typically off site. Emissions were calculated by multiplying the energy use by the utility's carbon intensity (pounds of GHGs per megawatt-hour) for electricity or 1,000 British thermal units (Btu) for natural gas) for CO_2 and other GHGs. The CalEEMod emission factors were adjusted to reflect the forecasted renewable mix in 2020 in accordance with the state RPS goals. Annual natural gas (non-hearth) and electricity emissions were estimated in CalEEMod using these emissions factors for San Diego Gas & Electric (SDG&E), which would be the energy source provider to the site.

The estimation of operational energy emissions was based on CalEEMod land use defaults and units or total area (i.e., square footage). The energy intensity value (electricity or natural gas usage per square foot per year) for nonresidential buildings is calculated in CalEEMod based on the California Commercial End-Use Survey database. Emissions are calculated by multiplying the energy use by the utility carbon intensity (pounds of GHGs per kilowatt-hour for electricity or 1,000 Btu for natural gas) for CO_2 and other GHGs. Annual natural gas (non-hearth) and electricity emissions were estimated in CalEEMod using the emissions factors for SDG&E, which would be the energy source provider to the site.

Mobile Sources

Mobile sources for the project would primarily be motor vehicles (automobiles and light-duty trucks) traveling to and from the proposed land use designation and would primarily include future residents. The anticipated trip generation under this scenario, including the trip rates and total trips, is based on the previously adopted Our Lady of Mount Carmel Traffic Study prepared by LLG and CalEEMod default emission rates (LLG 2017).

Regulatory measures related to mobile sources include AB 1493 (Pavley) and related federal standards. AB 1493 required that CARB establish GHG emission standards for automobiles, light-duty trucks, and other vehicles determined by CARB to be vehicles that are primarily used for noncommercial personal transportation in the state. In addition, the NHTSA and EPA have established corporate fuel economy standards and GHG emission standards, respectively, for automobiles and light-, medium-, and heavy-duty vehicles. Implementation of these standards and fleet turnover (replacement of older vehicles with newer ones) will gradually reduce emissions from

the project's motor vehicles. The effectiveness of fuel economy improvements was evaluated by using the CalEEMod emission factors for motor vehicles in 2019 to the extent it was captured in EMFAC 2014.

The Low Carbon Fuel Standard calls for a 10% reduction in the carbon intensity of motor vehicle fuels by 2020, which would further reduce GHG emissions. However, the carbon intensity reduction associated with the Low Carbon Fuel Standard was not assumed in EMFAC 2014 and thus was not included in CalEEMod, Version 2016.3.1, or the calculations below, which are considered conservative.

Solid Waste

The project would generate solid waste and therefore result in CO_2E emissions associated with landfill off-gassing. CalEEMod default values for solid waste generation were used to estimate GHG emissions associated with solid waste. Per AB 341 (requiring mandatory commercial recycling beginning July 1, 2012), commercial developments, such as the project, would be required to provide recycling services (City of San Diego 2017b). AB 341 and the City's Zero Waste Plan (City of San Diego 2015c) aim for a statewide 75% diversion rate by 2020, and as a result, have been included in the GHG assessment.

Water and Wastewater

Supply, conveyance, treatment, and distribution of water for the project would require the use of electricity, which would result in associated indirect GHG emissions. Similarly, wastewater generated by the project would require the use of electricity for conveyance and treatment, along with GHG emissions generated during wastewater treatment. Water consumption estimates for indoor and outdoor water use and associated electricity consumption from water use and wastewater generation were estimated using CalEEMod default values with a 20% reduction to account for the Model Water Landscape Efficiency Ordinance.

5.2.2 Buildout of the Proposed Project

Operation of the project would result in GHG emissions from area sources (landscape maintenance), energy sources (electrical generation, natural gas consumption), mobile sources (vehicular traffic), solid waste, and water supply (including wastewater generation). Per the construction schedule assumptions, construction of the project is assumed to be complete in 2018, with the first full year of operation potentially being 2019. However, construction was assumed to commence at least 1 year before the current anticipated schedule, so an operational year of 2020 accurately represents the anticipated operational year.

Area Sources

Default CalEEMod assumptions were used to estimate area source emissions for the proposed project.

Energy Sources

GHG energy emissions from building energy use were estimated assuming a 5% improvement over the default values in CalEEMod, which reflect the 2013 Title 24 California Energy Code. This improvement represents compliance with the 2016 Title 34 standards, which became effective January 1, 2017. An adjustment of the CO_2 intensity factor to reflect the 2020 RPS (33% renewable energy sources) was included in the analysis.

Mobile Sources

The project would impact air quality through the vehicular traffic generated by the project. According to the project's traffic report prepared by LLG (2018), the project would result in 5,264 trips per day for weekdays. Reduced trip rates for Saturday and Sunday were assumed consistent with CalEEMod assumptions for general office building average weekend trip rates.

Project-related traffic was assumed to include a mixture of vehicles in accordance with the model outputs for traffic. Emission factors representing the vehicle mix and emissions for 2020 were used to estimate emissions associated with full buildout of the project.

Solid Waste

The project would generate solid waste and therefore result in CO_2E emissions associated with landfill off-gassing. CalEEMod default values for solid waste generation were used to estimate GHG emissions associated with solid waste. Per AB 341 (requiring mandatory commercial recycling beginning July 1, 2012), all commercial developments must provide recycling services (City of San Diego 2017b). AB 341 and the City's Zero Waste Plan aim for a statewide 75% diversion rate by 2020, and as a result, have been included in the GHG assessment (City of San Diego 2015b).

Water and Wastewater

The project would include installation of low-flow bathroom and kitchen faucets, low-flow toilets, and low-flow showers. In regard to outdoor water, the project would involve installation of water-efficient devices and landscaping in accordance with applicable ordinances, including use of drought-tolerant plant species appropriate to the climate and region. Xeriscaping would be employed such that areas of water use throughout the landscape plan are grouped according to water needs. The project would apply a water conservation strategy resulting in a 20% reduction

in indoor water use per CALGreen requirements for plumbing fixtures and fittings and a minimum 20% reduction in outdoor water use.

6 IMPACT ANALYSIS

6.1 GHG Emissions

6.1.1 Construction Emissions

Construction of the project would result in short-term GHG emissions through the use of construction equipment, off-site trucks hauling construction materials, and worker trips. Analysis methodology including inputs and assumptions associated with calculating construction emissions are provided in Section 5.1.1.

Table 2 presents construction emissions for the project in 2018, 2019, and 2020 from on-site and off-site emission sources.

Table 2
Estimated Annual Proposed Project Construction GHG Emissions

Year	CO_2	CH_4	N_2O	CO_2E
	Metric Tons per Year			
2018	1,157	0.16	0.00	1,162
2019	5,789	0.70	0.00	5,806
2020	1,417	0.18	0.00	1,421
Total	**8,363**	**1.04**	**0.00**	**8,389**
Amortized Construction Emissions over 30 years				**280**

CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; CO_2E = carbon dioxide equivalent.
See Appendix A for detailed results.

As shown in Table 2, the estimated GHG emissions generated during project construction would be approximately 8,389 MT CO_2E. Estimated project-generated construction emissions amortized over 30 years would be approximately 280 MT CO_2E per year.

6.1.2 Operational Emissions

Project Consistent with Existing Land Use Designations

Table 3 presents the operational GHG emissions from buildout of the comparative project consistent existing land uses. As described in Section 5.2.1, this scenario was modeled as a 1,200-seat church and 500-student school.

Table 3
Estimated Annual Existing Land Use Buildout Operational GHG Emissions

Emission Source	CO_2	CH_4	N_2O	CO_2E
	Metric Tons per Year			
Area	0.01	0.00	0.00	0.01
Energy	218	0.01	0.00	219
Mobile	1,791	0.10	0.00	1,794
Solid waste	21	1.25	0.00	53
Water supply and wastewater	21	0.08	0.00	24
Total	**2,051**	**1.44**	**0.00**	**2,089**

CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; CO_2E = carbon dioxide equivalent.
Mobile emissions are based on an average daily traffic (ADT) of 1,974.
Emissions estimates are based on a buildout year of 2020.
Totals may not sum due to rounding.
See Appendix A for detailed results.

As shown in Table 3, annual emissions from buildout of the existing land use would be approximately 2,089 MT CO_2E per year.

Proposed Project

The estimated operational project-generated GHG emissions from area sources, energy usage, motor vehicles, solid waste generation, water supply, and wastewater treatment, considering the project design features, in 2020 (i.e., first full year of project operation) are shown in Table 4.

Table 4
Proposed Project Buildout Operational GHG Emissions

Emission Source	CO_2	CH_4	N_2O	CO_2E
	Metric Tons per Year			
Area	0.04	0.00	0.00	0.05
Energy	2,924	0.11	0.03	2,936
Mobile	4,006	0.22	0.00	4,012
Solid waste	25	1.27	0.00	62
Water supply and wastewater	336	2.12	0.05	406
Total	**7,291**	**3.71**	**0.08**	**7,416**

See Appendix A for detailed results. CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; CO_2E = carbon dioxide equivalent.
Emissions estimates are based on a buildout year of 2020. Totals may not sum due to rounding.

As shown in Table 4, emissions from the proposed project would be approximately 7,416 MT CO_2E per year.

6.2 Climate Action Plan Consistency

The City's CAP was adopted to ensure that emissions from activities in the City would not exceed established state targets. The CAP assumes a baseline level of construction and buildout of the land use and zoning as of the CAP's adoption. Land use changes such as ones proposed by the project would potentially result in an increase in emissions compared to those assumed in the CAP by allowing a greater intensity of development or allowing land uses that have a higher rate of vehicle trips.

The first step is to assess a project's consistency with the growth projections utilized in the development of the CAP, as determined through the CAP Consistency Checklist. The second step is to review and evaluate a project's consistency with applicable strategies and actions of the CAP. The third step is to determine whether a project with a land use and/or zone designation change within a TPA would be consistent with the assumptions of the CAP. Step 3 would only apply if Step 2 is answered in the affirmative under Option B. The project's consistency with the CAP Consistency Checklist is presented below.

Global climate change is inherently a cumulative impact; a project participates in this potential impact through its incremental contribution combined with the cumulative increase of all other sources of GHGs. The City's CAP Consistency Checklist also serves as the significance determination threshold for cumulative impacts related to climate change

6.2.1 Step 1: Land Use Consistency

The proposed project would not be consistent with Step 1 of the CAP Consistency Checklist. The project site is currently designated as Commercial Employment, Retail, and Services in the City's General Plan, and as Commercial Limited (CL) land use under the existing Torrey Highlands Subarea Plan, which is part of the greater North City Future Urbanizing Framework Plan. The permitted land uses under the Commercial Limited (CL) land use are religious facilities, trade schools, storage, veterinary clinics, nurseries, and garden centers. Designated Commercial Limited (CL) land uses are under discretionary review to ensure compatibility with the adjacent Deer Canyon (City of San Diego 1996). The project site is zoned Agriculture-Residential (AR-1-1; requires minimum 10-acre lots) under the City's General Plan. The project would retain the General Plan land use designation but would change the Community Plan designation from Commercial Limited (CL) to Employment Center (EC) and would change the zoning from Agriculture-Residential (AR-1-1) to Industrial Park (IP-3-1), which would allow for research and development, office, and residential uses. Development under the proposed community plan amendment would be capped at 450,000 square feet and any development greater than 450,000 square feet would not be permitted. Moreover, the proposed community

plan amendment places a limit on the allowable building square footage that could otherwise be developed on the site under the proposed I-P-3 zone alone.

As described previously, the City's emissions inventory for the CAP was conducted based on the buildout of the existing land uses. Therefore, because the project would not be consistent with the existing land use and zoning designations, and emissions would be greater than a project built consistent with existing land uses, the project would result in a more GHG-intensive project when compared to the existing designations. As such, the project would be inconsistent with the CAP.

6.2.2 Step 2: Consistency Checklist

The proposed project would be consistent with Step 2 of the CAP Consistency Checklist. Step 2 evaluates the proposed project's consistency with the CAP Consistency Checklist. For informational purposes, estimated project-generated emissions are provided in Chapter 7. The proposed project's consistency with the five CAP strategies and the CAP Consistency Checklist is presented in Table 5.

Table 5
Consistency with the Climate Action Plan Strategies and Step 2 Checklist Requirements

CAP Consistency Checklist Item	Consistency Evaluation
Strategy 1: Energy- and Water-Efficient Buildings	
1. Cool/Green Roofs • Would the project include roofing materials with a minimum 3-year aged solar reflection and thermal emittance or solar reflection index equal to or greater than the values specified in the voluntary measures under California Green Building Standards Code?; OR • Would the project roof construction have a thermal mass over the roof membrane, including areas of vegetated (green) roofs, weighing at least 25 pounds per square foot as specified in the voluntary measures under California Green Building Standards Code?; OR • Would the project include a combination of the above two options?	**Consistent**. The project would include cool roof (thermoplastic polyolefin) above the 3-year-old solar reflection and a thermal remittance or solar reflection index in exceedance of the code minimums.
2. Plumbing Fixtures and Fittings With respect to plumbing fixtures or fittings provided as part of the project, would those low-flow fixtures/appliances be consistent with each of the following: Residential buildings: • Kitchen faucets: maximum flow rate not to exceed 1.5 gallons per minute at 60 pounds per square inch; • Standard dishwashers: 4.25 gallons per cycle; • Compact dishwashers: 3.5 gallons per cycle; and • Clothes washers: water factor of 6 gallons per cubic feet of drum capacity?	**Consistent**. The project would include the required flow rates and appliances that meet the voluntary measures portion of the California Green Building Standards Code for non-residential buildings.

Table 5
Consistency with the Climate Action Plan Strategies and Step 2 Checklist Requirements

CAP Consistency Checklist Item	Consistency Evaluation
Nonresidential buildings: • Plumbing fixtures and fittings that do not exceed the maximum flow rate specified in Table A5.303.2.3.1 (voluntary measures) of the California Green Building Standards Code; and • Appliances and fixtures for commercial applications that meet the provisions of Section A5.303.3 (voluntary measures) of the California Green Building Standards Code?	
Strategy 3: Bicycling, Walking, Transit and Land Use	
3. Electric Vehicle Charging • Multiple-family projects of 17 dwelling units or less: Would 3% of the total parking spaces required, or a minimum of one space, whichever is greater, be provided with a listed cabinet, box or enclosure connected to a conduit linking the parking spaces with the electrical service, in a manner approved by the building and safety official, to allow for the future installation of electric vehicle supply equipment to provide electric vehicle charging stations at such time as it is needed for use by residents? • Multiple-family projects of more than 17 dwelling units: Of the total required listed cabinets, boxes or enclosures, would 50% have the necessary electric vehicle supply equipment installed to provide active electric vehicle charging stations ready for use by residents? • Non-residential projects: Of the total required listed cabinets, boxes or enclosures, would 50% have the necessary electric vehicle supply equipment installed to provide active electric vehicle charging stations ready for use?	**Consistent**. The project would include a total of 1,781 parking spaces. Per the California Green Building Code Standards Code, the project will provide 107 electric vehicle-capable (pre-wired) parking spaces and per the CAP, the project would commit to supplying 50% (54) of the 107 pre-wired parking spaces with electric vehicle charging as determined by Table 5.106.5.3.3 of the California Green Building Standards Code.
4. Bicycle Parking Spaces Would the project provide more short- and long-term bicycle parking spaces than required in the City's Municipal Code (Chapter 14, Article 2, Division 5)?	**Consistent**. The City's Municipal Code requires 0.1 short-term bicycle spaces per 1,000 sf (450*0.1 = 45); or 5% of the required automobile parking space minimum (1,718 parking spaces*0.05 = 86), whichever is greater. Therefore, **86 short-term** bicycle parking spaces would be required per the municipal code. The City's Municipal Code requires long-term bicycle parking to equal at least 5% of the required automobile parking for any premises with more than ten full-time employees (1,718 parking spaces*0.05 = **86 long-term** bicycle parking spaces). The project would provide 90 short-term bicycle parking spaces and 90 long-term bicycle parking spaces, which is greater than the requirements of the City's Municipal Code for both short-term and long-term bicycle parking spaces.

Table 5
Consistency with the Climate Action Plan Strategies and Step 2 Checklist Requirements

<table>
<tr><th>CAP Consistency Checklist Item</th><th>Consistency Evaluation</th></tr>
<tr><td>

5. Shower Facilities
If the project includes non-residential development that would accommodate over 10 tenant occupants (employees), would the project include changing/shower facilities in accordance with the voluntary measures under the California Green Building Standards Code as shown in the table [Table 5a] below?

Table 5a
Shower Facility Requirements

Number of Tenant Occupants (Employees)	Shower/Changing Facilities Required	Two-Tier (12 Inches × 15 Inches × 72 Inches) Personal Effects Lockers Required
0–10	0	0
11–50	1 shower stall	2
51–100	1 shower stall	3
101–200	1 shower stall	4
Over 200	1 shower stall plus 1 additional shower stall for each 200 additional tenant-occupants	1 two-tier locker plus 1 two-tier locker for each 50 additional tenant-occupants

</td><td>

Consistent. The project is anticipated to include 2,400 full-time-equivalent employees (tenant occupants) and would provide 12 shower stalls and 48 two-tier lockers.

</td></tr>
<tr><td>

6. Designated Parking Spaces
If the project includes an employment use in a TPA, would the project provide designated parking for a combination of low-emitting, fuel-efficient, and carpool/vanpool vehicles in accordance with the table [Table 5b] below?

Table 5b
Parking Requirements

Number of Required Parking Spaces	Number of Designated Parking Spaces
0–9	0
10–25	2
26–50	4
51–75	6
76–100	9
101–150	11
151–200	18
201 and over	At least 10% of total

This measure does not cover electric vehicles. See Question 4 for electric vehicle parking requirements.

</td><td>

Not Applicable. The project is not located in a Transit Priority Area (TPA); however, it would include 179 carpool/vanpool spaces (10% of total spaces).

</td></tr>
</table>

Table 5
Consistency with the Climate Action Plan Strategies and Step 2 Checklist Requirements

CAP Consistency Checklist Item	Consistency Evaluation
Note: Vehicles bearing Clean Air Vehicle stickers from expired HOV lane programs may be considered eligible for designated parking spaces. The required designated parking spaces are to be provided within the overall minimum parking requirement, not in addition to it.	
7. Transportation Demand Management Program If the project would accommodate over 50 tenant-occupants (employees), would it include a Transportation Demand Management Program that would be applicable to existing tenants and future tenants that includes: At least one of the following components: • Parking cash out program? • Parking management plan that includes charging employees market-rate for single-occupancy vehicle parking and providing reserved, discounted, or free spaces for registered carpools or vanpools? • Unbundled parking whereby parking spaces would be leased or sold separately from the rental or purchase fees for the development for the life of the development? And at least three of the following components: • Commitment to maintaining an employer network in the SANDAG iCommute program and promoting its RideMatcher service to tenants/employees? • On-site carsharing vehicle(s) or bikesharing? • Flexible or alternative work hours? • Telework program? • Transit, carpool, and vanpool subsidies? • Pre-tax deduction for transit or vanpool fares and bicycle commute costs • Access to services that reduce the need to drive, such as cafes, commercial stores, banks, post offices, restaurants, gyms, or childcare, either on site or within 1,320 feet (1/4 mile) of the structure/use?	**Consistent.** The Transportation Demand Management Program would include: • Implement a parking cash-out program, and/or • Provide unbundled parking option for employees, and/or • Charge employees market-rate for single-occupancy vehicle parking and providing reserved, discounted, or free spaces for registered carpools or vanpools. • Carpool/vanpool parking spaces will be provided in preferentially located areas (closest to building entrances) for use by qualified employees. These spaces will be signed and striped "Car/Vanpool Parking Only." Information about the availability of and the means of accessing the car/vanpool parking spaces will be posted on Transportation Information Displays located in common areas or on intranets, as appropriate. Additionally the project applicant would require office tenants to: • Maintain an employer network in the SANDAG iCommute program and promoting its RideMatcher service to tenants/employees. • Offer partially subsidized monthly passes for employees, should service routes be implemented in the future. • Offer partially subsidized vanpool/rideshare services. • Offer a telework program. Moreover, the project includes a café and a fitness center on site.

Source: City of San Diego 2015a, 2017.

As summarized in Table 5, the project would be consistent with applicable CAP Consistency Checklist items and would be consistent with the City's CAP with respect to planning and land use strategies. The project would not impede the City's ability to implement the actions

identified in the CAP to achieve the CAP's targets and associated GHG emission reductions. Therefore, the project would result in a less than significant impact on climate change with regard to Step 2 of the City's CAP Consistency Checklist. The majority of measures listed in Step 2 of the CAP Consistency Checklist cannot be correlated with a quantifiable reduction; therefore, the emissions presented in Table 5 are conservative.

6.2.3 Step 3: TPA Consistency

Because the project site is not located in a City-designated Transit Priority Area, as defined by SB 743 as a quarter mile from an existing or planned transit stop, Step 3 is not applicable.

7 MITIGATION MEASURES

The project would implement mitigation measures **MM-GHG-1** through **MM-GHG-13**, which include all measures as required under "Step 2: CAP Strategies Consistency" table of the City's Climate Action Plan Consistency Checklist.

MM-GHG-1 The owner/permittee shall install a solar photovoltaic system to be incorporated as part of the parking garage rooftop trellis structures. The photovoltaic system shall occupy the maximum surface area provided by the trellis structures, and would be no less than 25,000 square feet, consistent with Figure 4.

The photovoltaic system shall be incorporated on all construction plans and verified by the Environmental Designee of the City of San Diego's Development Services Department.

MM-GHG-2 The project shall achieve a 5% increase in energy efficiency over the 2016 Title 24 Standards through structural design elements including variable refrigerant flow systems for the heating, ventilation and air conditioning (HVAC) system; high performance glazing; and heat reflecting roofing material.

These design elements including the variable refrigerant flow systems for the HVAC system, high performance glazing, and heat reflecting roofing material shall be incorporated on all construction plans and verified by the Environmental Designee of the City of San Diego's Development Services Department.

MM-GHG-3 The owner/permittee shall install a cool roof (thermoplastic polyolefin) above the 3-year-old solar reflection and a thermal remittance or solar reflection index in exceedance of the code minimums pursuant to the "Cool/Green Roofs" requirement of the City's CAP Consistency Checklist. The cool roof specifics shall be incorporated on all construction plans and verified by the Environmental Designee of the City of San Diego's Development Services Department.

MM-GHG-4 The owner /permittee shall implement the required flow rates and appliances that meet the voluntary measures portion of the California Green Building Standards Code for non-residential buildings pursuant to the "Plumbing Fixtures and Fittings" requirement of the City's CAP Consistency Checklist.

MM-GHG-5 The owner /permittee shall provide 107 electric vehicle-capable (pre-wired) parking spaces consistent with the California Green Building Code Standards Code. Additionally, 50% (54) of the 107 pre-wired parking spaces would include

electric vehicle charging infrastructure as determined by Table 5.106.5.3.3 of the California Green Building Standards Code. This measure would be pursuant to the "Electric Vehicle Charging" requirements of the City's CAP Consistency Checklist. These parking spaces shall be incorporated on all construction plans and verified by the Environmental Designee of the City of San Diego's Development Services Department.

MM-GHG-6 The owner /permittee shall provide 90 short-term bicycle parking spaces and 90 long-term bicycle parking spaces pursuant to the "Bicycle Parking Spaces" requirement of the City's CAP Consistency Checklist. Bicycle parking specifics shall be incorporated on all construction plans and verified by the Environmental Designee of the City of San Diego's Development Services Department.

MM-GHG-7 The owner/permittee shall provide 12 shower stalls and 48 two-tier lockers pursuant to the "Shower Facilities" requirement of the City's CAP Consistency Checklist. Shower stalls and lockers shall be incorporated on all project plans and verified by the Environmental Designee of the City of San Diego's Development Services Department.

MM-GHG-8 The owner /permittee shall include 179 carpool/vanpool spaces (10% of total spaces) pursuant to the "Designated Parking Spaces" requirement of the City's CAP Consistency Checklist. These parking spaces shall be incorporated on all construction plans and verified by the Environmental Designee of the City of San Diego's Development Services Department.

MM-GHG-9 Pursuant to the "Transportation Demand Management Program" requirement of the City's CAP Consistency Checklist, the owner /permittee shall require office tenants to:

a. Implement a parking cash-out program, and/or

b. Provide unbundled parking option for employees, and/or

c. Charge employees market-rate for single-occupancy vehicle parking and providing reserved, discounted, or free spaces for registered carpools or vanpools.

d. Carpool/vanpool parking spaces shall be provided in preferentially located areas (closest to building entrances) for use by qualified employees. These spaces shall be signed and striped "Car/Vanpool Parking Only." Information about the availability of and the means of accessing the car/vanpool parking

spaces shall be posted on Transportation Information Displays located in common areas or on intranets, as appropriate.

e. The owner/permittee shall conduct an employee commute travel survey within 6 months of occupancy to evaluate the efficacy of the Transportation Demand Management plan, and to inform/validate any changes that may be proposed or needed. A copy of the results of this survey will be provided to the City Development Services Department. The owner /permittee shall continue monitoring the effectiveness of the project's Transportation Demand Management plan, including the provision of items a. through d. as listed above, and provide the results in an annual report to the Development Services Department for a period of 5 years. The first report submittal shall occur 1 year after project occupancy.

MM-GHG-10 Pursuant to the "Transportation Demand Management Program" requirement of the City's CAP Consistency Checklist, the owner /permittee shall require office tenants to maintain an employer network in the SANDAG iCommute program and promoting its RideMatcher service to tenants/employees. Participation in the iCommute program and use of the RideMatcher service shall be disclosed in the TDM annual report as required under MM-GHG-9 (e).

MM-GHG-11 The owner /permittee shall require office tenants to offer partially subsidized monthly transit passes for employees, should service routes be implemented in the future. If transit passes are offered, issuance of transit passes shall be disclosed in the TDM annual report as required under MM-GHG-9 (e).

MM-GHG-12 The owner /permittee shall require office tenants to offer partially subsidized vanpool/rideshare services to all employees. Employee utilization of vanpool/rideshare services shall be disclosed in the TDM annual report as required under MM-GHG-9 (e).

MM-GHG-13 Pursuant to the "Transportation Demand Management Program" requirement of the City's CAP Consistency Checklist, the owner /permittee shall require office tenants to offer a telework program to all employees. Employee utilization of the telework program shall be disclosed in the TDM annual report as required under MM-GHG-9 (e).

The estimated operational project-generated GHG emissions would be reduced following implementation of **MM-GHG-1** through **MM-GHG-13** According to the National Renewable

Energy Laboratory PVWatts Calculator, the solar photovoltaic system as presented in **MM-GHG-1** would generate approximately 628,802 kilowatt-hours of energy per year (NREL 2017).[4]

The estimated operational project-generated GHG emissions from area sources, energy usage, motor vehicles, solid waste generation, water supply, and wastewater treatment, considering the project design features and implementation of **MM-GHG-1** through **MM-GHG-13** are shown in Table 6. Because the mobile emission reduction measures included as part of the project's TDM program cannot be accurately quantified as to their GHG reduction potential, the components of the TDM program are not included in the quantified emission reduction estimates for the project as provided in Table 6. Therefore, emissions presented in Table 6 are conservative.

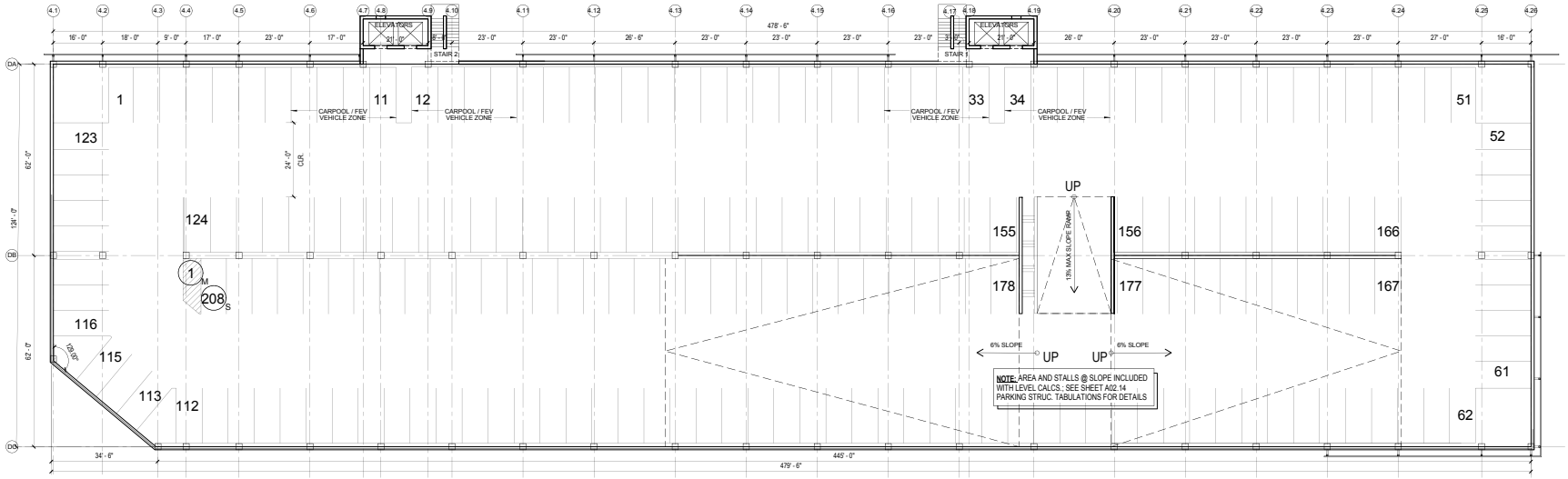
Table 6
Project Buildout Operational Greenhouse Gas Emissions After Mitigation

Emission Source	CO_2	CH_4	N_2O	CO_2E
	Metric Tons per Year			
Area	0.04	0.00	0.00	0.05
Energy	2,697	0.10	0.03	2,709
Mobile	4,006	0.22	0.00	4,012
Solid waste	25	1.27	0.00	62
Water supply and wastewater	336	2.12	0.05	406
Total	**7,064**	**3.71**	**0.08**	**7,189**

Notes: CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; CO_2E = carbon dioxide equivalent.
See Appendix A for detailed results.
Emissions estimates are based on a buildout year of 2020.
Totals may not sum due to rounding.

As shown in Tables 6, following implementation of **MM-GHG-1** through **MM-GHG-13** emissions would be approximately 7,189 MT CO_2E per year. With implementation of mitigation, GHG impacts would be reduced but would still exceed emissions associated with the comparative project as allowed under existing land uses. Impacts would be significant and not fully mitigated.

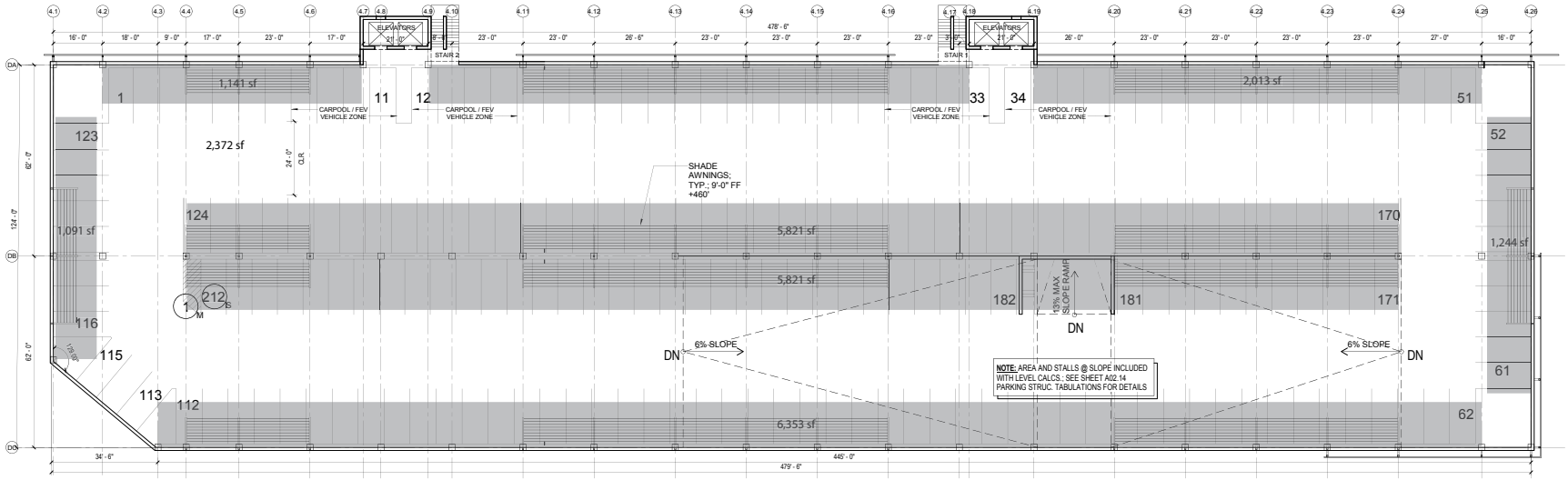
[4] To calculate the energy production of the photovoltaic system, PVWatts default values were used for a commercial system in the 92129 zip code.



PARKING STRUCTURE - CONSTRUCTION PLANS LEVEL 6

SCALE: 1/16" = 1'-0"

LEVEL 6 - 59,800 SF | 208 CARS | 288 SF / CAR 1



SCALE: 1/16" = 1'-0"

SOURCE: Gensler, 2017

The Preserve at Torrey Highlands

Parking Garage Rooftop Solar Panels

Environmental Analysis Section Project No. 442880

CITY OF SAN DIEGO - DEVELOPMENT SERVICES

FIGURE 4

Z:\Projects\690930\MAP\DOC\DOCUMENT\EIR 3.0 Project Description

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8 CONCLUSION

Per Step 1 of the CAP consistency analysis, the proposed project would require a Community Plan amendment and zone change; therefore, the project would be considered inconsistent with the underlying land use assumptions of the CAP, and impacts would be potentially significant. Regarding Step 2 consistency, the project would be consistent with applicable CAP Consistency Checklist items and would implemented all Step 2 strategies; therefore, the project is consistent with Step 2. Step 3 consistency is not applicable to the project because the project is not located within a Transit Priority Area. The project would result in a more GHG-intensive land use than the assumptions utilized in development of the CAP, therefore, the project would be inconsistent with the CAP. As such, following implementation of the CAP Step 2 Checklist measures and MM-GHG-1 through MM-GHG-13, impacts would remain significant and unavoidable because no mitigation is available to reduce impacts associated with the proposed change in land use, as described under Step 1.

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9 REFERENCES CITED

CARB (California Air Resources Board). 2008. *Climate Change Scoping Plan: A Framework for Change*. December 2008. Accessed December 9, 2009. http://www.arb.ca.gov/cc/scopingplan/document/scopingplandocument.htm.

CARB. 2011a. *2011 Final Supplement to the AB 32 Scoping Plan Functional Equivalent Document.*

CARB. 2011b. *Staff Report: Initial Statement of Reasons for Proposed Rulemaking, Public Hearing to Consider the "LEV III" Amendments to the California Greenhouse Gas and Criteria Pollutant Exhaust and Evaporative Emission Standards and Test Procedures and to the On-Board Diagnostic System Requirements for Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles, and to the Evaporative Emission Requirements for Heavy-Duty Vehicles*. December 7, 2011.

CARB. 2014. *First Update to the Climate Change Scoping Plan Building on the Framework Pursuant to AB 32 – The California Global Warming Solutions Act of 2006*. May 2014. Accessed July 2017. http://www.arb.ca.gov/cc/scopingplan/2013_update/first_update_climate_change_scoping_plan.pdf.

CARB. 2016. "AB 32 Scoping Plan." December 2, 2016. Accessed July 2017. https://www.arb.ca.gov/cc/scopingplan/scopingplan.htm.

CARB. 2017a. *California Greenhouse Gas Inventory for 2000–2015 by Category as Defined in the 2008 Scoping Plan.* Accessed July 2017. https://www.arb.ca.gov/cc/inventory/data/tables/ghg_inventory_scopingplan_sum_2000-15.pdf.

CARB. 2017b. *The 2017 Climate Change Scoping Plan Update*. December 14, 2017. Accessed February 2018. https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf.

CARB. 2017c. *Short-Lived Climate Pollutant Reduction Strategy.* Adopted March 2017.

CAT. 2010. *Climate Action Team Report to Governor Schwarzenegger and the California Legislature*. December 2010. Accessed January 2017. http://www.energy.ca.gov/2010publications/CAT-1000-2010-005/CAT-1000-2010-005.PDF.

CCCC. 2012. *Our Changing Climate 2012: Vulnerability & Adaptation to the Increasing Risks from Climate Change in California*. July 2012. Accessed July 2017. http://www.energy.ca.gov/2012publications/CEC-500-2012-007/CEC-500-2012-007.pdf.

CEC (California Energy Commission). 2015a. "2016 Building Energy Efficiency Standards Frequently Asked Questions." Accessed July 2017. http://www.energy.ca.gov/title24/2016standards/rulemaking/documents/2016_Building_Energy_Efficiency_Standards_FAQ.pdf.

CEC. 2015b. *2015 Integrated Energy Policy Report.* CEC-100-2015-001-CMF. Accessed July 2017. http://docketpublic.energy.ca.gov/PublicDocuments/15-IEPR-01/TN212017_20160629T154354_2015_Integrated_Energy_Policy_Report_Small_File_Size.pdf.

City of San Diego. 1996. *Torrey Highlands Subarea Plan.* Adopted Nov. 5, 1996. Accessed July 2017. https://www.sandiego.gov/planning/community/profiles/torreyhighlands/plan.

City of San Diego. 2008. *City of San Diego General Plan*. Adopted by the County of the City of San Diego on March 10, 2008. Accessed March 2017. https://www.sandiego.gov/planning/genplan.

City of San Diego. 2015a. *Final Climate Action Plan*. Prepared by the City of San Diego in consultation with Krout Associates and EPIC. December 2015. Accessed July 2017. https://www.sandiego.gov/sustainability/climate-action-plan

City of San Diego. 2015b. "Land Use and Community Planning Element." In *City of San Diego General Plan*. June 2015. Accessed July 2017. https://www.sandiego.gov/sites/default/files/lu_2015.pdf.

City of San Diego. 2015c. *City of San Diego Zero Waste Plan*. Accessed July 2017. https://www.sandiego.gov/sites/default/files/legacy/mayor/pdf/2015/ZeroWastePlan.pdf.

City of San Diego. 2017a. *City of San Diego Climate Action Plan Consistency Checklist*. February 2017. https://www.sandiego.gov/sites/default/files/city_of_san_diego_cap_checklist.pdf

City of San Diego. 2017b. *Environmental Services – Recycling Commercial*. Accessed July 2017. https://www.sandiego.gov/environmental-services/recycling/ro/commercial.

CNRA (California Natural Resources Agency). 2009. *2009 California Climate Adaptation Strategy: A Report to the Governor of the State of California in Response to Executive Order S-13-2008.* Accessed July 2017. http://resources.ca.gov/docs/climate/Statewide_Adaptation_Strategy.pdf.

CNRA. 2014. *Safeguarding California: Reducing Climate Risk – An Update to the 2009 California Climate Adaptation Strategy*. July 2014. Accessed July 2017. http://resources.ca.gov/docs/climate/Final_Safeguarding_CA_Plan_July_31_2014.pdf.

CNRA. 2016. *Safeguarding California: Implementation Action Plans*. March 2016. Accessed July 2017. http://resources.ca.gov/docs/climate/safeguarding/Safeguarding%20California-Implementation%20Action%20Plans.pdf.

CNRA. 2017. *Draft Report Safeguarding California Plan: 2017 Update*. Accessed July 2017. http://resources.ca.gov/wp-content/uploads/2017/05/DRAFT-Safeguarding-California-Plan-2017-Update.pdf.

CPUC (California Public Utilities Commission). 2013. "California's Zero Net Energy Policies and Initiatives." September 18, 2013. Accessed July 2017. http://www.energy.ca.gov/2013publications/CEC-100-2013-001/CEC-100-2013-001-CMF.pdf.

EPA. 2017. *Inventory of U.S. Greenhouse Gas Emissions and Sinks 1990–2015.* EPA 430-P-17-001. Accessed July 2017. https://www.epa.gov/sites/production/files/2017-02/documents/2017_complete_report.pdf.

EPA and NHTSA (U.S. Environmental Protection Agency and National Highway Traffic Safety Administration). 2016. *Regulations and Standards: Heavy-Duty. EPA and DOT Finalize Greenhouse Gas and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles*. Last updated August 30, 2016. Accessed July 2017. https://www.epa.gov/newsreleases/epa-and-dot-finalize-greenhouse-gas-and-fuel-efficiency-standards-heavy-duty-trucks-0.

IPCC. 2014. "Summary for Policymakers." In *Climate Change 2014 Synthesis Report.* Accessed July 2017. http://ipcc.ch/pdf/assessment-report/ar5/syr/AR5_SYR_FINAL_SPM.pdf.

LLG (Linscott, Law & Greenspan) 2017. "Torrey Highlands traffic question." Personal communication between C. Hilgesen and J. Reed and A. Bleier (Dudek). August 8, 2017.

LLG. 2018. *Traffic Impact Analysis: The Preserve at Torrey Highlands*. April 2018.

NREL (National Renewable Energy Laboratory). 2017. *PVWatts Calculator.* Alliance for Sustainable Energy, LLC. Last Updated August 2017. Accessed February 2018. http://pvwatts.nrel.gov/.

SANDAG (San Diego Association of Governments). 2015. *San Diego Forward: The Regional Plan*. October 2015. Accessed July 2017. http://www.sdforward.com/pdfs/RP_final/The%20Plan%20-%20combined.pdf.

Under2 Coalition. 2016. *Global Climate Leadership Memorandum of Understanding (MOU)*. Accessed July 2017. http://under2mou.org/wp-content/uploads/2015/04/Under2-MOU-English.pdf.

APPENDIX A

CalEEMod Output Files

Torrey Highlands

San Diego County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	454.15	1000sqft	10.43	454,148.00	0
Enclosed Parking with Elevator	1,860.00	Space	13.94	607,152.00	0
Other Asphalt Surfaces	0.62	Acre	0.62	27,007.20	0
Parking Lot	71.00	Space	0.73	31,950.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2018
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - modified per project specifics

Construction Phase - construction schedule per applicant

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Trips and VMT - modified

Grading - modified

Architectural Coating - Arch coating based on CalEEMod calc methodolgy

Vehicle Trips - modified

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Area Coating - VOC content per SDAPCD Rule 67.0.1

Energy Use - modified

Construction Off-road Equipment Mitigation - Tier 2 equipment

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tblEnergyUse	LightingElect	0.35	0.88
tblEnergyUse	T24E	4.66	5.69
tblEnergyUse	T24NG	15.99	16.83
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tblLandUse	LandUseSquareFeet	744,000.00	607,152.00
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2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e

Year	tons/yr										MT/yr					
2018	0.5991	6.1048	4.2774	0.0124	0.5029	0.2006	0.7035	0.1716	0.1880	0.3596	0.0000	1,157.4382	1,157.4382	0.1631	0.0000	1,161.5162
2019	4.1511	25.9819	23.1597	0.0634	2.3604	0.8941	3.2545	0.6407	0.8509	1.4916	0.0000	5,788.8792	5,788.8792	0.6962	0.0000	5,806.2829
2020	1.3054	6.2633	6.1721	0.0157	0.5384	0.2362	0.7746	0.1459	0.2256	0.3715	0.0000	1,416.9386	1,416.9386	0.1786	0.0000	1,421.4034
Maximum	**4.1511**	**25.9819**	**23.1597**	**0.0634**	**2.3604**	**0.8941**	**3.2545**	**0.6407**	**0.8509**	**1.4916**	**0.0000**	**5,788.8792**	**5,788.8792**	**0.6962**	**0.0000**	**5,806.2829**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	0.2917	4.2263	4.2632	0.0124	0.4137	0.0479	0.4615	0.1262	0.0470	0.1732	0.0000	1,157.4377	1,157.4377	0.1631	0.0000	1,161.5158
2019	2.7106	19.1999	23.4382	0.0634	2.3604	0.2522	2.6126	0.6407	0.2478	0.8885	0.0000	5,788.8771	5,788.8771	0.6961	0.0000	5,806.2807
2020	0.9261	4.5717	6.3405	0.0157	0.5384	0.0911	0.6295	0.1459	0.0904	0.2363	0.0000	1,416.9379	1,416.9379	0.1786	0.0000	1,421.4028
Maximum	**2.7106**	**19.1999**	**23.4382**	**0.0634**	**2.3604**	**0.2522**	**2.6126**	**0.6407**	**0.2478**	**0.8885**	**0.0000**	**5,788.8771**	**5,788.8771**	**0.6961**	**0.0000**	**5,806.2807**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**35.13**	**26.99**	**-1.29**	**0.00**	**2.62**	**70.61**	**21.74**	**4.74**	**69.53**	**41.60**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
2	**6-8-2018**	**9-7-2018**	0.1377	0.0508
3	**9-8-2018**	**12-7-2018**	4.8228	3.2842
4	**12-8-2018**	**3-7-2019**	6.0575	4.2364
5	**3-8-2019**	**6-7-2019**	6.3874	4.5364
6	**6-8-2019**	**9-7-2019**	8.5345	6.2245
7	**9-8-2019**	**12-7-2019**	8.3173	6.1582
8	**12-8-2019**	**3-7-2020**	6.4527	4.8072
9	**3-8-2020**	**6-7-2020**	2.9490	2.0724
10	**6-8-2020**	**9-7-2020**	0.0807	0.0349
		Highest	8.5345	6.2245

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	9/1/2018	9/8/2018	5	6	
2	Grading	Grading	9/8/2018	10/2/2018	5	17	
3	Utilities	Site Preparation	10/3/2018	12/17/2018	5	55	
4	Building Construction 1	Building Construction	10/3/2018	5/1/2020	5	412	
5	Building Construction 2	Building Construction	11/3/2018	1/1/2020	5	303	
6	Building Construction 3	Building Construction	12/1/2018	5/1/2020	5	369	
7	Sitework	Site Preparation	1/1/2019	7/1/2020	5	390	
8	Architectural Coating 2	Architectural Coating	5/1/2019	4/1/2020	5	240	
9	Parking Structure	Building Construction	6/1/2019	7/3/2019	5	23	
10	Cafe	Building Construction	6/1/2019	2/1/2020	5	176	
11	Architectural Coating 3	Architectural Coating	7/17/2019	5/1/2020	5	207	
12	Architectural Coating 1	Architectural Coating	8/1/2019	3/1/2020	5	153	
13	Landscape	Site Preparation	2/1/2020	7/1/2020	5	107	
14	Paving	Paving	2/1/2020	4/2/2020	5	43	

Acres of Grading (Site Preparation Phase): 10.43

Acres of Grading (Grading Phase): 10.43

Acres of Paving: 15.29

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 180,000; Non-Residential Outdoor: 60,000; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Scrapers	1	8.00	367	0.48
Site Preparation	Tractors/Loaders/Backhoes	3	8.00	97	0.37

Grading	Excavators	0	8.00	158	0.38
Grading	Graders	0	8.00	187	0.41
Grading	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Scrapers	5	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	5	8.00	97	0.37
Utilities	Excavators	1	8.00	158	0.38
Utilities	Rubber Tired Dozers	0	8.00	247	0.40
Utilities	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Building Construction 1	Aerial Lifts	7	8.00	63	0.31
Building Construction 1	Cranes	1	8.00	231	0.29
Building Construction 1	Forklifts	2	8.00	89	0.20
Building Construction 1	Generator Sets	0	8.00	84	0.74
Building Construction 1	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction 1	Welders	5	8.00	46	0.45
Building Construction 2	Aerial Lifts	7	8.00	63	0.31
Building Construction 2	Cranes	1	8.00	231	0.29
Building Construction 2	Forklifts	2	8.00	89	0.20
Building Construction 2	Generator Sets	0	8.00	84	0.74
Building Construction 2	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction 2	Welders	5	8.00	46	0.45
Building Construction 3	Aerial Lifts	7	8.00	63	0.31
Building Construction 3	Cranes	1	8.00	231	0.29
Building Construction 3	Forklifts	2	8.00	89	0.20
Building Construction 3	Generator Sets	0	8.00	84	0.74
Building Construction 3	Tractors/Loaders/Backhoes	6	8.00	97	0.37
Building Construction 3	Welders	5	8.00	46	0.45
Sitework	Air Compressors	2	8.00	78	0.48
Sitework	Rubber Tired Dozers	0	8.00	247	0.40
Sitework	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Architectural Coating 2	Air Compressors	2	8.00	78	0.48
Parking Structure	Air Compressors	4	8.00	78	0.48
Parking Structure	Cranes	1	8.00	231	0.29
Parking Structure	Forklifts	2	8.00	89	0.20
Parking Structure	Generator Sets	0	8.00	84	0.74
Parking Structure	Rubber Tired Dozers	0	8.00	247	0.40
Parking Structure	Scrapers	0	8.00	367	0.48
Parking Structure	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Parking Structure	Welders	1	8.00	46	0.45
Cafe	Cranes	1	8.00	231	0.29
Cafe	Forklifts	1	8.00	89	0.20
Cafe	Generator Sets	0	8.00	84	0.74
Cafe	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Cafe	Welders	0	8.00	46	0.45
Architectural Coating 3	Air Compressors	2	8.00	78	0.48
Architectural Coating 1	Air Compressors	2	8.00	78	0.48
Landscape	Rubber Tired Dozers	0	8.00	247	0.40
Landscape	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Air Compressors	4	8.00	78	0.48
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	0	8.00	80	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	6	15.00	16.00	24.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	12	30.00	16.00	6,468.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Utilities	5	13.00	12.00	110.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction 1	17	425.00	184.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction 2	17	425.00	184.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction 3	21	425.00	184.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Sitework	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating 2	2	85.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Parking Structure	11	425.00	184.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Cafe	3	425.00	184.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

Architectural Coating 3	2	85.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating 1	2	85.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Landscape	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

3.2 Site Preparation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0347	0.0000	0.0347	0.0171	0.0000	0.0171	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0107	0.1180	0.0614	1.0000e-004		5.8500e-003	5.8500e-003		5.3800e-003	5.3800e-003	0.0000	9.4880	9.4880	2.9500e-003	0.0000	9.5618
Total	**0.0107**	**0.1180**	**0.0614**	**1.0000e-004**	**0.0347**	**5.8500e-003**	**0.0406**	**0.0171**	**5.3800e-003**	**0.0224**	**0.0000**	**9.4880**	**9.4880**	**2.9500e-003**	**0.0000**	**9.5618**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	9.0000e-005	3.2500e-003	6.8000e-004	1.0000e-005	2.0000e-004	1.0000e-005	2.1000e-004	5.0000e-005	1.0000e-005	7.0000e-005	0.0000	0.7880	0.7880	7.0000e-005	0.0000	0.7898
Vendor	2.1000e-004	5.3400e-003	1.4700e-003	1.0000e-005	2.7000e-004	4.0000e-005	3.1000e-004	8.0000e-005	4.0000e-005	1.2000e-004	0.0000	1.0706	1.0706	9.0000e-005	0.0000	1.0728
Worker	1.6000e-004	1.3000e-004	1.2200e-003	0.0000	3.0000e-004	0.0000	3.0000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2894	0.2894	1.0000e-005	0.0000	0.2897
Total	**4.6000e-004**	**8.7200e-003**	**3.3700e-003**	**2.0000e-005**	**7.7000e-004**	**5.0000e-005**	**8.2000e-004**	**2.1000e-004**	**5.0000e-005**	**2.7000e-004**	**0.0000**	**2.1481**	**2.1481**	**1.7000e-004**	**0.0000**	**2.1523**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0135	0.0000	0.0135	6.6500e-003	0.0000	6.6500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.2600e-003	0.0395	0.0604	1.0000e-004		1.4900e-003	1.4900e-003		1.4900e-003	1.4900e-003	0.0000	9.4880	9.4880	2.9500e-003	0.0000	9.5618
Total	**2.2600e-003**	**0.0395**	**0.0604**	**1.0000e-004**	**0.0135**	**1.4900e-003**	**0.0150**	**6.6500e-003**	**1.4900e-003**	**8.1400e-003**	**0.0000**	**9.4880**	**9.4880**	**2.9500e-003**	**0.0000**	**9.5618**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	9.0000e-005	3.2500e-003	6.8000e-004	1.0000e-005	2.0000e-004	1.0000e-005	2.1000e-004	5.0000e-005	1.0000e-005	7.0000e-005	0.0000	0.7880	0.7880	7.0000e-005	0.0000	0.7898
Vendor	2.1000e-004	5.3400e-003	1.4700e-003	1.0000e-005	2.7000e-004	4.0000e-005	3.1000e-004	8.0000e-005	4.0000e-005	1.2000e-004	0.0000	1.0706	1.0706	9.0000e-005	0.0000	1.0728
Worker	1.6000e-004	1.3000e-004	1.2200e-003	0.0000	3.0000e-004	0.0000	3.0000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2894	0.2894	1.0000e-005	0.0000	0.2897
Total	**4.6000e-004**	**8.7200e-003**	**3.3700e-003**	**2.0000e-005**	**7.7000e-004**	**5.0000e-005**	**8.2000e-004**	**2.1000e-004**	**5.0000e-005**	**2.7000e-004**	**0.0000**	**2.1481**	**2.1481**	**1.7000e-004**	**0.0000**	**2.1523**

3.3 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Fugitive Dust					0.1115	0.0000	0.1115	0.0574	0.0000	0.0574	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0799	0.9284	0.5472	9.2000e-004		0.0421	0.0421		0.0387	0.0387	0.0000	84.1141	84.1141	0.0262	0.0000	84.7687
Total	**0.0799**	**0.9284**	**0.5472**	**9.2000e-004**	**0.1115**	**0.0421**	**0.1536**	**0.0574**	**0.0387**	**0.0961**	**0.0000**	**84.1141**	**84.1141**	**0.0262**	**0.0000**	**84.7687**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0300	1.0499	0.2191	2.5800e-003	0.0553	4.0900e-003	0.0594	0.0152	3.9100e-003	0.0191	0.0000	254.8499	254.8499	0.0230	0.0000	255.4248
Vendor	7.1000e-004	0.0182	4.9900e-003	4.0000e-005	9.0000e-004	1.4000e-004	1.0400e-003	2.6000e-004	1.4000e-004	4.0000e-004	0.0000	3.6402	3.6402	3.0000e-004	0.0000	3.6477
Worker	1.0900e-003	8.6000e-004	8.2800e-003	2.0000e-005	2.0400e-003	2.0000e-005	2.0600e-003	5.4000e-004	1.0000e-005	5.6000e-004	0.0000	1.9680	1.9680	7.0000e-005	0.0000	1.9697
Total	**0.0318**	**1.0689**	**0.2323**	**2.6400e-003**	**0.0583**	**4.2500e-003**	**0.0625**	**0.0160**	**4.0600e-003**	**0.0201**	**0.0000**	**260.4581**	**260.4581**	**0.0234**	**0.0000**	**261.0422**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0435	0.0000	0.0435	0.0224	0.0000	0.0224	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0210	0.3821	0.5199	9.2000e-004		0.0144	0.0144		0.0144	0.0144	0.0000	84.1140	84.1140	0.0262	0.0000	84.7686
Total	**0.0210**	**0.3821**	**0.5199**	**9.2000e-004**	**0.0435**	**0.0144**	**0.0579**	**0.0224**	**0.0144**	**0.0368**	**0.0000**	**84.1140**	**84.1140**	**0.0262**	**0.0000**	**84.7686**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0300	1.0499	0.2191	2.5800e-003	0.0553	4.0900e-003	0.0594	0.0152	3.9100e-003	0.0191	0.0000	254.8499	254.8499	0.0230	0.0000	255.4248
Vendor	7.1000e-004	0.0182	4.9900e-003	4.0000e-005	9.0000e-004	1.4000e-004	1.0400e-003	2.6000e-004	1.4000e-004	4.0000e-004	0.0000	3.6402	3.6402	3.0000e-004	0.0000	3.6477
Worker	1.0900e-003	8.6000e-004	8.2800e-003	2.0000e-005	2.0400e-003	2.0000e-005	2.0600e-003	5.4000e-004	1.0000e-005	5.6000e-004	0.0000	1.9680	1.9680	7.0000e-005	0.0000	1.9697
Total	**0.0318**	**1.0689**	**0.2323**	**2.6400e-003**	**0.0583**	**4.2500e-003**	**0.0625**	**0.0160**	**4.0600e-003**	**0.0201**	**0.0000**	**260.4581**	**260.4581**	**0.0234**	**0.0000**	**261.0422**

3.4 Utilities - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0366	0.3676	0.3408	4.8000e-004		0.0242	0.0242		0.0222	0.0222	0.0000	43.3712	43.3712	0.0135	0.0000	43.7088
Total	**0.0366**	**0.3676**	**0.3408**	**4.8000e-004**	**0.0000**	**0.0242**	**0.0242**	**0.0000**	**0.0222**	**0.0222**	**0.0000**	**43.3712**	**43.3712**	**0.0135**	**0.0000**	**43.7088**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.0000e-004	0.0175	3.6600e-003	4.0000e-005	9.4000e-004	7.0000e-005	1.0100e-003	2.6000e-004	7.0000e-005	3.2000e-004	0.0000	4.2554	4.2554	3.8000e-004	0.0000	4.2650

Vendor	1.7000e-003	0.0433	0.0119	9.0000e-005	2.1500e-003	3.4000e-004	2.4900e-003	6.2000e-004	3.2000e-004	9.4000e-004	0.0000	8.6722	8.6722	7.1000e-004	0.0000	8.6900
Worker	1.5000e-003	1.1900e-003	0.0114	3.0000e-005	2.8100e-003	2.0000e-005	2.8400e-003	7.5000e-004	2.0000e-005	7.7000e-004	0.0000	2.7089	2.7089	9.0000e-005	0.0000	2.7113
Total	**3.7000e-003**	**0.0620**	**0.0270**	**1.6000e-004**	**5.9000e-003**	**4.3000e-004**	**6.3400e-003**	**1.6300e-003**	**4.1000e-004**	**2.0300e-003**	**0.0000**	**15.6365**	**15.6365**	**1.1800e-003**	**0.0000**	**15.6663**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.5300e-003	0.0841	0.3587	4.8000e-004		3.7500e-003	3.7500e-003		3.7500e-003	3.7500e-003	0.0000	43.3712	43.3712	0.0135	0.0000	43.7087
Total	**7.5300e-003**	**0.0841**	**0.3587**	**4.8000e-004**	**0.0000**	**3.7500e-003**	**3.7500e-003**	**0.0000**	**3.7500e-003**	**3.7500e-003**	**0.0000**	**43.3712**	**43.3712**	**0.0135**	**0.0000**	**43.7087**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.0000e-004	0.0175	3.6600e-003	4.0000e-005	9.4000e-004	7.0000e-005	1.0100e-003	2.6000e-004	7.0000e-005	3.2000e-004	0.0000	4.2554	4.2554	3.8000e-004	0.0000	4.2650
Vendor	1.7000e-003	0.0433	0.0119	9.0000e-005	2.1500e-003	3.4000e-004	2.4900e-003	6.2000e-004	3.2000e-004	9.4000e-004	0.0000	8.6722	8.6722	7.1000e-004	0.0000	8.6900
Worker	1.5000e-003	1.1900e-003	0.0114	3.0000e-005	2.8100e-003	2.0000e-005	2.8400e-003	7.5000e-004	2.0000e-005	7.7000e-004	0.0000	2.7089	2.7089	9.0000e-005	0.0000	2.7113
Total	**3.7000e-003**	**0.0620**	**0.0270**	**1.6000e-004**	**5.9000e-003**	**4.3000e-004**	**6.3400e-003**	**1.6300e-003**	**4.1000e-004**	**2.0300e-003**	**0.0000**	**15.6365**	**15.6365**	**1.1800e-003**	**0.0000**	**15.6663**

3.5 Building Construction 1 - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1268	0.9157	0.8496	1.2700e-003		0.0520	0.0520		0.0493	0.0493	0.0000	108.3896	108.3896	0.0301	0.0000	109.1432
Total	**0.1268**	**0.9157**	**0.8496**	**1.2700e-003**		**0.0520**	**0.0520**		**0.0493**	**0.0493**	**0.0000**	**108.3896**	**108.3896**	**0.0301**	**0.0000**	**109.1432**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0309	0.7860	0.2162	1.6200e-003	0.0391	6.1100e-003	0.0452	0.0113	5.8400e-003	0.0171	0.0000	157.5975	157.5975	0.0130	0.0000	157.9222
Worker	0.0581	0.0460	0.4414	1.1600e-003	0.1091	8.0000e-004	0.1099	0.0290	7.4000e-004	0.0297	0.0000	104.9614	104.9614	3.6200e-003	0.0000	105.0520
Total	**0.0890**	**0.8320**	**0.6576**	**2.7800e-003**	**0.1481**	**6.9100e-003**	**0.1551**	**0.0403**	**6.5800e-003**	**0.0469**	**0.0000**	**262.5589**	**262.5589**	**0.0166**	**0.0000**	**262.9742**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0244	0.4755	0.8475	1.2700e-003		4.9000e-003	4.9000e-003		4.9000e-003	4.9000e-003	0.0000	108.3895	108.3895	0.0301	0.0000	109.1431
Total	**0.0244**	**0.4755**	**0.8475**	**1.2700e-003**		**4.9000e-003**	**4.9000e-003**		**4.9000e-003**	**4.9000e-003**	**0.0000**	**108.3895**	**108.3895**	**0.0301**	**0.0000**	**109.1431**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0309	0.7860	0.2162	1.6200e-003	0.0391	6.1100e-003	0.0452	0.0113	5.8400e-003	0.0171	0.0000	157.5975	157.5975	0.0130	0.0000	157.9222
Worker	0.0581	0.0460	0.4414	1.1600e-003	0.1091	8.0000e-004	0.1099	0.0290	7.4000e-004	0.0297	0.0000	104.9614	104.9614	3.6200e-003	0.0000	105.0520
Total	**0.0890**	**0.8320**	**0.6576**	**2.7800e-003**	**0.1481**	**6.9100e-003**	**0.1551**	**0.0403**	**6.5800e-003**	**0.0469**	**0.0000**	**262.5589**	**262.5589**	**0.0166**	**0.0000**	**262.9742**

3.5 Building Construction 1 - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.4568	3.4485	3.3894	5.1600e-003		0.1831	0.1831		0.1737	0.1737	0.0000	436.8454	436.8454	0.1199	0.0000	439.8426
Total	**0.4568**	**3.4485**	**3.3894**	**5.1600e-003**		**0.1831**	**0.1831**		**0.1737**	**0.1737**	**0.0000**	**436.8454**	**436.8454**	**0.1199**	**0.0000**	**439.8426**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1125	3.0139	0.8097	6.5600e-003	0.1594	0.0209	0.1802	0.0460	0.0200	0.0660	0.0000	637.9459	637.9459	0.0512	0.0000	639.2259
Worker	0.2187	0.1678	1.6228	4.5900e-003	0.4448	3.2500e-003	0.4480	0.1182	2.9900e-003	0.1212	0.0000	415.1349	415.1349	0.0134	0.0000	415.4686
Total	**0.3311**	**3.1817**	**2.4325**	**0.0112**	**0.6041**	**0.0241**	**0.6283**	**0.1642**	**0.0230**	**0.1872**	**0.0000**	**1,053.0808**	**1,053.0808**	**0.0646**	**0.0000**	**1,054.6945**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0997	1.9392	3.4563	5.1600e-003		0.0200	0.0200		0.0200	0.0200	0.0000	436.8449	436.8449	0.1199	0.0000	439.8421
Total	**0.0997**	**1.9392**	**3.4563**	**5.1600e-003**		**0.0200**	**0.0200**		**0.0200**	**0.0200**	**0.0000**	**436.8449**	**436.8449**	**0.1199**	**0.0000**	**439.8421**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1125	3.0139	0.8097	6.5600e-003	0.1594	0.0209	0.1802	0.0460	0.0200	0.0660	0.0000	637.9459	637.9459	0.0512	0.0000	639.2259
Worker	0.2187	0.1678	1.6228	4.5900e-003	0.4448	3.2500e-003	0.4480	0.1182	2.9900e-003	0.1212	0.0000	415.1349	415.1349	0.0134	0.0000	415.4686
Total	**0.3311**	**3.1817**	**2.4325**	**0.0112**	**0.6041**	**0.0241**	**0.6283**	**0.1642**	**0.0230**	**0.1872**	**0.0000**	**1,053.0808**	**1,053.0808**	**0.0646**	**0.0000**	**1,054.6945**

3.5 Building Construction 1 - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1385	1.0806	1.1233	1.7400e-003		0.0535	0.0535		0.0508	0.0508	0.0000	144.9800	144.9800	0.0396	0.0000	145.9705
Total	**0.1385**	**1.0806**	**1.1233**	**1.7400e-003**		**0.0535**	**0.0535**		**0.0508**	**0.0508**	**0.0000**	**144.9800**	**144.9800**	**0.0396**	**0.0000**	**145.9705**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0309	0.9228	0.2452	2.1900e-003	0.0537	4.5000e-003	0.0582	0.0155	4.3100e-003	0.0198	0.0000	213.6222	213.6222	0.0164	0.0000	214.0316
Worker	0.0689	0.0510	0.5004	1.5000e-003	0.1500	1.0800e-003	0.1510	0.0399	9.9000e-004	0.0408	0.0000	135.5517	135.5517	4.0700e-003	0.0000	135.6535
Total	**0.0998**	**0.9739**	**0.7456**	**3.6900e-003**	**0.2037**	**5.5800e-003**	**0.2093**	**0.0554**	**5.3000e-003**	**0.0607**	**0.0000**	**349.1739**	**349.1739**	**0.0204**	**0.0000**	**349.6850**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0336	0.6538	1.1653	1.7400e-003		6.7300e-003	6.7300e-003		6.7300e-003	6.7300e-003	0.0000	144.9798	144.9798	0.0396	0.0000	145.9703
Total	**0.0336**	**0.6538**	**1.1653**	**1.7400e-003**		**6.7300e-003**	**6.7300e-003**		**6.7300e-003**	**6.7300e-003**	**0.0000**	**144.9798**	**144.9798**	**0.0396**	**0.0000**	**145.9703**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0309	0.9228	0.2452	2.1900e-003	0.0537	4.5000e-003	0.0582	0.0155	4.3100e-003	0.0198	0.0000	213.6222	213.6222	0.0164	0.0000	214.0316
Worker	0.0689	0.0510	0.5004	1.5000e-003	0.1500	1.0800e-003	0.1510	0.0399	9.9000e-004	0.0408	0.0000	135.5517	135.5517	4.0700e-003	0.0000	135.6535
Total	**0.0998**	**0.9739**	**0.7456**	**3.6900e-003**	**0.2037**	**5.5800e-003**	**0.2093**	**0.0554**	**5.3000e-003**	**0.0607**	**0.0000**	**349.1739**	**349.1739**	**0.0204**	**0.0000**	**349.6850**

3.6 Building Construction 2 - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0812	0.5866	0.5443	8.1000e-004		0.0333	0.0333		0.0316	0.0316	0.0000	69.4371	69.4371	0.0193	0.0000	69.9199
Total	**0.0812**	**0.5866**	**0.5443**	**8.1000e-004**		**0.0333**	**0.0333**		**0.0316**	**0.0316**	**0.0000**	**69.4371**	**69.4371**	**0.0193**	**0.0000**	**69.9199**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0198	0.5035	0.1385	1.0400e-003	0.0250	3.9100e-003	0.0290	7.2300e-003	3.7400e-003	0.0110	0.0000	100.9609	100.9609	8.3200e-003	0.0000	101.1689
Worker	0.0372	0.0295	0.2828	7.4000e-004	0.0699	5.2000e-004	0.0704	0.0186	4.8000e-004	0.0190	0.0000	67.2409	67.2409	2.3200e-003	0.0000	67.2989
Total	**0.0570**	**0.5330**	**0.4213**	**1.7800e-003**	**0.0949**	**4.4300e-003**	**0.0993**	**0.0258**	**4.2200e-003**	**0.0300**	**0.0000**	**168.2018**	**168.2018**	**0.0106**	**0.0000**	**168.4678**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0157	0.3046	0.5429	8.1000e-004		3.1400e-003	3.1400e-003		3.1400e-003	3.1400e-003	0.0000	69.4370	69.4370	0.0193	0.0000	69.9198
Total	**0.0157**	**0.3046**	**0.5429**	**8.1000e-004**		**3.1400e-003**	**3.1400e-003**		**3.1400e-003**	**3.1400e-003**	**0.0000**	**69.4370**	**69.4370**	**0.0193**	**0.0000**	**69.9198**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0198	0.5035	0.1385	1.0400e-003	0.0250	3.9100e-003	0.0290	7.2300e-003	3.7400e-003	0.0110	0.0000	100.9609	100.9609	8.3200e-003	0.0000	101.1689
Worker	0.0372	0.0295	0.2828	7.4000e-004	0.0699	5.2000e-004	0.0704	0.0186	4.8000e-004	0.0190	0.0000	67.2409	67.2409	2.3200e-003	0.0000	67.2989
Total	**0.0570**	**0.5330**	**0.4213**	**1.7800e-003**	**0.0949**	**4.4300e-003**	**0.0993**	**0.0258**	**4.2200e-003**	**0.0300**	**0.0000**	**168.2018**	**168.2018**	**0.0106**	**0.0000**	**168.4678**

3.6 Building Construction 2 - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.4568	3.4485	3.3894	5.1600e-003		0.1831	0.1831		0.1737	0.1737	0.0000	436.8454	436.8454	0.1199	0.0000	439.8426
Total	**0.4568**	**3.4485**	**3.3894**	**5.1600e-003**		**0.1831**	**0.1831**		**0.1737**	**0.1737**	**0.0000**	**436.8454**	**436.8454**	**0.1199**	**0.0000**	**439.8426**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1125	3.0139	0.8097	6.5600e-003	0.1594	0.0209	0.1802	0.0460	0.0200	0.0660	0.0000	637.9459	637.9459	0.0512	0.0000	639.2259
Worker	0.2187	0.1678	1.6228	4.5900e-003	0.4448	3.2500e-003	0.4480	0.1182	2.9900e-003	0.1212	0.0000	415.1349	415.1349	0.0134	0.0000	415.4686
Total	**0.3311**	**3.1817**	**2.4325**	**0.0112**	**0.6041**	**0.0241**	**0.6283**	**0.1642**	**0.0230**	**0.1872**	**0.0000**	**1,053.0808**	**1,053.0808**	**0.0646**	**0.0000**	**1,054.6945**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0997	1.9392	3.4563	5.1600e-003		0.0200	0.0200		0.0200	0.0200	0.0000	436.8449	436.8449	0.1199	0.0000	439.8421
Total	**0.0997**	**1.9392**	**3.4563**	**5.1600e-003**		**0.0200**	**0.0200**		**0.0200**	**0.0200**	**0.0000**	**436.8449**	**436.8449**	**0.1199**	**0.0000**	**439.8421**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1125	3.0139	0.8097	6.5600e-003	0.1594	0.0209	0.1802	0.0460	0.0200	0.0660	0.0000	637.9459	637.9459	0.0512	0.0000	639.2259
Worker	0.2187	0.1678	1.6228	4.5900e-003	0.4448	3.2500e-003	0.4480	0.1182	2.9900e-003	0.1212	0.0000	415.1349	415.1349	0.0134	0.0000	415.4686
Total	**0.3311**	**3.1817**	**2.4325**	**0.0112**	**0.6041**	**0.0241**	**0.6283**	**0.1642**	**0.0230**	**0.1872**	**0.0000**	**1,053.0808**	**1,053.0808**	**0.0646**	**0.0000**	**1,054.6945**

3.6 Building Construction 2 - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.5700e-003	0.0123	0.0128	2.0000e-005		6.1000e-004	6.1000e-004		5.8000e-004	5.8000e-004	0.0000	1.6475	1.6475	4.5000e-004	0.0000	1.6588
Total	**1.5700e-003**	**0.0123**	**0.0128**	**2.0000e-005**		**6.1000e-004**	**6.1000e-004**		**5.8000e-004**	**5.8000e-004**	**0.0000**	**1.6475**	**1.6475**	**4.5000e-004**	**0.0000**	**1.6588**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.5000e-004	0.0105	2.7900e-003	2.0000e-005	6.1000e-004	5.0000e-005	6.6000e-004	1.8000e-004	5.0000e-005	2.3000e-004	0.0000	2.4275	2.4275	1.9000e-004	0.0000	2.4322
Worker	7.8000e-004	5.8000e-004	5.6900e-003	2.0000e-005	1.7000e-003	1.0000e-005	1.7200e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.5404	1.5404	5.0000e-005	0.0000	1.5415
Total	**1.1300e-003**	**0.0111**	**8.4800e-003**	**4.0000e-005**	**2.3100e-003**	**6.0000e-005**	**2.3800e-003**	**6.3000e-004**	**6.0000e-005**	**6.9000e-004**	**0.0000**	**3.9679**	**3.9679**	**2.4000e-004**	**0.0000**	**3.9737**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.8000e-004	7.4300e-003	0.0132	2.0000e-005		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	1.6475	1.6475	4.5000e-004	0.0000	1.6588
Total	**3.8000e-004**	**7.4300e-003**	**0.0132**	**2.0000e-005**		**8.0000e-005**	**8.0000e-005**		**8.0000e-005**	**8.0000e-005**	**0.0000**	**1.6475**	**1.6475**	**4.5000e-004**	**0.0000**	**1.6588**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.5000e-004	0.0105	2.7900e-003	2.0000e-005	6.1000e-004	5.0000e-005	6.6000e-004	1.8000e-004	5.0000e-005	2.3000e-004	0.0000	2.4275	2.4275	1.9000e-004	0.0000	2.4322
Worker	7.8000e-004	5.8000e-004	5.6900e-003	2.0000e-005	1.7000e-003	1.0000e-005	1.7200e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.5404	1.5404	5.0000e-005	0.0000	1.5415
Total	**1.1300e-003**	**0.0111**	**8.4800e-003**	**4.0000e-005**	**2.3100e-003**	**6.0000e-005**	**2.3800e-003**	**6.3000e-004**	**6.0000e-005**	**6.9000e-004**	**0.0000**	**3.9679**	**3.9679**	**2.4000e-004**	**0.0000**	**3.9737**

3.7 Building Construction 3 - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0528	0.4109	0.3769	5.5000e-004		0.0249	0.0249		0.0234	0.0234	0.0000	47.4827	47.4827	0.0136	0.0000	47.8227
Total	**0.0528**	**0.4109**	**0.3769**	**5.5000e-004**		**0.0249**	**0.0249**		**0.0234**	**0.0234**	**0.0000**	**47.4827**	**47.4827**	**0.0136**	**0.0000**	**47.8227**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0101	0.2579	0.0709	5.3000e-004	0.0128	2.0000e-003	0.0148	3.7000e-003	1.9200e-003	5.6200e-003	0.0000	51.7117	51.7117	4.2600e-003	0.0000	51.8182
Worker	0.0191	0.0151	0.1449	3.8000e-004	0.0358	2.6000e-004	0.0361	9.5100e-003	2.4000e-004	9.7500e-003	0.0000	34.4405	34.4405	1.1900e-003	0.0000	34.4702
Total	**0.0292**	**0.2730**	**0.2158**	**9.1000e-004**	**0.0486**	**2.2600e-003**	**0.0509**	**0.0132**	**2.1600e-003**	**0.0154**	**0.0000**	**86.1522**	**86.1522**	**5.4500e-003**	**0.0000**	**86.2884**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.6200e-003	0.1629	0.3765	5.5000e-004		1.8200e-003	1.8200e-003		1.8200e-003	1.8200e-003	0.0000	47.4826	47.4826	0.0136	0.0000	47.8226
Total	**9.6200e-003**	**0.1629**	**0.3765**	**5.5000e-004**		**1.8200e-003**	**1.8200e-003**		**1.8200e-003**	**1.8200e-003**	**0.0000**	**47.4826**	**47.4826**	**0.0136**	**0.0000**	**47.8226**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0101	0.2579	0.0709	5.3000e-004	0.0128	2.0000e-003	0.0148	3.7000e-003	1.9200e-003	5.6200e-003	0.0000	51.7117	51.7117	4.2600e-003	0.0000	51.8182
Worker	0.0191	0.0151	0.1449	3.8000e-004	0.0358	2.6000e-004	0.0361	9.5100e-003	2.4000e-004	9.7500e-003	0.0000	34.4405	34.4405	1.1900e-003	0.0000	34.4702
Total	**0.0292**	**0.2730**	**0.2158**	**9.1000e-004**	**0.0486**	**2.2600e-003**	**0.0509**	**0.0132**	**2.1600e-003**	**0.0154**	**0.0000**	**86.1522**	**86.1522**	**5.4500e-003**	**0.0000**	**86.2884**

3.7 Building Construction 3 - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Off-Road	0.5783	4.6686	4.5914	6.7900e-003		0.2646	0.2646		0.2486	0.2486	0.0000	582.4820	582.4820	0.1660	0.0000	586.6311
Total	**0.5783**	**4.6686**	**4.5914**	**6.7900e-003**		**0.2646**	**0.2646**		**0.2486**	**0.2486**	**0.0000**	**582.4820**	**582.4820**	**0.1660**	**0.0000**	**586.6311**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1125	3.0139	0.8097	6.5600e-003	0.1594	0.0209	0.1802	0.0460	0.0200	0.0660	0.0000	637.9459	637.9459	0.0512	0.0000	639.2259
Worker	0.2187	0.1678	1.6228	4.5900e-003	0.4448	3.2500e-003	0.4480	0.1182	2.9900e-003	0.1212	0.0000	415.1349	415.1349	0.0134	0.0000	415.4686
Total	**0.3311**	**3.1817**	**2.4325**	**0.0112**	**0.6041**	**0.0241**	**0.6283**	**0.1642**	**0.0230**	**0.1872**	**0.0000**	**1,053.0808**	**1,053.0808**	**0.0646**	**0.0000**	**1,054.6945**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1195	2.0251	4.6788	6.7900e-003		0.0226	0.0226		0.0226	0.0226	0.0000	582.4813	582.4813	0.1660	0.0000	586.6304
Total	**0.1195**	**2.0251**	**4.6788**	**6.7900e-003**		**0.0226**	**0.0226**		**0.0226**	**0.0226**	**0.0000**	**582.4813**	**582.4813**	**0.1660**	**0.0000**	**586.6304**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1125	3.0139	0.8097	6.5600e-003	0.1594	0.0209	0.1802	0.0460	0.0200	0.0660	0.0000	637.9459	637.9459	0.0512	0.0000	639.2259
Worker	0.2187	0.1678	1.6228	4.5900e-003	0.4448	3.2500e-003	0.4480	0.1182	2.9900e-003	0.1212	0.0000	415.1349	415.1349	0.0134	0.0000	415.4686
Total	**0.3311**	**3.1817**	**2.4325**	**0.0112**	**0.6041**	**0.0241**	**0.6283**	**0.1642**	**0.0230**	**0.1872**	**0.0000**	**1,053.0808**	**1,053.0808**	**0.0646**	**0.0000**	**1,054.6945**

3.7 Building Construction 3 - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1754	1.4511	1.5246	2.2900e-003		0.0770	0.0770		0.0723	0.0723	0.0000	193.0021	193.0021	0.0552	0.0000	194.3808
Total	**0.1754**	**1.4511**	**1.5246**	**2.2900e-003**		**0.0770**	**0.0770**		**0.0723**	**0.0723**	**0.0000**	**193.0021**	**193.0021**	**0.0552**	**0.0000**	**194.3808**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Vendor	0.0309	0.9228	0.2452	2.1900e-003	0.0537	4.5000e-003	0.0582	0.0155	4.3100e-003	0.0198	0.0000	213.6222	213.6222	0.0164	0.0000	214.0316
Worker	0.0689	0.0510	0.5004	1.5000e-003	0.1500	1.0800e-003	0.1510	0.0399	9.9000e-004	0.0408	0.0000	135.5517	135.5517	4.0700e-003	0.0000	135.6535
Total	**0.0998**	**0.9739**	**0.7456**	**3.6900e-003**	**0.2037**	**5.5800e-003**	**0.2093**	**0.0554**	**5.3000e-003**	**0.0607**	**0.0000**	**349.1739**	**349.1739**	**0.0204**	**0.0000**	**349.6850**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0403	0.6828	1.5775	2.2900e-003		7.6200e-003	7.6200e-003		7.6200e-003	7.6200e-003	0.0000	193.0018	193.0018	0.0552	0.0000	194.3806
Total	**0.0403**	**0.6828**	**1.5775**	**2.2900e-003**		**7.6200e-003**	**7.6200e-003**		**7.6200e-003**	**7.6200e-003**	**0.0000**	**193.0018**	**193.0018**	**0.0552**	**0.0000**	**194.3806**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0309	0.9228	0.2452	2.1900e-003	0.0537	4.5000e-003	0.0582	0.0155	4.3100e-003	0.0198	0.0000	213.6222	213.6222	0.0164	0.0000	214.0316
Worker	0.0689	0.0510	0.5004	1.5000e-003	0.1500	1.0800e-003	0.1510	0.0399	9.9000e-004	0.0408	0.0000	135.5517	135.5517	4.0700e-003	0.0000	135.6535
Total	**0.0998**	**0.9739**	**0.7456**	**3.6900e-003**	**0.2037**	**5.5800e-003**	**0.2093**	**0.0554**	**5.3000e-003**	**0.0607**	**0.0000**	**349.1739**	**349.1739**	**0.0204**	**0.0000**	**349.6850**

3.8 Sitework - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0927	0.6387	0.6408	1.0300e-003		0.0448	0.0448		0.0448	0.0448	0.0000	88.8532	88.8532	7.5000e-003	0.0000	89.0409
Total	**0.0927**	**0.6387**	**0.6408**	**1.0300e-003**	**0.0000**	**0.0448**	**0.0448**	**0.0000**	**0.0448**	**0.0448**	**0.0000**	**88.8532**	**88.8532**	**7.5000e-003**	**0.0000**	**89.0409**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5700e-003	1.9700e-003	0.0191	5.0000e-005	5.2300e-003	4.0000e-005	5.2700e-003	1.3900e-003	4.0000e-005	1.4300e-003	0.0000	4.8839	4.8839	1.6000e-004	0.0000	4.8879
Total	**2.5700e-003**	**1.9700e-003**	**0.0191**	**5.0000e-005**	**5.2300e-003**	**4.0000e-005**	**5.2700e-003**	**1.3900e-003**	**4.0000e-005**	**1.4300e-003**	**0.0000**	**4.8839**	**4.8839**	**1.6000e-004**	**0.0000**	**4.8879**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0207	0.4722	0.6377	1.0300e-003		0.0331	0.0331		0.0331	0.0331	0.0000	88.8531	88.8531	7.5000e-003	0.0000	89.0407

Total	**0.0207**	**0.4722**	**0.6377**	**1.0300e-003**	**0.0000**	**0.0331**	**0.0331**	**0.0000**	**0.0331**	**0.0331**	**0.0000**	**88.8531**	**88.8531**	**7.5000e-003**	**0.0000**	**89.0407**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5700e-003	1.9700e-003	0.0191	5.0000e-005	5.2300e-003	4.0000e-005	5.2700e-003	1.3900e-003	4.0000e-005	1.4300e-003	0.0000	4.8839	4.8839	1.6000e-004	0.0000	4.8879
Total	**2.5700e-003**	**1.9700e-003**	**0.0191**	**5.0000e-005**	**5.2300e-003**	**4.0000e-005**	**5.2700e-003**	**1.3900e-003**	**4.0000e-005**	**1.4300e-003**	**0.0000**	**4.8839**	**4.8839**	**1.6000e-004**	**0.0000**	**4.8879**

3.8 Sitework - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0423	0.2941	0.3199	5.2000e-004		0.0194	0.0194		0.0194	0.0194	0.0000	44.5968	44.5968	3.4500e-003	0.0000	44.6832
Total	**0.0423**	**0.2941**	**0.3199**	**5.2000e-004**	**0.0000**	**0.0194**	**0.0194**	**0.0000**	**0.0194**	**0.0194**	**0.0000**	**44.5968**	**44.5968**	**3.4500e-003**	**0.0000**	**44.6832**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2100e-003	8.9000e-004	8.7600e-003	3.0000e-005	2.6300e-003	2.0000e-005	2.6500e-003	7.0000e-004	2.0000e-005	7.2000e-004	0.0000	2.3740	2.3740	7.0000e-005	0.0000	2.3758
Total	**1.2100e-003**	**8.9000e-004**	**8.7600e-003**	**3.0000e-005**	**2.6300e-003**	**2.0000e-005**	**2.6500e-003**	**7.0000e-004**	**2.0000e-005**	**7.2000e-004**	**0.0000**	**2.3740**	**2.3740**	**7.0000e-005**	**0.0000**	**2.3758**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0104	0.2370	0.3201	5.2000e-004		0.0166	0.0166		0.0166	0.0166	0.0000	44.5968	44.5968	3.4500e-003	0.0000	44.6831
Total	**0.0104**	**0.2370**	**0.3201**	**5.2000e-004**	**0.0000**	**0.0166**	**0.0166**	**0.0000**	**0.0166**	**0.0166**	**0.0000**	**44.5968**	**44.5968**	**3.4500e-003**	**0.0000**	**44.6831**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2100e-003	8.9000e-004	8.7600e-003	3.0000e-005	2.6300e-003	2.0000e-005	2.6500e-003	7.0000e-004	2.0000e-005	7.2000e-004	0.0000	2.3740	2.3740	7.0000e-005	0.0000	2.3758

Total	**1.2100e-003**	**8.9000e-004**	**8.7600e-003**	**3.0000e-005**	**2.6300e-003**	**2.0000e-005**	**2.6500e-003**	**7.0000e-004**	**2.0000e-005**	**7.2000e-004**	**0.0000**	**2.3740**	**2.3740**	**7.0000e-005**	**0.0000**	**2.3758**

3.9 Architectural Coating 2 - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.2535					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0622	0.4283	0.4296	6.9000e-004		0.0300	0.0300		0.0300	0.0300	0.0000	59.5759	59.5759	5.0300e-003	0.0000	59.7017
Total	**0.3157**	**0.4283**	**0.4296**	**6.9000e-004**		**0.0300**	**0.0300**		**0.0300**	**0.0300**	**0.0000**	**59.5759**	**59.5759**	**5.0300e-003**	**0.0000**	**59.7017**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0293	0.0225	0.2176	6.2000e-004	0.0596	4.4000e-004	0.0601	0.0159	4.0000e-004	0.0163	0.0000	55.6694	55.6694	1.7900e-003	0.0000	55.7142
Total	**0.0293**	**0.0225**	**0.2176**	**6.2000e-004**	**0.0596**	**4.4000e-004**	**0.0601**	**0.0159**	**4.0000e-004**	**0.0163**	**0.0000**	**55.6694**	**55.6694**	**1.7900e-003**	**0.0000**	**55.7142**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.2535					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0139	0.3166	0.4276	6.9000e-004		0.0222	0.0222		0.0222	0.0222	0.0000	59.5759	59.5759	5.0300e-003	0.0000	59.7017
Total	**0.2674**	**0.3166**	**0.4276**	**6.9000e-004**		**0.0222**	**0.0222**		**0.0222**	**0.0222**	**0.0000**	**59.5759**	**59.5759**	**5.0300e-003**	**0.0000**	**59.7017**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0293	0.0225	0.2176	6.2000e-004	0.0596	4.4000e-004	0.0601	0.0159	4.0000e-004	0.0163	0.0000	55.6694	55.6694	1.7900e-003	0.0000	55.7142
Total	**0.0293**	**0.0225**	**0.2176**	**6.2000e-004**	**0.0596**	**4.4000e-004**	**0.0601**	**0.0159**	**4.0000e-004**	**0.0163**	**0.0000**	**55.6694**	**55.6694**	**1.7900e-003**	**0.0000**	**55.7142**

3.9 Architectural Coating 2 - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0956					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0213	0.1482	0.1612	2.6000e-004		9.7600e-003	9.7600e-003		9.7600e-003	9.7600e-003	0.0000	22.4686	22.4686	1.7400e-003	0.0000	22.5121
Total	**0.1169**	**0.1482**	**0.1612**	**2.6000e-004**		**9.7600e-003**	**9.7600e-003**		**9.7600e-003**	**9.7600e-003**	**0.0000**	**22.4686**	**22.4686**	**1.7400e-003**	**0.0000**	**22.5121**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0103	7.6600e-003	0.0751	2.2000e-004	0.0225	1.6000e-004	0.0227	5.9800e-003	1.5000e-004	6.1300e-003	0.0000	20.3328	20.3328	6.1000e-004	0.0000	20.3480
Total	**0.0103**	**7.6600e-003**	**0.0751**	**2.2000e-004**	**0.0225**	**1.6000e-004**	**0.0227**	**5.9800e-003**	**1.5000e-004**	**6.1300e-003**	**0.0000**	**20.3328**	**20.3328**	**6.1000e-004**	**0.0000**	**20.3480**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0956					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.2300e-003	0.1194	0.1613	2.6000e-004		8.3700e-003	8.3700e-003		8.3700e-003	8.3700e-003	0.0000	22.4686	22.4686	1.7400e-003	0.0000	22.5121
Total	**0.1008**	**0.1194**	**0.1613**	**2.6000e-004**		**8.3700e-003**	**8.3700e-003**		**8.3700e-003**	**8.3700e-003**	**0.0000**	**22.4686**	**22.4686**	**1.7400e-003**	**0.0000**	**22.5121**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0103	7.6600e-003	0.0751	2.2000e-004	0.0225	1.6000e-004	0.0227	5.9800e-003	1.5000e-004	6.1300e-003	0.0000	20.3328	20.3328	6.1000e-004	0.0000	20.3480
Total	**0.0103**	**7.6600e-003**	**0.0751**	**2.2000e-004**	**0.0225**	**1.6000e-004**	**0.0227**	**5.9800e-003**	**1.5000e-004**	**6.1300e-003**	**0.0000**	**20.3328**	**20.3328**	**6.1000e-004**	**0.0000**	**20.3480**

3.10 Parking Structure - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0383	0.3138	0.2670	4.2000e-004		0.0199	0.0199		0.0190	0.0190	0.0000	36.5665	36.5665	7.6100e-003	0.0000	36.7568
Total	**0.0383**	**0.3138**	**0.2670**	**4.2000e-004**		**0.0199**	**0.0199**		**0.0190**	**0.0190**	**0.0000**	**36.5665**	**36.5665**	**7.6100e-003**	**0.0000**	**36.7568**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.9100e-003	0.2656	0.0714	5.8000e-004	0.0140	1.8400e-003	0.0159	4.0500e-003	1.7600e-003	5.8100e-003	0.0000	56.2175	56.2175	4.5100e-003	0.0000	56.3303
Worker	0.0193	0.0148	0.1430	4.0000e-004	0.0392	2.9000e-004	0.0395	0.0104	2.6000e-004	0.0107	0.0000	36.5828	36.5828	1.1800e-003	0.0000	36.6122
Total	**0.0292**	**0.2804**	**0.2144**	**9.8000e-004**	**0.0532**	**2.1300e-003**	**0.0554**	**0.0145**	**2.0200e-003**	**0.0165**	**0.0000**	**92.8002**	**92.8002**	**5.6900e-003**	**0.0000**	**92.9424**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	7.5200e-003	0.1339	0.2725	4.2000e-004		7.2900e-003	7.2900e-003		7.2900e-003	7.2900e-003	0.0000	36.5664	36.5664	7.6100e-003	0.0000	36.7568
Total	**7.5200e-003**	**0.1339**	**0.2725**	**4.2000e-004**		**7.2900e-003**	**7.2900e-003**		**7.2900e-003**	**7.2900e-003**	**0.0000**	**36.5664**	**36.5664**	**7.6100e-003**	**0.0000**	**36.7568**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.9100e-003	0.2656	0.0714	5.8000e-004	0.0140	1.8400e-003	0.0159	4.0500e-003	1.7600e-003	5.8100e-003	0.0000	56.2175	56.2175	4.5100e-003	0.0000	56.3303
Worker	0.0193	0.0148	0.1430	4.0000e-004	0.0392	2.9000e-004	0.0395	0.0104	2.6000e-004	0.0107	0.0000	36.5828	36.5828	1.1800e-003	0.0000	36.6122
Total	**0.0292**	**0.2804**	**0.2144**	**9.8000e-004**	**0.0532**	**2.1300e-003**	**0.0554**	**0.0145**	**2.0200e-003**	**0.0165**	**0.0000**	**92.8002**	**92.8002**	**5.6900e-003**	**0.0000**	**92.9424**

3.11 Cafe - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0682	0.7427	0.4400	7.9000e-004		0.0396	0.0396		0.0365	0.0365	0.0000	71.0194	71.0194	0.0225	0.0000	71.5812
Total	**0.0682**	**0.7427**	**0.4400**	**7.9000e-004**		**0.0396**	**0.0396**		**0.0365**	**0.0365**	**0.0000**	**71.0194**	**71.0194**	**0.0225**	**0.0000**	**71.5812**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0655	1.7552	0.4716	3.8200e-003	0.0928	0.0122	0.1050	0.0268	0.0116	0.0384	0.0000	371.5241	371.5241	0.0298	0.0000	372.2695
Worker	0.1273	0.0977	0.9451	2.6800e-003	0.2590	1.8900e-003	0.2609	0.0688	1.7400e-003	0.0706	0.0000	241.7644	241.7644	7.7700e-003	0.0000	241.9587
Total	**0.1929**	**1.8529**	**1.4166**	**6.5000e-003**	**0.3518**	**0.0140**	**0.3659**	**0.0956**	**0.0134**	**0.1090**	**0.0000**	**613.2885**	**613.2885**	**0.0376**	**0.0000**	**614.2282**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0151	0.2270	0.4997	7.9000e-004		8.4800e-003	8.4800e-003		8.4800e-003	8.4800e-003	0.0000	71.0194	71.0194	0.0225	0.0000	71.5811
Total	**0.0151**	**0.2270**	**0.4997**	**7.9000e-004**		**8.4800e-003**	**8.4800e-003**		**8.4800e-003**	**8.4800e-003**	**0.0000**	**71.0194**	**71.0194**	**0.0225**	**0.0000**	**71.5811**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0655	1.7552	0.4716	3.8200e-003	0.0928	0.0122	0.1050	0.0268	0.0116	0.0384	0.0000	371.5241	371.5241	0.0298	0.0000	372.2695
Worker	0.1273	0.0977	0.9451	2.6800e-003	0.2590	1.8900e-003	0.2609	0.0688	1.7400e-003	0.0706	0.0000	241.7644	241.7644	7.7700e-003	0.0000	241.9587
Total	**0.1929**	**1.8529**	**1.4166**	**6.5000e-003**	**0.3518**	**0.0140**	**0.3659**	**0.0956**	**0.0134**	**0.1090**	**0.0000**	**613.2885**	**613.2885**	**0.0376**	**0.0000**	**614.2282**

3.11 Cafe - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.2800e-003	0.1011	0.0641	1.2000e-004		5.2000e-003	5.2000e-003		4.7800e-003	4.7800e-003	0.0000	10.5118	10.5118	3.4000e-003	0.0000	10.5968
Total	**9.2800e-003**	**0.1011**	**0.0641**	**1.2000e-004**		**5.2000e-003**	**5.2000e-003**		**4.7800e-003**	**4.7800e-003**	**0.0000**	**10.5118**	**10.5118**	**3.4000e-003**	**0.0000**	**10.5968**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.0600e-003	0.2412	0.0641	5.7000e-004	0.0140	1.1800e-003	0.0152	4.0500e-003	1.1300e-003	5.1800e-003	0.0000	55.8331	55.8331	4.2800e-003	0.0000	55.9401
Worker	0.0180	0.0133	0.1308	3.9000e-004	0.0392	2.8000e-004	0.0395	0.0104	2.6000e-004	0.0107	0.0000	35.4283	35.4283	1.0600e-003	0.0000	35.4549
Total	**0.0261**	**0.2545**	**0.1949**	**9.6000e-004**	**0.0532**	**1.4600e-003**	**0.0547**	**0.0145**	**1.3900e-003**	**0.0159**	**0.0000**	**91.2614**	**91.2614**	**5.3400e-003**	**0.0000**	**91.3950**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.2800e-003	0.0344	0.0756	1.2000e-004		1.2800e-003	1.2800e-003		1.2800e-003	1.2800e-003	0.0000	10.5118	10.5118	3.4000e-003	0.0000	10.5968
Total	**2.2800e-003**	**0.0344**	**0.0756**	**1.2000e-004**		**1.2800e-003**	**1.2800e-003**		**1.2800e-003**	**1.2800e-003**	**0.0000**	**10.5118**	**10.5118**	**3.4000e-003**	**0.0000**	**10.5968**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.0600e-003	0.2412	0.0641	5.7000e-004	0.0140	1.1800e-003	0.0152	4.0500e-003	1.1300e-003	5.1800e-003	0.0000	55.8331	55.8331	4.2800e-003	0.0000	55.9401
Worker	0.0180	0.0133	0.1308	3.9000e-004	0.0392	2.8000e-004	0.0395	0.0104	2.6000e-004	0.0107	0.0000	35.4283	35.4283	1.0600e-003	0.0000	35.4549
Total	**0.0261**	**0.2545**	**0.1949**	**9.6000e-004**	**0.0532**	**1.4600e-003**	**0.0547**	**0.0145**	**1.3900e-003**	**0.0159**	**0.0000**	**91.2614**	**91.2614**	**5.3400e-003**	**0.0000**	**91.3950**

3.12 Architectural Coating 3 - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.4058					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0426	0.2937	0.2946	4.8000e-004		0.0206	0.0206		0.0206	0.0206	0.0000	40.8521	40.8521	3.4500e-003	0.0000	40.9383
Total	**0.4484**	**0.2937**	**0.2946**	**4.8000e-004**		**0.0206**	**0.0206**		**0.0206**	**0.0206**	**0.0000**	**40.8521**	**40.8521**	**3.4500e-003**	**0.0000**	**40.9383**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0201	0.0154	0.1492	4.2000e-004	0.0409	3.0000e-004	0.0412	0.0109	2.8000e-004	0.0111	0.0000	38.1733	38.1733	1.2300e-003	0.0000	38.2040
Total	**0.0201**	**0.0154**	**0.1492**	**4.2000e-004**	**0.0409**	**3.0000e-004**	**0.0412**	**0.0109**	**2.8000e-004**	**0.0111**	**0.0000**	**38.1733**	**38.1733**	**1.2300e-003**	**0.0000**	**38.2040**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.4058					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.5100e-003	0.2171	0.2932	4.8000e-004		0.0152	0.0152		0.0152	0.0152	0.0000	40.8520	40.8520	3.4500e-003	0.0000	40.9383
Total	**0.4153**	**0.2171**	**0.2932**	**4.8000e-004**		**0.0152**	**0.0152**		**0.0152**	**0.0152**	**0.0000**	**40.8520**	**40.8520**	**3.4500e-003**	**0.0000**	**40.9383**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0201	0.0154	0.1492	4.2000e-004	0.0409	3.0000e-004	0.0412	0.0109	2.8000e-004	0.0111	0.0000	38.1733	38.1733	1.2300e-003	0.0000	38.2040
Total	**0.0201**	**0.0154**	**0.1492**	**4.2000e-004**	**0.0409**	**3.0000e-004**	**0.0412**	**0.0109**	**2.8000e-004**	**0.0111**	**0.0000**	**38.1733**	**38.1733**	**1.2300e-003**	**0.0000**	**38.2040**

3.12 Architectural Coating 3 - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.2976					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0284	0.1976	0.2149	3.5000e-004		0.0130	0.0130		0.0130	0.0130	0.0000	29.9582	29.9582	2.3200e-003	0.0000	30.0162
Total	**0.3260**	**0.1976**	**0.2149**	**3.5000e-004**		**0.0130**	**0.0130**		**0.0130**	**0.0130**	**0.0000**	**29.9582**	**29.9582**	**2.3200e-003**	**0.0000**	**30.0162**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0138	0.0102	0.1001	3.0000e-004	0.0300	2.2000e-004	0.0302	7.9700e-003	2.0000e-004	8.1700e-003	0.0000	27.1103	27.1103	8.1000e-004	0.0000	27.1307
Total	**0.0138**	**0.0102**	**0.1001**	**3.0000e-004**	**0.0300**	**2.2000e-004**	**0.0302**	**7.9700e-003**	**2.0000e-004**	**8.1700e-003**	**0.0000**	**27.1103**	**27.1103**	**8.1000e-004**	**0.0000**	**27.1307**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.2976					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.9700e-003	0.1592	0.2150	3.5000e-004		0.0112	0.0112		0.0112	0.0112	0.0000	29.9581	29.9581	2.3200e-003	0.0000	30.0161
Total	**0.3045**	**0.1592**	**0.2150**	**3.5000e-004**		**0.0112**	**0.0112**		**0.0112**	**0.0112**	**0.0000**	**29.9581**	**29.9581**	**2.3200e-003**	**0.0000**	**30.0161**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0138	0.0102	0.1001	3.0000e-004	0.0300	2.2000e-004	0.0302	7.9700e-003	2.0000e-004	8.1700e-003	0.0000	27.1103	27.1103	8.1000e-004	0.0000	27.1307
Total	**0.0138**	**0.0102**	**0.1001**	**3.0000e-004**	**0.0300**	**2.2000e-004**	**0.0302**	**7.9700e-003**	**2.0000e-004**	**8.1700e-003**	**0.0000**	**27.1103**	**27.1103**	**8.1000e-004**	**0.0000**	**27.1307**

3.13 Architectural Coating 1 - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.3715					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0387	0.2667	0.2676	4.3000e-004		0.0187	0.0187		0.0187	0.0187	0.0000	37.1073	37.1073	3.1300e-003	0.0000	37.1856
Total	**0.4102**	**0.2667**	**0.2676**	**4.3000e-004**		**0.0187**	**0.0187**		**0.0187**	**0.0187**	**0.0000**	**37.1073**	**37.1073**	**3.1300e-003**	**0.0000**	**37.1856**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0183	0.0140	0.1355	3.8000e-004	0.0372	2.7000e-004	0.0374	9.8700e-003	2.5000e-004	0.0101	0.0000	34.6741	34.6741	1.1100e-003	0.0000	34.7020
Total	**0.0183**	**0.0140**	**0.1355**	**3.8000e-004**	**0.0372**	**2.7000e-004**	**0.0374**	**9.8700e-003**	**2.5000e-004**	**0.0101**	**0.0000**	**34.6741**	**34.6741**	**1.1100e-003**	**0.0000**	**34.7020**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Archit. Coating	0.3715					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.6400e-003	0.1972	0.2663	4.3000e-004		0.0138	0.0138		0.0138	0.0138	0.0000	37.1072	37.1072	3.1300e-003	0.0000	37.1856
Total	**0.3801**	**0.1972**	**0.2663**	**4.3000e-004**		**0.0138**	**0.0138**		**0.0138**	**0.0138**	**0.0000**	**37.1072**	**37.1072**	**3.1300e-003**	**0.0000**	**37.1856**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0183	0.0140	0.1355	3.8000e-004	0.0372	2.7000e-004	0.0374	9.8700e-003	2.5000e-004	0.0101	0.0000	34.6741	34.6741	1.1100e-003	0.0000	34.7020
Total	**0.0183**	**0.0140**	**0.1355**	**3.8000e-004**	**0.0372**	**2.7000e-004**	**0.0374**	**9.8700e-003**	**2.5000e-004**	**0.0101**	**0.0000**	**34.6741**	**34.6741**	**1.1100e-003**	**0.0000**	**34.7020**

3.13 Architectural Coating 1 - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.1466					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0139	0.0965	0.1050	1.7000e-004		6.3600e-003	6.3600e-003		6.3600e-003	6.3600e-003	0.0000	14.6387	14.6387	1.1300e-003	0.0000	14.6670
Total	**0.1604**	**0.0965**	**0.1050**	**1.7000e-004**		**6.3600e-003**	**6.3600e-003**		**6.3600e-003**	**6.3600e-003**	**0.0000**	**14.6387**	**14.6387**	**1.1300e-003**	**0.0000**	**14.6670**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.7400e-003	4.9900e-003	0.0489	1.5000e-004	0.0147	1.1000e-004	0.0148	3.8900e-003	1.0000e-004	3.9900e-003	0.0000	13.2471	13.2471	4.0000e-004	0.0000	13.2570
Total	**6.7400e-003**	**4.9900e-003**	**0.0489**	**1.5000e-004**	**0.0147**	**1.1000e-004**	**0.0148**	**3.8900e-003**	**1.0000e-004**	**3.9900e-003**	**0.0000**	**13.2471**	**13.2471**	**4.0000e-004**	**0.0000**	**13.2570**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.1466					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.4100e-003	0.0778	0.1051	1.7000e-004		5.4500e-003	5.4500e-003		5.4500e-003	5.4500e-003	0.0000	14.6386	14.6386	1.1300e-003	0.0000	14.6670
Total	**0.1500**	**0.0778**	**0.1051**	**1.7000e-004**		**5.4500e-003**	**5.4500e-003**		**5.4500e-003**	**5.4500e-003**	**0.0000**	**14.6386**	**14.6386**	**1.1300e-003**	**0.0000**	**14.6670**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.7400e-003	4.9900e-003	0.0489	1.5000e-004	0.0147	1.1000e-004	0.0148	3.8900e-003	1.0000e-004	3.9900e-003	0.0000	13.2471	13.2471	4.0000e-004	0.0000	13.2570
Total	**6.7400e-003**	**4.9900e-003**	**0.0489**	**1.5000e-004**	**0.0147**	**1.1000e-004**	**0.0148**	**3.8900e-003**	**1.0000e-004**	**3.9900e-003**	**0.0000**	**13.2471**	**13.2471**	**4.0000e-004**	**0.0000**	**13.2570**

3.14 Landscape - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0226	0.2274	0.2462	3.4000e-004		0.0144	0.0144		0.0132	0.0132	0.0000	29.4681	29.4681	9.5300e-003	0.0000	29.7064
Total	**0.0226**	**0.2274**	**0.2462**	**3.4000e-004**	**0.0000**	**0.0144**	**0.0144**	**0.0000**	**0.0132**	**0.0132**	**0.0000**	**29.4681**	**29.4681**	**9.5300e-003**	**0.0000**	**29.7064**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-003	7.4000e-004	7.2200e-003	2.0000e-005	2.1700e-003	2.0000e-005	2.1800e-003	5.8000e-004	1.0000e-005	5.9000e-004	0.0000	1.9572	1.9572	6.0000e-005	0.0000	1.9586
Total	**1.0000e-003**	**7.4000e-004**	**7.2200e-003**	**2.0000e-005**	**2.1700e-003**	**2.0000e-005**	**2.1800e-003**	**5.8000e-004**	**1.0000e-005**	**5.9000e-004**	**0.0000**	**1.9572**	**1.9572**	**6.0000e-005**	**0.0000**	**1.9586**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.1000e-003	0.0178	0.2529	3.4000e-004		5.5000e-004	5.5000e-004		5.5000e-004	5.5000e-004	0.0000	29.4681	29.4681	9.5300e-003	0.0000	29.7063
Total	**4.1000e-003**	**0.0178**	**0.2529**	**3.4000e-004**	**0.0000**	**5.5000e-004**	**5.5000e-004**	**0.0000**	**5.5000e-004**	**5.5000e-004**	**0.0000**	**29.4681**	**29.4681**	**9.5300e-003**	**0.0000**	**29.7063**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-003	7.4000e-004	7.2200e-003	2.0000e-005	2.1700e-003	2.0000e-005	2.1800e-003	5.8000e-004	1.0000e-005	5.9000e-004	0.0000	1.9572	1.9572	6.0000e-005	0.0000	1.9586
Total	**1.0000e-003**	**7.4000e-004**	**7.2200e-003**	**2.0000e-005**	**2.1700e-003**	**2.0000e-005**	**2.1800e-003**	**5.8000e-004**	**1.0000e-005**	**5.9000e-004**	**0.0000**	**1.9572**	**1.9572**	**6.0000e-005**	**0.0000**	**1.9586**

3.15 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0491	0.4154	0.4539	7.3000e-004		0.0237	0.0237		0.0229	0.0229	0.0000	63.8789	63.8789	0.0133	0.0000	64.2112
Paving	1.8100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Total	**0.0509**	**0.4154**	**0.4539**	**7.3000e-004**		**0.0237**	**0.0237**		**0.0229**	**0.0229**	**0.0000**	**63.8789**	**63.8789**	**0.0133**	**0.0000**	**64.2112**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6200e-003	1.2000e-003	0.0118	4.0000e-005	3.5300e-003	3.0000e-005	3.5500e-003	9.4000e-004	2.0000e-005	9.6000e-004	0.0000	3.1895	3.1895	1.0000e-004	0.0000	3.1919
Total	**1.6200e-003**	**1.2000e-003**	**0.0118**	**4.0000e-005**	**3.5300e-003**	**3.0000e-005**	**3.5500e-003**	**9.4000e-004**	**2.0000e-005**	**9.6000e-004**	**0.0000**	**3.1895**	**3.1895**	**1.0000e-004**	**0.0000**	**3.1919**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0165	0.3431	0.5082	7.3000e-004		0.0200	0.0200		0.0200	0.0200	0.0000	63.8788	63.8788	0.0133	0.0000	64.2111
Paving	1.8100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0183**	**0.3431**	**0.5082**	**7.3000e-004**		**0.0200**	**0.0200**		**0.0200**	**0.0200**	**0.0000**	**63.8788**	**63.8788**	**0.0133**	**0.0000**	**64.2111**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6200e-003	1.2000e-003	0.0118	4.0000e-005	3.5300e-003	3.0000e-005	3.5500e-003	9.4000e-004	2.0000e-005	9.6000e-004	0.0000	3.1895	3.1895	1.0000e-004	0.0000	3.1919
Total	**1.6200e-003**	**1.2000e-003**	**0.0118**	**4.0000e-005**	**3.5300e-003**	**3.0000e-005**	**3.5500e-003**	**9.4000e-004**	**2.0000e-005**	**9.6000e-004**	**0.0000**	**3.1895**	**3.1895**	**1.0000e-004**	**0.0000**	**3.1919**

Torrey Highlands

San Diego County, Mitigation Report

Construction Mitigation Summary

Phase	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Architectural Coating 1	0.07	0.23	0.00	0.00	0.23	0.23	0.00	0.00	0.00	0.00	0.00	0.00
Architectural Coating 2	0.14	0.23	0.00	0.00	0.23	0.23	0.00	0.00	0.00	0.00	0.00	0.00
Architectural Coating 3	0.07	0.22	0.00	0.00	0.21	0.21	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction 1	0.45	0.23	-0.01	0.00	0.79	0.78	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction 2	0.46	0.23	-0.01	0.00	0.79	0.78	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction 3	0.50	0.33	-0.01	0.00	0.84	0.83	0.00	0.00	0.00	0.00	0.00	0.00
Cafe	0.20	0.20	-0.03	0.00	0.58	0.56	0.00	0.00	0.00	0.00	0.00	0.00
Grading	0.53	0.27	0.03	0.00	0.60	0.57	0.00	0.00	0.00	0.00	0.00	0.00
Landscape	0.78	0.92	-0.03	0.00	0.96	0.96	0.00	0.00	0.00	0.00	0.00	0.00
Parking Structure	0.46	0.30	-0.01	0.00	0.57	0.56	0.00	0.00	0.00	0.00	0.00	0.00
Paving	0.62	0.17	-0.12	0.00	0.16	0.12	0.00	0.00	0.00	0.00	0.00	0.00
Site Preparation	0.76	0.62	0.01	0.00	0.74	0.72	0.00	0.00	0.00	0.00	0.00	0.00
Sitework	0.75	0.24	0.00	0.00	0.23	0.23	0.00	0.00	0.00	0.00	0.00	0.00
Utilities	0.72	0.66	-0.05	0.00	0.83	0.82	0.00	0.00	0.00	0.00	0.00	0.00

OFFROAD Equipment Mitigation

Equipment Type	Fuel Type	Tier	Number Mitigated	Total Number of Equipment	DPF	Oxidation Catalyst
Aerial Lifts	Diesel	Tier 4 Final	21	21	No Change	0.00
Air Compressors	Diesel	Tier 3	16	16	No Change	0.00
Cranes	Diesel	Tier 3	5	5	No Change	0.00
Excavators	Diesel	Tier 3	1	1	No Change	0.00
Forklifts	Diesel	Tier 4 Final	9	9	No Change	0.00
Generator Sets	Diesel	No Change	0	0	No Change	0.00
Graders	Diesel	No Change	0	0	No Change	0.00
Pavers	Diesel	Tier 3	2	2	No Change	0.00
Paving Equipment	Diesel	Tier 3	2	2	No Change	0.00
Rollers	Diesel	No Change	0	0	No Change	0.00
Rubber Tired Dozers	Diesel	Tier 3	4	4	No Change	0.00
Scrapers	Diesel	Tier 3	6	6	No Change	0.00
Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	28	28	No Change	0.00
Welders	Diesel	Tier 4 Final	16	16	No Change	0.00

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	Unmitigated tons/yr						Unmitigated mt/yr					
Aerial Lifts	1.54650E-001	2.57803E+000	4.15371E+000	6.39000E-003	6.33500E-002	5.82800E-002	0.00000E+000	5.72262E+002	5.72262E+002	1.81360E-001	0.00000E+000	5.76796E+002
Air Compressors	3.86910E-001	2.67391E+000	2.76141E+000	4.47000E-003	1.83600E-001	1.83600E-001	0.00000E+000	3.83669E+002	3.83669E+002	3.14100E-002	0.00000E+000	3.84454E+002
Cranes	3.22730E-001	3.84621E+000	1.46878E+000	3.70000E-003	1.62790E-001	1.49770E-001	0.00000E+000	3.32090E+002	3.32090E+002	1.05260E-001	0.00000E+000	3.34721E+002
Excavators	7.81000E-003	8.35900E-002	8.84400E-002	1.40000E-004	4.05000E-003	3.73000E-003	0.00000E+000	1.27267E+001	1.27267E+001	3.96000E-003	0.00000E+000	1.28258E+001
Forklifts	1.90670E-001	1.70274E+000	1.42837E+000	1.83000E-003	1.31650E-001	1.21110E-001	0.00000E+000	1.63970E+002	1.63970E+002	5.19700E-002	0.00000E+000	1.65269E+002
Generator Sets	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Graders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000

Pavers	1.15600E-002	1.23650E-001	1.27520E-001	2.10000E-004	6.01000E-003	5.53000E-003	0.00000E+000	1.81727E+001	1.81727E+001	5.88000E-003	0.00000E+000	1.83196E+001
Paving Equipment	9.13000E-003	9.42200E-002	1.11510E-001	1.80000E-004	4.71000E-003	4.34000E-003	0.00000E+000	1.57480E+001	1.57480E+001	5.09000E-003	0.00000E+000	1.58754E+001
Rollers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Rubber Tired Dozers	2.56500E-002	2.76320E-001	9.62800E-002	1.90000E-004	1.34300E-002	1.23600E-002	0.00000E+000	1.71674E+001	1.71674E+001	5.34000E-003	0.00000E+000	1.73010E+001
Scrapers	5.16100E-002	6.38620E-001	3.95400E-001	6.80000E-004	2.51700E-002	2.31500E-002	0.00000E+000	6.22473E+001	6.22473E+001	1.93800E-002	0.00000E+000	6.27318E+001
Tractors/Loaders/Backhoes	5.15280E-001	5.16052E+000	5.09837E+000	6.88000E-003	3.44510E-001	3.16950E-001	0.00000E+000	6.16345E+002	6.16345E+002	1.95440E-001	0.00000E+000	6.21231E+002
Welders	1.04892E+000	4.42331E+000	4.92582E+000	6.97000E-003	2.70460E-001	2.70460E-001	0.00000E+000	5.13184E+002	5.13184E+002	8.56400E-002	0.00000E+000	5.15324E+002

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	Mitigated tons/yr						Mitigated mt/yr					
Aerial Lifts	1.57110E-001	3.58736E+000	4.84424E+000	6.39000E-003	1.04700E-002	1.04700E-002	0.00000E+000	5.72261E+002	5.72261E+002	1.81360E-001	0.00000E+000	5.76795E+002
Air Compressors	8.93000E-002	2.03908E+000	2.75350E+000	4.47000E-003	1.42880E-001	1.42880E-001	0.00000E+000	3.83668E+002	3.83668E+002	3.14100E-002	0.00000E+000	3.84454E+002
Cranes	9.10200E-002	1.75977E+000	1.97216E+000	3.70000E-003	6.67500E-002	6.67500E-002	0.00000E+000	3.32090E+002	3.32090E+002	1.05260E-001	0.00000E+000	3.34721E+002
Excavators	3.43000E-003	6.63300E-002	1.05790E-001	1.40000E-004	3.20000E-003	3.20000E-003	0.00000E+000	1.27267E+001	1.27267E+001	3.96000E-003	0.00000E+000	1.28257E+001
Forklifts	2.25400E-002	9.76600E-002	1.38982E+000	1.83000E-003	3.01000E-003	3.01000E-003	0.00000E+000	1.63970E+002	1.63970E+002	5.19700E-002	0.00000E+000	1.65269E+002
Generator Sets	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Graders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Pavers	5.08000E-003	9.83000E-002	1.56770E-001	2.10000E-004	4.75000E-003	4.75000E-003	0.00000E+000	1.81727E+001	1.81727E+001	5.88000E-003	0.00000E+000	1.83196E+001
Paving Equipment	4.43000E-003	8.55500E-002	1.36440E-001	1.80000E-004	4.13000E-003	4.13000E-003	0.00000E+000	1.57480E+001	1.57480E+001	5.09000E-003	0.00000E+000	1.58754E+001
Rollers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Rubber Tired Dozers	4.60000E-003	8.89400E-002	9.96700E-002	1.90000E-004	3.37000E-003	3.37000E-003	0.00000E+000	1.71674E+001	1.71674E+001	5.34000E-003	0.00000E+000	1.73010E+001
Scrapers	1.67800E-002	3.24360E-001	3.63510E-001	6.80000E-004	1.23000E-002	1.23000E-002	0.00000E+000	6.22473E+001	6.22473E+001	1.93800E-002	0.00000E+000	6.27317E+001
Tractors/Loaders/Backhoes	8.40900E-002	3.64370E-001	5.18533E+000	6.88000E-003	1.12100E-002	1.12100E-002	0.00000E+000	6.16344E+002	6.16344E+002	1.95440E-001	0.00000E+000	6.21230E+002
Welders	1.19450E-001	2.73736E+000	4.08116E+000	6.97000E-003	7.96000E-003	7.96000E-003	0.00000E+000	5.13183E+002	5.13183E+002	8.56300E-002	0.00000E+000	5.15324E+002

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Percent Reduction												
Aerial Lifts	-1.59069E-002	-3.91512E-001	-1.66244E-001	0.00000E+000	8.34728E-001	8.20350E-001	0.00000E+000	1.18827E-006	1.18827E-006	0.00000E+000	0.00000E+000	1.17893E-006
Air Compressors	7.69197E-001	2.37416E-001	2.86448E-003	0.00000E+000	2.21786E-001	2.21786E-001	0.00000E+000	1.19895E-006	1.19895E-006	0.00000E+000	0.00000E+000	1.19650E-006
Cranes	7.17969E-001	5.42466E-001	-3.42720E-001	0.00000E+000	5.89963E-001	5.54317E-001	0.00000E+000	1.17438E-006	1.17438E-006	0.00000E+000	0.00000E+000	1.19502E-006
Excavators	5.60819E-001	2.06484E-001	-1.96178E-001	0.00000E+000	2.09877E-001	1.42091E-001	0.00000E+000	1.57150E-006	1.57150E-006	0.00000E+000	0.00000E+000	1.55936E-006
Forklifts	8.81785E-001	9.42645E-001	2.69888E-002	0.00000E+000	9.77136E-001	9.75147E-001	0.00000E+000	1.15875E-006	1.15875E-006	0.00000E+000	0.00000E+000	1.21015E-006
Generator Sets	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Graders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Pavers	5.60554E-001	2.05014E-001	-2.29376E-001	0.00000E+000	2.09651E-001	1.41049E-001	0.00000E+000	1.10055E-006	1.10055E-006	0.00000E+000	0.00000E+000	1.63759E-006
Paving Equipment	5.14786E-001	9.20187E-002	-2.23567E-001	0.00000E+000	1.23142E-001	4.83871E-002	0.00000E+000	1.27000E-006	1.27000E-006	0.00000E+000	0.00000E+000	1.25981E-006
Rollers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Rubber Tired Dozers	8.20663E-001	6.78127E-001	-3.52098E-002	0.00000E+000	7.49069E-001	7.27346E-001	0.00000E+000	1.16500E-006	1.16500E-006	0.00000E+000	0.00000E+000	1.15600E-006
Scrapers	6.74869E-001	4.92092E-001	8.06525E-002	0.00000E+000	5.11323E-001	4.68683E-001	0.00000E+000	1.12455E-006	1.12455E-006	0.00000E+000	0.00000E+000	1.11586E-006
Tractors/Loaders/Backhoes	8.36807E-001	9.29393E-001	-1.70564E-002	0.00000E+000	9.67461E-001	9.64632E-001	0.00000E+000	1.18440E-006	1.18440E-006	0.00000E+000	0.00000E+000	1.19118E-006
Welders	8.86121E-001	3.81151E-001	1.71476E-001	0.00000E+000	9.70569E-001	9.70569E-001	0.00000E+000	1.18866E-006	1.18866E-006	1.16768E-004	0.00000E+000	1.18372E-006

Fugitive Dust Mitigation

Yes/No	Mitigation Measure	Mitigation Input		Mitigation Input		Mitigation Input	
No	Soil Stabilizer for unpaved Roads	PM10 Reduction	0.00	PM2.5 Reduction	0.00		
No	Replace Ground Cover of Area Disturbed	PM10 Reduction	0.00	PM2.5 Reduction	0.00		
Yes	Water Exposed Area	PM10 Reduction	61.00	PM2.5 Reduction	61.00	Frequency (per day)	3.00
No	Unpaved Road Mitigation	Moisture Content %	0.00	Vehicle Speed (mph)	0.00		
No	Clean Paved Road	% PM Reduction	0.00				

		Unmitigated		Mitigated		Percent Reduction	
Phase	Source	PM10	PM2.5	PM10	PM2.5	PM10	PM2.5
Architectural Coating 1	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Architectural Coating 1	Roads	0.05	0.01	0.05	0.01	0.00	0.00
Architectural Coating 2	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Architectural Coating 2	Roads	0.08	0.02	0.08	0.02	0.00	0.00
Architectural Coating 3	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Architectural Coating 3	Roads	0.07	0.02	0.07	0.02	0.00	0.00
Building Construction 1	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction 1	Roads	0.96	0.26	0.96	0.26	0.00	0.00
Building Construction 2	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction 2	Roads	0.70	0.19	0.70	0.19	0.00	0.00
Building Construction 3	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction 3	Roads	0.86	0.23	0.86	0.23	0.00	0.00
Cafe	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Cafe	Roads	0.41	0.11	0.41	0.11	0.00	0.00
Grading	Fugitive Dust	0.11	0.06	0.04	0.02	0.61	0.61
Grading	Roads	0.06	0.02	0.06	0.02	0.00	0.00
Landscape	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Landscape	Roads	0.00	0.00	0.00	0.00	0.00	0.00
Parking Structure	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Parking Structure	Roads	0.05	0.01	0.05	0.01	0.00	0.00
Paving	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Paving	Roads	0.00	0.00	0.00	0.00	0.00	0.00
Site Preparation	Fugitive Dust	0.03	0.02	0.01	0.01	0.61	0.61
Site Preparation	Roads	0.00	0.00	0.00	0.00	0.00	0.00

Sitework	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Sitework	Roads	0.01	0.00	0.01	0.00	0.00	0.00
Utilities	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Utilities	Roads	0.01	0.00	0.01	0.00	0.00	0.00

Operational Percent Reduction Summary

Category	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Architectural Coating	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Electricity	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Natural Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Indoor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Outdoor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Operational Mobile Mitigation

Project Setting:

Mitigation Selected	Category	Measure	% Reduction	Input Value 1	Input Value 2	Input Value 3
No	Land Use	Increase Density	0.00			
No	Land Use	Increase Diversity	0.11	0.33		
No	Land Use	Improve Walkability Design	0.00			
No	Land Use	Improve Destination Accessibility	0.00			

No	Land Use	Increase Transit Accessibility	0.25			
No	Land Use	Integrate Below Market Rate Housing	0.00			
	Land Use	Land Use SubTotal	0.00			
No	Neighborhood Enhancements	Improve Pedestrian Network				
No	Neighborhood Enhancements	Provide Traffic Calming Measures				
No	Neighborhood Enhancements	Implement NEV Network	0.00			
	Neighborhood Enhancements	Neighborhood Enhancements Subtotal	0.00			
No	Parking Policy Pricing	Limit Parking Supply	0.00			
No	Parking Policy Pricing	Unbundle Parking Costs	0.00			
No	Parking Policy Pricing	On-street Market Pricing	0.00			
	Parking Policy Pricing	Parking Policy Pricing Subtotal	0.00			
No	Transit Improvements	Provide BRT System	0.00			
No	Transit Improvements	Expand Transit Network	0.00			
No	Transit Improvements	Increase Transit Frequency	0.00			
	Transit Improvements	Transit Improvements Subtotal	0.00			
		Land Use and Site Enhancement Subtotal	0.00			
No	Commute	Implement Trip Reduction Program				
No	Commute	Transit Subsidy				
No	Commute	Implement Employee Parking "Cash Out"				
No	Commute	Workplace Parking Charge				
No	Commute	Encourage Telecommuting and Alternative Work Schedules	0.00			
No	Commute	Market Commute Trip Reduction Option	0.00			
No	Commute	Employee Vanpool/Shuttle	0.00		2.00	

No	Commute	Provide Ride Sharing Program				
	Commute	Commute Subtotal	0.00			
No	School Trip	Implement School Bus Program	0.00			
		Total VMT Reduction	0.00			

Area Mitigation

Measure Implemented	Mitigation Measure	Input Value
No	Only Natural Gas Hearth	
No	No Hearth	
No	Use Low VOC Cleaning Supplies	
No	Use Low VOC Paint (Residential Interior)	250.00
No	Use Low VOC Paint (Residential Exterior)	250.00
No	Use Low VOC Paint (Non-residential Interior)	250.00
No	Use Low VOC Paint (Non-residential Exterior)	250.00
No	Use Low VOC Paint (Parking)	0.00
No	% Electric Lawnmower	
No	% Electric Leafblower	
No	% Electric Chainsaw	

Energy Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
No	Exceed Title 24		
No	Install High Efficiency Lighting		
No	On-site Renewable		

Appliance Type	Land Use Subtype	% Improvement

ClothWasher		30.00
DishWasher		15.00
Fan		50.00
Refrigerator		15.00

Water Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
No	Apply Water Conservation on Strategy		
No	Use Reclaimed Water		
No	Use Grey Water		
No	Install low-flow bathroom faucet	32.00	
No	Install low-flow Kitchen faucet	18.00	
No	Install low-flow Toilet	20.00	
No	Install low-flow Shower	20.00	
No	Turf Reduction		
No	Use Water Efficient Irrigation Systems	6.10	
No	Water Efficient Landscape		

Solid Waste Mitigation

Mitigation Measures	Input Value
Institute Recycling and Composting Services	
Percent Reduction in Waste Disposed	

CalEEMod Version: CalEEMod.2016.3.2

Date: 2/15/2018 2:24 PM

Torrey Highlands - Existing

San Diego County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Elementary School	500.00	Student	0.96	41,801.69	0
Place of Worship	57.40	1000sqft	1.32	57,410.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2020
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	536.36	**CH4 Intensity (lb/MWhr)**	0.022	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - RPS

Land Use - Our Lady of Mount Carmel Traffic Study

Construction Phase - Operational analysis only.

Off-road Equipment - Operational analysis only.

Trips and VMT - Operational analysis only.

Vehicle Trips - Our Lady of Mt Carmel traffic study

Energy Use - RPS

Off-road Equipment - operational only

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Parking	250	0
tblConstructionPhase	NumDays	220.00	1.00
tblLandUse	LandUseSquareFeet	57,400.00	57,410.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.022
tblProjectCharacteristics	CO2IntensityFactor	720.49	536.36
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblTripsAndVMT	VendorTripNumber	16.00	0.00
tblTripsAndVMT	WorkerTripNumber	42.00	0.00
tblVehicleTrips	ST_TR	10.37	5.00
tblVehicleTrips	SU_TR	36.63	20.00
tblVehicleTrips	WD_TR	1.29	4.38
tblVehicleTrips	WD_TR	9.11	5.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.5029	5.0000e-005	5.1500e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	9.9600e-003	9.9600e-003	3.0000e-005	0.0000	0.0106
Energy	4.9100e-003	0.0447	0.0375	2.7000e-004		3.3900e-003	3.3900e-003		3.3900e-003	3.3900e-003	0.0000	217.9788	217.9788	7.8800e-003	2.4700e-003	218.9119
Mobile	0.5806	2.4619	6.3216	0.0195	1.5890	0.0198	1.6088	0.4256	0.0186	0.4441	0.0000	1,791.0082	1,791.0082	0.1020	0.0000	1,793.5587
Waste						0.0000	0.0000		0.0000	0.0000	84.9375	0.0000	84.9375	5.0197	0.0000	210.4291
Water						0.0000	0.0000		0.0000	0.0000	0.9543	25.5468	26.5012	0.0991	2.5500e-003	29.7385
Total	**1.0884**	**2.5066**	**6.3643**	**0.0197**	**1.5890**	**0.0232**	**1.6122**	**0.4256**	**0.0220**	**0.4475**	**85.8918**	**2,034.5439**	**2,120.4357**	**5.2287**	**5.0200e-003**	**2,252.6488**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.5029	5.0000e-005	5.1500e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	9.9600e-003	9.9600e-003	3.0000e-005	0.0000	0.0106
Energy	4.9100e-003	0.0447	0.0375	2.7000e-004		3.3900e-003	3.3900e-003		3.3900e-003	3.3900e-003	0.0000	217.9788	217.9788	7.8800e-003	2.4700e-003	218.9119
Mobile	0.5806	2.4619	6.3216	0.0195	1.5890	0.0198	1.6088	0.4256	0.0186	0.4441	0.0000	1,791.0082	1,791.0082	0.1020	0.0000	1,793.5587
Waste						0.0000	0.0000		0.0000	0.0000	21.2344	0.0000	21.2344	1.2549	0.0000	52.6073
Water						0.0000	0.0000		0.0000	0.0000	0.7635	20.4375	21.2009	0.0793	2.0400e-003	23.7908
Total	**1.0884**	**2.5066**	**6.3643**	**0.0197**	**1.5890**	**0.0232**	**1.6122**	**0.4256**	**0.0220**	**0.4475**	**21.9979**	**2,029.4345**	**2,051.4323**	**1.4441**	**4.5100e-003**	**2,088.8793**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e

Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**74.39**	**0.25**	**3.25**	**72.38**	**10.16**	**7.27**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.5806	2.4619	6.3216	0.0195	1.5890	0.0198	1.6088	0.4256	0.0186	0.4441	0.0000	1,791.0082	1,791.0082	0.1020	0.0000	1,793.5587
Unmitigated	0.5806	2.4619	6.3216	0.0195	1.5890	0.0198	1.6088	0.4256	0.0186	0.4441	0.0000	1,791.0082	1,791.0082	0.1020	0.0000	1,793.5587

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Elementary School	2,190.00	0.00	0.00	3,449,155	3,449,155
Place of Worship	287.00	287.00	1148.00	766,982	766,982
Total	2,477.00	287.00	1,148.00	4,216,136	4,216,136

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Elementary School	9.50	7.30	7.30	65.00	30.00	5.00	63	25	12
Place of Worship	9.50	7.30	7.30	0.00	95.00	5.00	64	25	11

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Elementary School	0.588316	0.042913	0.184449	0.110793	0.017294	0.005558	0.015534	0.023021	0.001902	0.002024	0.006181	0.000745	0.001271
Place of Worship	0.588316	0.042913	0.184449	0.110793	0.017294	0.005558	0.015534	0.023021	0.001902	0.002024	0.006181	0.000745	0.001271

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	169.3577	169.3577	6.9500e-003	1.5800e-003	170.0018
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	169.3577	169.3577	6.9500e-003	1.5800e-003	170.0018
NaturalGas Mitigated	4.9100e-003	0.0447	0.0375	2.7000e-004		3.3900e-003	3.3900e-003		3.3900e-003	3.3900e-003	0.0000	48.6211	48.6211	9.3000e-004	8.9000e-004	48.9101
NaturalGas Unmitigated	4.9100e-003	0.0447	0.0375	2.7000e-004		3.3900e-003	3.3900e-003		3.3900e-003	3.3900e-003	0.0000	48.6211	48.6211	9.3000e-004	8.9000e-004	48.9101

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Elementary School	247466	1.3300e-003	0.0121	0.0102	7.0000e-005		9.2000e-004	9.2000e-004		9.2000e-004	9.2000e-004	0.0000	13.2057	13.2057	2.5000e-004	2.4000e-004	13.2842
Place of Worship	663660	3.5800e-003	0.0325	0.0273	2.0000e-004		2.4700e-003	2.4700e-003		2.4700e-003	2.4700e-003	0.0000	35.4154	35.4154	6.8000e-004	6.5000e-004	35.6259
Total		**4.9100e-003**	**0.0447**	**0.0375**	**2.7000e-004**		**3.3900e-003**	**3.3900e-003**		**3.3900e-003**	**3.3900e-003**	**0.0000**	**48.6211**	**48.6211**	**9.3000e-004**	**8.9000e-004**	**48.9101**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Elementary School	247466	1.3300e-003	0.0121	0.0102	7.0000e-005		9.2000e-004	9.2000e-004		9.2000e-004	9.2000e-004	0.0000	13.2057	13.2057	2.5000e-004	2.4000e-004	13.2842
Place of Worship	663660	3.5800e-003	0.0325	0.0273	2.0000e-004		2.4700e-003	2.4700e-003		2.4700e-003	2.4700e-003	0.0000	35.4154	35.4154	6.8000e-004	6.5000e-004	35.6259

Total		**4.9100e-003**	**0.0447**	**0.0375**	**2.7000e-004**		**3.3900e-003**	**3.3900e-003**		**3.3900e-003**	**3.3900e-003**	**0.0000**	**48.6211**	**48.6211**	**9.3000e-004**	**8.9000e-004**	**48.9101**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Elementary School	219041	53.2902	2.1900e-003	5.0000e-004	53.4929
Place of Worship	477077	116.0675	4.7600e-003	1.0800e-003	116.5090
Total		**169.3577**	**6.9500e-003**	**1.5800e-003**	**170.0018**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Elementary School	219041	53.2902	2.1900e-003	5.0000e-004	53.4929
Place of Worship	477077	116.0675	4.7600e-003	1.0800e-003	116.5090
Total		**169.3577**	**6.9500e-003**	**1.5800e-003**	**170.0018**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.5029	5.0000e-005	5.1500e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	9.9600e-003	9.9600e-003	3.0000e-005	0.0000	0.0106
Unmitigated	0.5029	5.0000e-005	5.1500e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	9.9600e-003	9.9600e-003	3.0000e-005	0.0000	0.0106

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1150					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3875					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.8000e-004	5.0000e-005	5.1500e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	9.9600e-003	9.9600e-003	3.0000e-005	0.0000	0.0106
Total	**0.5029**	**5.0000e-005**	**5.1500e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**9.9600e-003**	**9.9600e-003**	**3.0000e-005**	**0.0000**	**0.0106**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1150					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3875					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.8000e-004	5.0000e-005	5.1500e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	9.9600e-003	9.9600e-003	3.0000e-005	0.0000	0.0106

Total	**0.5029**	**5.0000e-005**	**5.1500e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**9.9600e-003**	**9.9600e-003**	**3.0000e-005**	**0.0000**	**0.0106**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	21.2009	0.0793	2.0400e-003	23.7908
Unmitigated	26.5012	0.0991	2.5500e-003	29.7385

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Elementary School	1.21212 / 3.11688	12.6491	0.0400	1.0500e-003	13.9611
Place of Worship	1.79598 / 2.8091	13.8520	0.0591	1.5100e-003	15.7774
Total		**26.5012**	**0.0991**	**2.5600e-003**	**29.7385**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Elementary School	0.969696 / 2.4935	10.1193	0.0320	8.4000e-004	11.1689

Place of Worship	1.43679 / 2.24728	11.0816	0.0473	1.2000e-003	12.6219
Total		**21.2009**	**0.0793**	**2.0400e-003**	**23.7908**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	21.2344	1.2549	0.0000	52.6073
Unmitigated	84.9375	5.0197	0.0000	210.4291

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Elementary School	91.25	18.5229	1.0947	0.0000	45.8898
Place of Worship	327.18	66.4146	3.9250	0.0000	164.5393
Total		**84.9375**	**5.0197**	**0.0000**	**210.4291**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			

Elementary School	22.8125	4.6307	0.2737	0.0000	11.4724
Place of Worship	81.795	16.6037	0.9813	0.0000	41.1348
Total		**21.2344**	**1.2549**	**0.0000**	**52.6073**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

CalEEMod Version: CalEEMod.2016.3.2

Date: 2/19/2018 12:06 PM

Torrey Highlands - Existing

San Diego County, Mitigation Report

Construction Mitigation Summary

Phase	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Building Construction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

OFFROAD Equipment Mitigation

Equipment Type	Fuel Type	Tier	Number Mitigated	Total Number of Equipment	DPF	Oxidation Catalyst
Cranes	Diesel	No Change	0	0	No Change	0.00
Forklifts	Diesel	No Change	0	0	No Change	0.00
Generator Sets	Diesel	No Change	0	0	No Change	0.00
Tractors/Loaders/Backhoes	Diesel	No Change	0	0	No Change	0.00
Welders	Diesel	No Change	0	0	No Change	0.00

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	Unmitigated tons/yr						Unmitigated mt/yr					
Cranes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Forklifts	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Generator Sets	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Tractors/Loaders/Backhoes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Welders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	Mitigated tons/yr						Mitigated mt/yr					
Cranes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Forklifts	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Generator Sets	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Tractors/Loaders/Backhoes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Welders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	Percent Reduction											
Cranes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Forklifts	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Generator Sets	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Tractors/Loaders/Backhoes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Welders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000

Fugitive Dust Mitigation

Yes/No	Mitigation Measure	Mitigation Input		Mitigation Input		Mitigation Input	
No	Soil Stabilizer for unpaved Roads	PM10 Reduction		PM2.5 Reduction			
No	Replace Ground Cover of Area Disturbed	PM10 Reduction		PM2.5 Reduction			
No	Water Exposed Area	PM10 Reduction		PM2.5 Reduction		Frequency (per day)	
No	Unpaved Road Mitigation	Moisture Content %		Vehicle Speed (mph)			
No	Clean Paved Road	% PM Reduction	0.00				

		Unmitigated		Mitigated		Percent Reduction	
Phase	Source	PM10	PM2.5	PM10	PM2.5	PM10	PM2.5
Building Construction	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction	Roads	0.00	0.00	0.00	0.00	0.00	0.00

Operational Percent Reduction Summary

Category	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Architectural Coating	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Electricity	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Natural Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Indoor	0.00	0.00	0.00	0.00	0.00	0.00	20.00	20.00	20.00	20.01	20.31	20.00
Water Outdoor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Operational Mobile Mitigation

Project Setting:

Mitigation Selected	Category	Measure	% Reduction	Input Value 1	Input Value 2	Input Value 3
No	Land Use	Increase Density	0.00			
No	Land Use	Increase Diversity	-0.01	0.13		
No	Land Use	Improve Walkability Design	0.00			
No	Land Use	Improve Destination Accessibility	0.00			
No	Land Use	Increase Transit Accessibility	0.25			
No	Land Use	Integrate Below Market Rate Housing	0.00			
	Land Use	Land Use SubTotal	0.00			
No	Neighborhood Enhancements	Improve Pedestrian Network				
No	Neighborhood Enhancements	Provide Traffic Calming Measures				
No	Neighborhood Enhancements	Implement NEV Network	0.00			
	Neighborhood Enhancements	Neighborhood Enhancements Subtotal	0.00			
No	Parking Policy Pricing	Limit Parking Supply	0.00			
No	Parking Policy Pricing	Unbundle Parking Costs	0.00			
No	Parking Policy Pricing	On-street Market Pricing	0.00			
	Parking Policy Pricing	Parking Policy Pricing Subtotal	0.00			
No	Transit Improvements	Provide BRT System	0.00			
No	Transit Improvements	Expand Transit Network	0.00			
No	Transit Improvements	Increase Transit Frequency	0.00			
	Transit Improvements	Transit Improvements Subtotal	0.00			
		Land Use and Site Enhancement Subtotal	0.00			
No	Commute	Implement Trip Reduction Program				
No	Commute	Transit Subsidy				
No	Commute	Implement Employee Parking "Cash Out"				
No	Commute	Workplace Parking Charge				
No	Commute	Encourage Telecommuting and Alternative	0.00			
No	Commute	Market Commute Trip Reduction Option	0.00			
No	Commute	Employee Vanpool/Shuttle	0.00		2.00	
No	Commute	Provide Ride Sharing Program				
	Commute	Commute Subtotal	0.00			

No	School Trip	Implement School Bus Program	0.00			
		Total VMT Reduction	0.00			

Area Mitigation

Measure Implemented	Mitigation Measure	Input Value
No	Only Natural Gas Hearth	
No	No Hearth	
No	Use Low VOC Cleaning Supplies	
No	Use Low VOC Paint (Residential Interior)	250.00
No	Use Low VOC Paint (Residential Exterior)	250.00
No	Use Low VOC Paint (Non-residential Interior)	250.00
No	Use Low VOC Paint (Non-residential Exterior)	250.00
No	Use Low VOC Paint (Parking)	0.00
No	% Electric Lawnmower	
No	% Electric Leafblower	
No	% Electric Chainsaw	

Energy Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
No	Exceed Title 24		
No	Install High Efficiency Lighting		
No	On-site Renewable		

Appliance Type	Land Use Subtype	% Improvement
ClothWasher		30.00
DishWasher		15.00
Fan		50.00
Refrigerator		15.00

Water Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
Yes	Apply Water Conservation on Strategy	20.00	20.00
No	Use Reclaimed Water	0.00	0.00
No	Use Grey Water	0.00	
No	Install low-flow bathroom faucet	32.00	
No	Install low-flow Kitchen faucet	18.00	
No	Install low-flow Toilet	20.00	
No	Install low-flow Shower	20.00	
No	Turf Reduction	0.00	
No	Use Water Efficient Irrigation Systems	6.10	
No	Water Efficient Landscape	0.00	0.00

Solid Waste Mitigation

Mitigation Measures	Input Value
Institute Recycling and Composting Services Percent Reduction in Waste Disposed	75.00

CalEEMod Version: CalEEMod.2016.3.2

Date: 2/15/2018 2:38 PM

Torrey Highlands

San Diego County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	454.15	1000sqft	10.43	454,148.00	0
Enclosed Parking with Elevator	1,860.00	Space	13.94	607,152.00	0
Other Asphalt Surfaces	0.62	Acre	0.62	27,007.20	0
Parking Lot	71.00	Space	0.73	31,950.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2020
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	536.36	**CH4 Intensity (lb/MWhr)**	0.022	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - intensity factors per 36.4% RPS

Land Use - modified per project specifics

Construction Phase - construction schedule per applicant

Off-road Equipment - modified

Trips and VMT - modified

Grading - modified

Architectural Coating - Arch coating based on CalEEMod calc methodolgy

Vehicle Trips - modified

Vehicle Emission Factors - factors per ACC program

Area Coating - VOC content per SDAPCD Rule 67.0.1

Energy Use - modified

Water And Wastewater - default water values retained, more conservative than project-specific water use

Construction Off-road Equipment Mitigation - Tier 2 equipment

Area Mitigation - VOC content per SDAPCD Rule 67.0.1

Energy Mitigation - 2013 T24 standards

Water Mitigation - 25% reduction in water use per LEED Silver and EO B-29-15

Waste Mitigation - diversion per AB 341

Table Name	Column Name	Default Value	New Value
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tblArchitecturalCoating	ConstArea_Nonresidential_Interior	681,222.00	270,000.00
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tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00

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tblTripsAndVMT	WorkerTripLength	10.80	25.00
tblTripsAndVMT	WorkerTripLength	10.80	25.00
tblTripsAndVMT	WorkerTripNumber	15.00	20.00
tblTripsAndVMT	WorkerTripNumber	13.00	24.00
tblTripsAndVMT	WorkerTripNumber	30.00	20.00
tblVehicleTrips	ST_TR	2.46	2.37
tblVehicleTrips	SU_TR	1.05	0.98
tblVehicleTrips	WD_TR	11.03	11.59

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.4143	2.0000e-004	0.0221	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.0426	0.0426	1.1000e-004	0.0000	0.0455
Energy	0.0494	0.4495	0.3776	2.7000e-003		0.0342	0.0342		0.0342	0.0342	0.0000	2,842.6002	2,842.6002	0.1059	0.0309	2,854.4585
Mobile	1.2198	5.2868	13.8141	0.0435	3.5820	0.0441	3.6261	0.9593	0.0413	1.0007	0.0000	4,005.9148	4,005.9148	0.2239	0.0000	4,011.5119
Waste						0.0000	0.0000		0.0000	0.0000	85.7353	0.0000	85.7353	5.0668	0.0000	212.4055
Water						0.0000	0.0000		0.0000	0.0000	25.6080	389.4232	415.0312	2.6462	0.0657	500.7743
Total	**3.6836**	**5.7365**	**14.2137**	**0.0462**	**3.5820**	**0.0783**	**3.6603**	**0.9593**	**0.0756**	**1.0349**	**111.3433**	**7,237.9809**	**7,349.3242**	**8.0429**	**0.0966**	**7,579.1956**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.4143	2.0000e-004	0.0221	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.0426	0.0426	1.1000e-004	0.0000	0.0455
Energy	0.0494	0.4495	0.3776	2.7000e-003		0.0342	0.0342		0.0342	0.0342	0.0000	2,842.6002	2,842.6002	0.1059	0.0309	2,854.4585
Mobile	1.2198	5.2868	13.8141	0.0435	3.5820	0.0441	3.6261	0.9593	0.0413	1.0007	0.0000	4,005.9148	4,005.9148	0.2239	0.0000	4,011.5119
Waste						0.0000	0.0000		0.0000	0.0000	21.4338	0.0000	21.4338	1.2667	0.0000	53.1014
Water						0.0000	0.0000		0.0000	0.0000	20.4864	311.5386	332.0250	2.1169	0.0526	400.6194
Total	**3.6836**	**5.7365**	**14.2137**	**0.0462**	**3.5820**	**0.0783**	**3.6603**	**0.9593**	**0.0756**	**1.0349**	**41.9202**	**7,160.0962**	**7,202.0165**	**3.7135**	**0.0835**	**7,319.7366**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e

Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**62.35**	**1.08**	**2.00**	**53.83**	**13.60**	**3.42**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.2198	5.2868	13.8141	0.0435	3.5820	0.0441	3.6261	0.9593	0.0413	1.0007	0.0000	4,005.9148	4,005.9148	0.2239	0.0000	4,011.5119
Unmitigated	1.2198	5.2868	13.8141	0.0435	3.5820	0.0441	3.6261	0.9593	0.0413	1.0007	0.0000	4,005.9148	4,005.9148	0.2239	0.0000	4,011.5119

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
General Office Building	5,263.60	1,076.34	445.07	9,504,182	9,504,182
Other Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	5,263.60	1,076.34	445.07	9,504,182	9,504,182

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking with Elevator	0.588316	0.042913	0.184449	0.110793	0.017294	0.005558	0.015534	0.023021	0.001902	0.002024	0.006181	0.000745	0.001271
General Office Building	0.588316	0.042913	0.184449	0.110793	0.017294	0.005558	0.015534	0.023021	0.001902	0.002024	0.006181	0.000745	0.001271

Other Asphalt Surfaces	0.588316	0.042913	0.184449	0.110793	0.017294	0.005558	0.015534	0.023021	0.001902	0.002024	0.006181	0.000745	0.001271
Parking Lot	0.588316	0.042913	0.184449	0.110793	0.017294	0.005558	0.015534	0.023021	0.001902	0.002024	0.006181	0.000745	0.001271

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	2,353.2942	2,353.2942	0.0965	0.0219	2,362.2448
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	2,353.2942	2,353.2942	0.0965	0.0219	2,362.2448
NaturalGas Mitigated	0.0494	0.4495	0.3776	2.7000e-003		0.0342	0.0342		0.0342	0.0342	0.0000	489.3060	489.3060	9.3800e-003	8.9700e-003	492.2137
NaturalGas Unmitigated	0.0494	0.4495	0.3776	2.7000e-003		0.0342	0.0342		0.0342	0.0342	0.0000	489.3060	489.3060	9.3800e-003	8.9700e-003	492.2137

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	9.16925e+006	0.0494	0.4495	0.3776	2.7000e-003		0.0342	0.0342		0.0342	0.0342	0.0000	489.3060	489.3060	9.3800e-003	8.9700e-003	492.2137
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0494**	**0.4495**	**0.3776**	**2.7000e-003**		**0.0342**	**0.0342**		**0.0342**	**0.0342**	**0.0000**	**489.3060**	**489.3060**	**9.3800e-003**	**8.9700e-003**	**492.2137**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	9.16925e+006	0.0494	0.4495	0.3776	2.7000e-003		0.0342	0.0342		0.0342	0.0342	0.0000	489.3060	489.3060	9.3800e-003	8.9700e-003	492.2137
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0494**	**0.4495**	**0.3776**	**2.7000e-003**		**0.0342**	**0.0342**		**0.0342**	**0.0342**	**0.0000**	**489.3060**	**489.3060**	**9.3800e-003**	**8.9700e-003**	**492.2137**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	3.55791e+006	865.5998	0.0355	8.0700e-003	868.8921
General Office Building	6.10375e+006	1,484.9738	0.0609	0.0138	1,490.6218
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	11182.5	2.7206	1.1000e-004	3.0000e-005	2.7309
Total		**2,353.2942**	**0.0965**	**0.0219**	**2,362.2448**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	3.55791e+006	865.5998	0.0355	8.0700e-003	868.8921
General Office Building	6.10375e+006	1,484.9738	0.0609	0.0138	1,490.6218
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	11182.5	2.7206	1.1000e-004	3.0000e-005	2.7309
Total		**2,353.2942**	**0.0965**	**0.0219**	**2,362.2448**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.4143	2.0000e-004	0.0221	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.0426	0.0426	1.1000e-004	0.0000	0.0455
Unmitigated	2.4143	2.0000e-004	0.0221	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.0426	0.0426	1.1000e-004	0.0000	0.0455

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.5955					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.8167					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.0800e-003	2.0000e-004	0.0221	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.0426	0.0426	1.1000e-004	0.0000	0.0455
Total	**2.4143**	**2.0000e-004**	**0.0221**	**0.0000**		**8.0000e-005**	**8.0000e-005**		**8.0000e-005**	**8.0000e-005**	**0.0000**	**0.0426**	**0.0426**	**1.1000e-004**	**0.0000**	**0.0455**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.5955					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.8167					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.0800e-003	2.0000e-004	0.0221	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.0426	0.0426	1.1000e-004	0.0000	0.0455
Total	**2.4143**	**2.0000e-004**	**0.0221**	**0.0000**		**8.0000e-005**	**8.0000e-005**		**8.0000e-005**	**8.0000e-005**	**0.0000**	**0.0426**	**0.0426**	**1.1000e-004**	**0.0000**	**0.0455**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	332.0250	2.1169	0.0526	400.6194
Unmitigated	415.0312	2.6462	0.0657	500.7743

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	80.7178 / 49.4722	415.0312	2.6462	0.0657	500.7743
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**415.0312**	**2.6462**	**0.0657**	**500.7743**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	64.5742 / 39.5778	332.0250	2.1169	0.0526	400.6194
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000

Total		**332.0250**	**2.1169**	**0.0526**	**400.6194**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	21.4338	1.2667	0.0000	53.1014
Unmitigated	85.7353	5.0668	0.0000	212.4055

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
General Office Building	422.36	85.7353	5.0668	0.0000	212.4055
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**85.7353**	**5.0668**	**0.0000**	**212.4055**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
General Office Building	105.59	21.4338	1.2667	0.0000	53.1014

Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**21.4338**	**1.2667**	**0.0000**	**53.1014**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Torrey Highlands

San Diego County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Health Club	5.00	1000sqft	0.11	5,000.00	0
Fast Food Restaurant w/o Drive Thru	3.80	1000sqft	0.09	3,800.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2018
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	509	**CH4 Intensity (lb/MWhr)**	0.02	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - intensity factors per 36.4% RPS

Land Use - modified per project specifics

Construction Phase - operational only

Off-road Equipment - modified

Off-road Equipment - operational only

Trips and VMT - operational only

Grading - modified

Architectural Coating - operational only

Vehicle Trips - no additonal trips

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Area Coating - Operational only

Energy Use -

Water And Wastewater -

Construction Off-road Equipment Mitigation - Tier 2 equipment

Area Mitigation -

Energy Mitigation - to match project

Water Mitigation - 25% reduction in water use per LEED Silver and EO B-29-15

Waste Mitigation - diversion per AB 341

Table Name	Column Name	Default Value	New Value
tblGrading	AcresOfGrading	0.00	0.50
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.02
tblProjectCharacteristics	CO2IntensityFactor	720.49	509
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.004
tblVehicleTrips	ST_TR	696.00	0.00
tblVehicleTrips	ST_TR	20.87	0.00
tblVehicleTrips	SU_TR	500.00	0.00
tblVehicleTrips	SU_TR	26.73	0.00
tblVehicleTrips	WD_TR	716.00	0.00
tblVehicleTrips	WD_TR	32.93	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2017	0.0000	0.0000	0.0000	0.0000	2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.7000e-004**	**0.0000**	**2.7000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2017	0.0000	0.0000	0.0000	0.0000	1.0000e-004	0.0000	1.0000e-004	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**62.96**	**0.00**	**62.96**	**66.67**	**0.00**	**66.67**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0446	0.0000	8.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.6000e-004	1.6000e-004	0.0000	0.0000	1.7000e-004
Energy	3.8800e-003	0.0353	0.0297	2.1000e-004		2.6800e-003	2.6800e-003		2.6800e-003	2.6800e-003	0.0000	81.9916	81.9916	2.4500e-003	1.0500e-003	82.3649
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	14.6702	0.0000	14.6702	0.8670	0.0000	36.3447
Water						0.0000	0.0000		0.0000	0.0000	0.4598	5.0103	5.4700	0.0474	1.1500e-003	6.9994
Total	**0.0485**	**0.0353**	**0.0298**	**2.1000e-004**	**0.0000**	**2.6800e-003**	**2.6800e-003**	**0.0000**	**2.6800e-003**	**2.6800e-003**	**15.1299**	**87.0021**	**102.1320**	**0.9169**	**2.2000e-003**	**125.7092**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0446	0.0000	8.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.6000e-004	1.6000e-004	0.0000	0.0000	1.7000e-004
Energy	3.8400e-003	0.0349	0.0293	2.1000e-004		2.6500e-003	2.6500e-003		2.6500e-003	2.6500e-003	0.0000	81.1391	81.1391	2.4200e-003	1.0400e-003	81.5084
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	3.6675	0.0000	3.6675	0.2168	0.0000	9.0862
Water						0.0000	0.0000		0.0000	0.0000	0.3448	3.7577	4.1025	0.0356	8.7000e-004	5.2496
Total	**0.0484**	**0.0349**	**0.0294**	**2.1000e-004**	**0.0000**	**2.6500e-003**	**2.6500e-003**	**0.0000**	**2.6500e-003**	**2.6500e-003**	**4.0124**	**84.8969**	**88.9093**	**0.2547**	**1.9100e-003**	**95.8443**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.08**	**1.10**	**1.11**	**0.00**	**0.00**	**1.12**	**1.12**	**0.00**	**1.12**	**1.12**	**73.48**	**2.42**	**12.95**	**72.22**	**13.18**	**23.76**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	7/13/2017	7/13/2017	5	1	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Site Preparation	Graders	0	0.00	187	0.41

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Preparation - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.7000e-004**	**0.0000**	**2.7000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.2 Site Preparation - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.0000e-004	0.0000	1.0000e-004	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Fast Food Restaurant w/o Drive Thru	0.00	0.00	0.00		
Health Club	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Fast Food Restaurant w/o Drive	9.50	7.30	7.30	1.50	79.50	19.00	51	37	12
Health Club	9.50	7.30	7.30	16.90	64.10	19.00	52	39	9

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Fast Food Restaurant w/o Drive Thru	0.574135	0.045525	0.189369	0.116519	0.019283	0.005646	0.014833	0.022073	0.001871	0.002173	0.006385	0.000739	0.001452
Health Club	0.574135	0.045525	0.189369	0.116519	0.019283	0.005646	0.014833	0.022073	0.001871	0.002173	0.006385	0.000739	0.001452

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	43.1151	43.1151	1.6900e-003	3.4000e-004	43.2585
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	43.5460	43.5460	1.7100e-003	3.4000e-004	43.6908
NaturalGas Mitigated	3.8400e-003	0.0349	0.0293	2.1000e-004		2.6500e-003	2.6500e-003		2.6500e-003	2.6500e-003	0.0000	38.0239	38.0239	7.3000e-004	7.0000e-004	38.2499
NaturalGas Unmitigated	3.8800e-003	0.0353	0.0297	2.1000e-004		2.6800e-003	2.6800e-003		2.6800e-003	2.6800e-003	0.0000	38.4456	38.4456	7.4000e-004	7.0000e-004	38.6741

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Fast Food Restaurant w/o Drive Thru	662644	3.5700e-003	0.0325	0.0273	1.9000e-004		2.4700e-003	2.4700e-003		2.4700e-003	2.4700e-003	0.0000	35.3612	35.3612	6.8000e-004	6.5000e-004	35.5713
Health Club	57800	3.1000e-004	2.8300e-003	2.3800e-003	2.0000e-005		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004	0.0000	3.0844	3.0844	6.0000e-005	6.0000e-005	3.1028
Total		**3.8800e-003**	**0.0353**	**0.0297**	**2.1000e-004**		**2.6900e-003**	**2.6900e-003**		**2.6900e-003**	**2.6900e-003**	**0.0000**	**38.4456**	**38.4456**	**7.4000e-004**	**7.1000e-004**	**38.6741**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Fast Food Restaurant w/o Drive Thru	655819	3.5400e-003	0.0322	0.0270	1.9000e-004		2.4400e-003	2.4400e-003		2.4400e-003	2.4400e-003	0.0000	34.9970	34.9970	6.7000e-004	6.4000e-004	35.2050
Health Club	56722.5	3.1000e-004	2.7800e-003	2.3400e-003	2.0000e-005		2.1000e-004	2.1000e-004		2.1000e-004	2.1000e-004	0.0000	3.0269	3.0269	6.0000e-005	6.0000e-005	3.0449
Total		**3.8500e-003**	**0.0349**	**0.0293**	**2.1000e-004**		**2.6500e-003**	**2.6500e-003**		**2.6500e-003**	**2.6500e-003**	**0.0000**	**38.0239**	**38.0239**	**7.3000e-004**	**7.0000e-004**	**38.2499**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Fast Food Restaurant w/o Drive Thru	147060	33.9530	1.3300e-003	2.7000e-004	34.0659
Health Club	41550	9.5930	3.8000e-004	8.0000e-005	9.6249
Total		**43.5460**	**1.7100e-003**	**3.5000e-004**	**43.6908**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Fast Food Restaurant w/o Drive Thru	145496	33.5920	1.3200e-003	2.6000e-004	33.7036
Health Club	41247.5	9.5232	3.7000e-004	7.0000e-005	9.5548
Total		**43.1151**	**1.6900e-003**	**3.3000e-004**	**43.2585**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0446	0.0000	8.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.6000e-004	1.6000e-004	0.0000	0.0000	1.7000e-004
Unmitigated	0.0446	0.0000	8.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.6000e-004	1.6000e-004	0.0000	0.0000	1.7000e-004

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0102					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0344					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-005	0.0000	8.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.6000e-004	1.6000e-004	0.0000	0.0000	1.7000e-004
Total	**0.0446**	**0.0000**	**8.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.6000e-004**	**1.6000e-004**	**0.0000**	**0.0000**	**1.7000e-004**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0102					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0344					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-005	0.0000	8.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.6000e-004	1.6000e-004	0.0000	0.0000	1.7000e-004
Total	**0.0446**	**0.0000**	**8.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.6000e-004**	**1.6000e-004**	**0.0000**	**0.0000**	**1.7000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	4.1025	0.0356	8.7000e-004	5.2496
Unmitigated	5.4700	0.0474	1.1500e-003	6.9994

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Fast Food Restaurant w/o Drive Thru	1.15343 / 0.0736231	4.0223	0.0377	9.2000e-004	5.2385
Health Club	0.295716 / 0.181245	1.4477	9.6900e-003	2.4000e-004	1.7609
Total		**5.4700**	**0.0474**	**1.1600e-003**	**6.9994**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Fast Food Restaurant w/o Drive Thru	0.865071 / 0.0552173	3.0167	0.0283	6.9000e-004	3.9289
Health Club	0.221787 / 0.135934	1.0858	7.2700e-003	1.8000e-004	1.3207
Total		**4.1025**	**0.0356**	**8.7000e-004**	**5.2496**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	3.6675	0.2168	0.0000	9.0862
Unmitigated	14.6702	0.8670	0.0000	36.3447

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Fast Food Restaurant w/o Drive Thru	43.77	8.8849	0.5251	0.0000	22.0120
Health Club	28.5	5.7852	0.3419	0.0000	14.3327
Total		**14.6702**	**0.8670**	**0.0000**	**36.3447**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Fast Food Restaurant w/o Drive Thru	10.9425	2.2212	0.1313	0.0000	5.5030
Health Club	7.125	1.4463	0.0855	0.0000	3.5832
Total		**3.6675**	**0.2167**	**0.0000**	**9.0862**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

CalEEMod Version: CalEEMod.2016.3.2

Date: 4/16/2018 10:04 AM

Torrey Highlands

San Diego County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	454.15	1000sqft	10.43	454,148.00	0
Enclosed Parking with Elevator	1,860.00	Space	13.94	607,152.00	0
Other Asphalt Surfaces	0.62	Acre	0.62	27,007.20	0
Parking Lot	71.00	Space	0.73	31,950.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2020
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	536.36	**CH4 Intensity (lb/MWhr)**	0.022	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - intensity factors per 36.4% RPS

Land Use - modified per project specifics

Vehicle Trips - modified

Vehicle Emission Factors - factors per ACC program

Area Coating - VOC content per SDAPCD Rule 67.0.1

Energy Use - modified

Water And Wastewater - default water values retained, more conservative than project-specific water use

Area Mitigation - VOC content per SDAPCD Rule 67.0.1

Water Mitigation - 25% reduction in water use per LEED Silver and EO B-29-15

Waste Mitigation - diversion per AB 341

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	100
tblAreaCoating	Area_EF_Parking	250	0
tblAreaCoating	Area_Nonresidential_Exterior	227074	544633
tblAreaCoating	Area_Nonresidential_Interior	681222	810000
tblAreaCoating	Area_Parking	39967	0
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	28.00
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstructionPhase	NumDays	20.00	0.00
tblGrading	AcresOfGrading	0.00	11.00
tblLandUse	LandUseSquareFeet	454,150.00	454,148.00
tblLandUse	LandUseSquareFeet	744,000.00	607,152.00
tblLandUse	LandUseSquareFeet	28,400.00	31,950.00
tblLandUse	LotAcreage	16.74	13.94
tblLandUse	LotAcreage	0.64	0.73
tblOffRoadEquipment	HorsePower	247.00	255.00
tblOffRoadEquipment	HorsePower	367.00	361.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.022
tblProjectCharacteristics	CO2IntensityFactor	720.49	536.36
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblTripsAndVMT	VendorTripLength	7.30	25.00
tblTripsAndVMT	WorkerTripLength	10.80	25.00
tblVehicleTrips	ST_TR	2.46	2.37
tblVehicleTrips	SU_TR	1.05	0.98
tblVehicleTrips	WD_TR	11.03	11.59

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.4143	2.0000e-004	0.0221	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.0426	0.0426	1.1000e-004	0.0000	0.0455
Energy	0.0494	0.4495	0.3776	2.7000e-003		0.0342	0.0342		0.0342	0.0342	0.0000	2,842.6002	2,842.6002	0.1059	0.0309	2,854.4585
Mobile	1.2198	5.2868	13.8141	0.0435	3.5820	0.0441	3.6261	0.9593	0.0413	1.0007	0.0000	4,005.9148	4,005.9148	0.2239	0.0000	4,011.5119
Waste						0.0000	0.0000		0.0000	0.0000	85.7353	0.0000	85.7353	5.0668	0.0000	212.4055
Water						0.0000	0.0000		0.0000	0.0000	25.6080	389.4232	415.0312	2.6462	0.0657	500.7743
Total	**3.6836**	**5.7365**	**14.2137**	**0.0462**	**3.5820**	**0.0783**	**3.6603**	**0.9593**	**0.0756**	**1.0349**	**111.3433**	**7,237.9809**	**7,349.3242**	**8.0429**	**0.0966**	**7,579.1956**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.4143	2.0000e-004	0.0221	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.0426	0.0426	1.1000e-004	0.0000	0.0455
Energy	0.0475	0.4317	0.3626	2.5900e-003		0.0328	0.0328		0.0328	0.0328	0.0000	2,615.5481	2,615.5481	0.0970	0.0286	2,626.5013
Mobile	1.2198	5.2868	13.8141	0.0435	3.5820	0.0441	3.6261	0.9593	0.0413	1.0007	0.0000	4,005.9148	4,005.9148	0.2239	0.0000	4,011.5119
Waste						0.0000	0.0000		0.0000	0.0000	21.4338	0.0000	21.4338	1.2667	0.0000	53.1014
Water						0.0000	0.0000		0.0000	0.0000	20.4864	311.5386	332.0250	2.1169	0.0526	400.6194
Total	**3.6816**	**5.7187**	**14.1988**	**0.0461**	**3.5820**	**0.0770**	**3.6590**	**0.9593**	**0.0742**	**1.0336**	**41.9202**	**6,933.0440**	**6,974.9643**	**3.7046**	**0.0812**	**7,091.7794**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e

Percent Reduction	**0.05**	**0.31**	**0.11**	**0.24**	**0.00**	**1.72**	**0.04**	**0.00**	**1.79**	**0.13**	**62.35**	**4.21**	**5.09**	**53.94**	**15.97**	**6.43**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.2198	5.2868	13.8141	0.0435	3.5820	0.0441	3.6261	0.9593	0.0413	1.0007	0.0000	4,005.9148	4,005.9148	0.2239	0.0000	4,011.5119
Unmitigated	1.2198	5.2868	13.8141	0.0435	3.5820	0.0441	3.6261	0.9593	0.0413	1.0007	0.0000	4,005.9148	4,005.9148	0.2239	0.0000	4,011.5119

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
General Office Building	5,263.60	1,076.34	445.07	9,504,182	9,504,182
Other Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	5,263.60	1,076.34	445.07	9,504,182	9,504,182

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking with Elevator	0.588316	0.042913	0.184449	0.110793	0.017294	0.005558	0.015534	0.023021	0.001902	0.002024	0.006181	0.000745	0.001271
General Office Building	0.588316	0.042913	0.184449	0.110793	0.017294	0.005558	0.015534	0.023021	0.001902	0.002024	0.006181	0.000745	0.001271

Other Asphalt Surfaces	0.588316	0.042913	0.184449	0.110793	0.017294	0.005558	0.015534	0.023021	0.001902	0.002024	0.006181	0.000745	0.001271
Parking Lot	0.588316	0.042913	0.184449	0.110793	0.017294	0.005558	0.015534	0.023021	0.001902	0.002024	0.006181	0.000745	0.001271

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Kilowatt Hours of Renewable Electricity Generated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	2,145.6180	2,145.6180	0.0880	0.0200	2,153.7787
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	2,353.2942	2,353.2942	0.0965	0.0219	2,362.2448
NaturalGas Mitigated	0.0475	0.4317	0.3626	2.5900e-003		0.0328	0.0328		0.0328	0.0328	0.0000	469.9301	469.9301	9.0100e-003	8.6200e-003	472.7226
NaturalGas Unmitigated	0.0494	0.4495	0.3776	2.7000e-003		0.0342	0.0342		0.0342	0.0342	0.0000	489.3060	489.3060	9.3800e-003	8.9700e-003	492.2137

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	9.16925e+006	0.0494	0.4495	0.3776	2.7000e-003		0.0342	0.0342		0.0342	0.0342	0.0000	489.3060	489.3060	9.3800e-003	8.9700e-003	492.2137
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0494**	**0.4495**	**0.3776**	**2.7000e-003**		**0.0342**	**0.0342**		**0.0342**	**0.0342**	**0.0000**	**489.3060**	**489.3060**	**9.3800e-003**	**8.9700e-003**	**492.2137**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	8.80616e+006	0.0475	0.4317	0.3626	2.5900e-003		0.0328	0.0328		0.0328	0.0328	0.0000	469.9301	469.9301	9.0100e-003	8.6200e-003	472.7226
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0475**	**0.4317**	**0.3626**	**2.5900e-003**		**0.0328**	**0.0328**		**0.0328**	**0.0328**	**0.0000**	**469.9301**	**469.9301**	**9.0100e-003**	**8.6200e-003**	**472.7226**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	3.55791e+006	865.5998	0.0355	8.0700e-003	868.8921
General Office Building	6.10375e+006	1,484.9738	0.0609	0.0138	1,490.6218
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	11182.5	2.7206	1.1000e-004	3.0000e-005	2.7309
Total		**2,353.2942**	**0.0965**	**0.0219**	**2,362.2448**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	3.28171e+006	798.4029	0.0328	7.4400e-003	801.4396
General Office Building	5.84073e+006	1,420.9847	0.0583	0.0133	1,426.3893
Other Asphalt Surfaces	-157201	-38.2451	-0.0016	-0.0004	-38.3906
Parking Lot	-146018	-35.5245	-0.0015	-0.0003	-35.6597

Total		**2,145.6180**	**0.0880**	**0.0200**	**2,153.7787**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.4143	2.0000e-004	0.0221	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.0426	0.0426	1.1000e-004	0.0000	0.0455
Unmitigated	2.4143	2.0000e-004	0.0221	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.0426	0.0426	1.1000e-004	0.0000	0.0455

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.5955					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.8167					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.0800e-003	2.0000e-004	0.0221	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.0426	0.0426	1.1000e-004	0.0000	0.0455
Total	**2.4143**	**2.0000e-004**	**0.0221**	**0.0000**		**8.0000e-005**	**8.0000e-005**		**8.0000e-005**	**8.0000e-005**	**0.0000**	**0.0426**	**0.0426**	**1.1000e-004**	**0.0000**	**0.0455**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.5955					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.8167					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.0800e-003	2.0000e-004	0.0221	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.0426	0.0426	1.1000e-004	0.0000	0.0455
Total	**2.4143**	**2.0000e-004**	**0.0221**	**0.0000**		**8.0000e-005**	**8.0000e-005**		**8.0000e-005**	**8.0000e-005**	**0.0000**	**0.0426**	**0.0426**	**1.1000e-004**	**0.0000**	**0.0455**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	332.0250	2.1169	0.0526	400.6194
Unmitigated	415.0312	2.6462	0.0657	500.7743

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	80.7178 / 49.4722	415.0312	2.6462	0.0657	500.7743
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**415.0312**	**2.6462**	**0.0657**	**500.7743**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	64.5742 / 39.5778	332.0250	2.1169	0.0526	400.6194
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**332.0250**	**2.1169**	**0.0526**	**400.6194**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	21.4338	1.2667	0.0000	53.1014
Unmitigated	85.7353	5.0668	0.0000	212.4055

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
General Office Building	422.36	85.7353	5.0668	0.0000	212.4055
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**85.7353**	**5.0668**	**0.0000**	**212.4055**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
General Office Building	105.59	21.4338	1.2667	0.0000	53.1014
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**21.4338**	**1.2667**	**0.0000**	**53.1014**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

CalEEMod Version: CalEEMod.2016.3.2

Date: 4/16/2018 10:15 AM

Torrey Highlands

San Diego County, Mitigation Report

Construction Mitigation Summary

Phase	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Site Preparation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

OFFROAD Equipment Mitigation

Equipment Type	Fuel Type	Tier	Number Mitigated	Total Number of Equipment	DPF	Oxidation Catalyst
Rubber Tired Dozers	Diesel	Tier 2	4	0	No Change	0.00
Scrapers	Diesel	Tier 2	6	0	No Change	0.00
Tractors/Loaders/Backhoes	Diesel	Tier 2	28	0	No Change	0.00

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	Unmitigated tons/yr						Unmitigated mt/yr					
Rubber Tired Dozers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Scrapers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Tractors/Loaders/Backhoes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	Mitigated tons/yr						Mitigated mt/yr					
Rubber Tired Dozers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Scrapers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Tractors/Loaders/Backhoes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	Percent Reduction											
Rubber Tired Dozers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Scrapers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000

Tractors/Loaders/Backhoes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000

Fugitive Dust Mitigation

Yes/No	Mitigation Measure	Mitigation Input		Mitigation Input		Mitigation Input	
No	Soil Stabilizer for unpaved Roads	PM10 Reduction	0.00	PM2.5 Reduction	0.00		
No	Replace Ground Cover of Area Disturbed	PM10 Reduction	0.00	PM2.5 Reduction	0.00		
Yes	Water Exposed Area	PM10 Reduction	61.00	PM2.5 Reduction	61.00	Frequency (per day)	3.00
No	Unpaved Road Mitigation	Moisture Content %	0.00	Vehicle Speed (mph)	0.00		
No	Clean Paved Road	% PM Reduction	0.00				

		Unmitigated		Mitigated		Percent Reduction	
Phase	Source	PM10	PM2.5	PM10	PM2.5	PM10	PM2.5
Site Preparation	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Site Preparation	Roads	0.00	0.00	0.00	0.00	0.00	0.00

Operational Percent Reduction Summary

Category	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	Percent Reduction											
Architectural Coating	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Electricity	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.82	8.82	8.83	8.84	8.82
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Natural Gas	3.96	3.96	3.96	4.07	3.95	3.95	0.00	3.96	3.96	3.94	3.90	3.96
Water Indoor	0.00	0.00	0.00	0.00	0.00	0.00	20.00	20.00	20.00	20.00	19.99	20.00
Water Outdoor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Operational Mobile Mitigation

Project Setting:

Mitigation Selected	Category	Measure	% Reduction	Input Value 1	Input Value 2	Input Value 3
No	Land Use	Increase Density	0.00			
No	Land Use	Increase Diversity	0.11	0.33		
No	Land Use	Improve Walkability Design	0.00			
No	Land Use	Improve Destination Accessibility	0.00			
No	Land Use	Increase Transit Accessibility	0.25			
No	Land Use	Integrate Below Market Rate Housing	0.00			
	Land Use	Land Use SubTotal	0.00			
No	Neighborhood Enhancements	Improve Pedestrian Network				
No	Neighborhood Enhancements	Provide Traffic Calming Measures				
No	Neighborhood Enhancements	Implement NEV Network	0.00			
	Neighborhood Enhancements	Neighborhood Enhancements Subtotal	0.00			
No	Parking Policy Pricing	Limit Parking Supply	0.00			
No	Parking Policy Pricing	Unbundle Parking Costs	0.00			
No	Parking Policy Pricing	On-street Market Pricing	0.00			
	Parking Policy Pricing	Parking Policy Pricing Subtotal	0.00			
No	Transit Improvements	Provide BRT System	0.00			
No	Transit Improvements	Expand Transit Network	0.00			
No	Transit Improvements	Increase Transit Frequency	0.00			
	Transit Improvements	Transit Improvements Subtotal	0.00			
		Land Use and Site Enhancement Subtotal	0.00			
No	Commute	Implement Trip Reduction Program				
No	Commute	Transit Subsidy				
No	Commute	Implement Employee Parking "Cash Out"				
No	Commute	Workplace Parking Charge				
No	Commute	Encourage Telecommuting and Alternative Work Schedules	0.00			
No	Commute	Market Commute Trip Reduction Option	0.00			
No	Commute	Employee Vanpool/Shuttle	0.00		2.00	
No	Commute	Provide Ride Sharing Program				
	Commute	Commute Subtotal	0.00			
No	School Trip	Implement School Bus Program	0.00			

		Total VMT Reduction	0.00			

Area Mitigation

Measure Implemented	Mitigation Measure	Input Value
No	Only Natural Gas Hearth	
No	No Hearth	
No	Use Low VOC Cleaning Supplies	
Yes	Use Low VOC Paint (Residential Interior)	250.00
Yes	Use Low VOC Paint (Residential Exterior)	250.00
Yes	Use Low VOC Paint (Non-residential Interior)	250.00
Yes	Use Low VOC Paint (Non-residential Exterior)	100.00
No	Use Low VOC Paint (Parking)	0.00
No	% Electric Lawnmower	0.00
No	% Electric Leafblower	0.00
No	% Electric Chainsaw	0.00

Energy Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
Yes	Exceed Title 24	5.00	
No	Install High Efficiency Lighting	0.00	
Yes	On-site Renewable	628,802.00	0.00

Appliance Type	Land Use Subtype	% Improvement
ClothWasher		30.00
DishWasher		15.00
Fan		50.00
Refrigerator		15.00

Water Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
Yes	Apply Water Conservation on Strategy	20.00	20.00
No	Use Reclaimed Water	0.00	0.00
No	Use Grey Water	0.00	
No	Install low-flow bathroom faucet	32.00	
No	Install low-flow Kitchen faucet	18.00	
No	Install low-flow Toilet	20.00	
No	Install low-flow Shower	20.00	
No	Turf Reduction	0.00	
No	Use Water Efficient Irrigation Systems	6.10	
No	Water Efficient Landscape	0.00	0.00

Solid Waste Mitigation

Mitigation Measures	Input Value
Institute Recycling and Composting Services Percent Reduction in Waste Disposed	75.00

APPENDIX D

Transportation Impact Analysis

LINSCOTT
LAW &
GREENSPAN
engineers

TRANSPORTATION IMPACT ANALYSIS

THE PRESERVE AT TORREY HIGHLANDS

San Diego, California
June 7, 2018

LLG Ref. 3-15-2478

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EXECUTIVE SUMMARY

The Preserve at Torrey Highlands proposes to develop 450,000 SF of commercial office land use with a 3,800 SF ancillary café (for internal site use only) in four (4) main buildings on an 11.10-acre site. The Project site lies within the Torrey Highlands (Subarea IV) Plan and is identified in the Subarea Plan as the proposed Santa Fe Summit IV site consisting of "Commercial Limited" uses. The site is located west of the planned extension of Camino Del Sur, south of State Route 56 in the City of San Diego.

In 2004, the site was approved and entitled to construct a 1,200-seat church/campus with a Kindergarten through eighth grade school; the permit has since expired. The proposed office Project requires a Community Plan Amendment (CPA) which was initiated via an application into the City to redesignate the "Commercial Limited" site to "Employment Center" land use, submitted by Kilroy Realty on September 10, 2013, the former applicant for the site. Per City long-range planning staff, a General Plan Amendment (GPA) initiation is not required as the GPA is included as part of the CPA process. The Project also requires a Rezone from AR-1-1 (agriculture/residential) to IP-3-1 (industrial park) and a Site Development Permit.

Two access intersections are proposed along future Camino Del Sur. The Northerly Project Driveway is proposed in close proximity to the northern site boundary. This signalized access intersection would primarily serve the 62 surface parking spaces (visitor and pick-up/drop-off areas) and approximately 241 subterranean parking spaces under the northern building. This access would be the fourth leg of the Camino Del Sur intersection with Private Drive 'M'; the main access intersection to the adjacent proposed Merge 56 development.

The main access to the Project will be provided via a signalized "tee" intersection on Camino Del Sur connecting to the Southerly Project Driveway. This intersection would serve as the primary Project driveway providing access to/from the seven-story approximately 1,478-space parking structure. A signal warrant analysis for this intersection is provided in this report.

The SANDAG Series 12 Year 2035 traffic model was utilized to obtain a Select Zone Assignment (SZA) for the purposes of estimating trip distribution and ultimately the study area. In total, the study area includes twenty-three (23) intersections, twenty-one (21) street segments, four (4) freeway mainline segments, and four (4) ramp meter locations.

The adjacent Merge 56 mixed-use development project proposed directly east of the Project site is currently under review by the City. The Merge 56 applicant proposes to modify and reconfigure land uses approved for Units 4, 5 and 10 of the original Rhodes Crossings VTM (No. 7938). That project proposes to construct the full width improvements for the future connections of Camino Del Sur and Carmel Mountain Road in their entirety. In addition, the Merge 56 applicant would construct underground utilities (i.e., sewer, water, electrical and storm drains/detention basins) and full-width improvements for Camino Del Sur and Carmel Mountain Road along the frontage of the proposed Project (Camino Del Sur) and Merge 56 property. Onsite, Private Drive 'M' would serve as an east-west spine road for the Merge 56 site connecting Camino Del Sur and Carmel Mountain Road.

Camino Del Sur and Carmel Mountain Road are improvement projects identified in the *Torrey Highlands* and *Rancho Peñasquitos Public Facilities Financing Plans* (PFFP) as 100% subdivider responsibility.

The construction of Camino Del Sur and Carmel Mountain Road are necessary to provide sufficient access to the Project and for economic reasons the applicant cannot construct these roadways in advance of Merge 56. Thus, the applicant would accept a permit condition that would state that *"Prior to the issuance of any building buildings, the Owner/Permittee shall submit documentation that the extensions of Camino Del Sur and Carmel Mountain Road as described in this document have been assured by permit and bond, satisfactory to the City Engineer. Additionally, the connection of Camino Del Sur between Torrey Santa Fe Road and Dormouse Road and the connection of Carmel Mountain Road between Via Las Lenas and Camino Del Sur shall be completed and open to traffic to the satisfaction of the City Engineer prior to the issuance of any occupancy permit."*

Opening Day conditions represent the Year 2020, after the anticipated completion of Merge 56. Camino Del Sur and Carmel Mountain Road would be entirely constructed. Merge 56 and other near-term cumulative development projects are assumed in the Opening Day condition.

Horizon Year conditions represent the Year 2035. The widening of State Route 56 to six lanes and the widening of Black Mountain Road to six lanes from Twin Trails Drive to the Community Plan Boundary are not currently funded or planned to be completed by Year 2035. Thus, they were not assumed in the Year 2035 analysis. It should be noted that the Black Mountain Road segment from Twin Trails Drive to the Community Plan boundary just north of Mercy Road is in the process of being downgraded in the Rancho Peñasquitos Community Plan to maintain its current configuration as a Four-Lane Major Arterial. A Community Plan Amendment (CPA) to the Rancho Peñasquitos Community Plan to downgrade this roadway classification was initiated on February 27, 2014 by Black Mountain Ranch and is expected to go before City Council in 2018, based on information provided by the consultant completing the work.

The results of the capacity analyses for the street system show no direct project impacts, and ten (10) cumulative impacts in either the Torrey Highlands (fully funded) or Rancho Peñasquitos planning areas. Six (6) of the 10 impacted locations have Torrey Highlands Public Facilities Financing Plan (PFFP) projects associated with them. These are related to improvements to SR 56 which are scheduled to occur after the Project is completed. As such, despite payment of Facilities Benefit Assessment (FBA) fees to these improvements, the cumulative impacts will remain significant and unmitigated until the SR 56 improvements occur. Four (4) cumulative impacts occur in the Rancho Peñasquitos planning area, and relate to the proposed downgrade described above. These may be considered "significant and unmitigated" if the planned reclassification of Black Mountain Road from six to four lanes currently under assessment is approved. If the reclassification does not occur, the Project will be responsible to pay a 15.6% fair share towards the unfunded cost of widening Black Mountain Road to six lanes, to the satisfaction of the City Engineer.

Table ES–1, shows a summary of the significant impacts and mitigation measures which were determined in this analysis. Full details on the Project mitigation measures are provided in *Section 15.2* of this report.

TABLE ES–1
ANALYSIS SUMMARY
SIGNIFICANT IMPACTS & MITIGATION MEASURES

Significant Impacts	Impact Type	Mitigation Measures	Mitigated to Below a Level of Significance?
Intersections			
TRA-1. Intersection #6: Camino Del Sur/ SR 56 WB Ramps	Cumulative	TRA-1. Payment of FBA fees to the fully funded Torrey Highlands FBA; Project No. T-1.3. Project No. T-1.3 plans to construct a northbound to westbound loop on-ramp.	No [1]
TRA-2. Intersection #7: Camino Del Sur/ SR 56 EB Ramps	Cumulative	TRA-2. Payment of FBA fees to the fully funded Torrey Highlands FBA; Project No. T-1.3. Project No. T-1.3 plans to construct a southbound to eastbound loop on-ramp.	No [1]
TRA-3. Intersection #17: Black Mountain Road/ SR 56 WB Ramps	Cumulative	TRA-3. Payment of a 12.0% fair share contribution toward the unfunded portion of Rancho Peñasquitos Project No. T-2D (corresponding Black Mountain Ranch Project No. T-57, Pacific Highlands Ranch PFFP Project No. T-11.1) to widen Black Mountain Road and restripe the temporary striping on the Black Mountain Road overpass to provide 3 thru lanes in the northbound direction, to the satisfaction of the City Engineer.	No [2]
TRA-4. Intersection #18: Black Mountain Road/ SR 56 EB Ramps	Cumulative	TRA-4. Payment of a 15.6% fair share contribution toward the unfunded portion of Rancho Peñasquitos Project No. T-2D (corresponding Black Mountain Ranch Project No. T-57, Pacific Highlands Ranch PFFP Project No. T-11.1) to widen Black Mountain Road and restripe the temporary striping on the Black Mountain Road overpass to provide 3 thru lanes in the northbound direction and associated widening north of the interchange, to the satisfaction of the City Engineer.	No [2, 3]

(Continued on Next Page)

TABLE ES–1
ANALYSIS SUMMARY
SIGNIFICANT IMPACTS & MITIGATION MEASURES

Significant Impacts	Impact Type	Mitigation Measures	Mitigated to Below a Level of Significance?
(Continued from Previous Page)			
TRA-5. Intersection #19: Black Mountain Road/ Park Village Road	Cumulative	TRA-5. Payment of a 14.7% fair share contribution toward the unfunded portion of Rancho Peñasquitos Project No. T-2D (corresponding Black Mountain Ranch Project No. T-57, Pacific Highlands Ranch PFFP Project No. T-11.1) to widen Black Mountain Road to its ultimate classification as a Six-Lane Primary Arterial, to the satisfaction of the City Engineer.	No [2]
Street Segments			
TRA-6. Segment #19: Black Mountain Road: SR 56 EB Ramps to Park Village Road	Cumulative	TRA-6. Payment of an 8.7% fair share contribution toward the unfunded portion of Rancho Peñasquitos Project No. T-2D (corresponding Black Mountain Ranch Project No. T-57, Pacific Highlands Ranch PFFP Project No. T-11.1) to widen Black Mountain Road to its ultimate classification as a Six-Lane Primary Arterial, to the satisfaction of the City Engineer.	No [2]
Freeway Mainline Segments			
TRA-7. Mainline #1: SR 56: Carmel Valley Road to Camino Del Sur, eastbound mainlines	Cumulative	TRA-7. Payment of FBA fees to the fully funded Torrey Highlands FBA; Project No. T-1.2B. Project No. T-1.2B plans to expand SR 56 from four to six lanes from Interstate 5 to Interstate 15.	No [1]
TRA-8. Mainline #2: SR 56: Camino Del Sur to Black Mountain Road, eastbound mainlines	Cumulative	TRA-8. Payment of FBA fees to the fully funded Torrey Highlands FBA; Project No. T-1.2B. Project No. T-1.2B plans to expand SR 56 from four to six lanes from Interstate 5 to Interstate 15.	No [1]
(Continued on Next Page)			

TABLE ES–1
ANALYSIS SUMMARY
SIGNIFICANT IMPACTS & MITIGATION MEASURES

Significant Impacts	Impact Type	Mitigation Measures	Mitigated to Below a Level of Significance?
(Continued from Previous Page)			
TRA-9. Mainline #2: SR 56: Camino Del Sur to Black Mountain Road, westbound mainlines	Cumulative	TRA-9. Payment of FBA fees to the fully funded Torrey Highlands FBA; Project No. T-1.2B. Project No. T-1.2B plans to expand SR 56 from four to six lanes from Interstate 5 to Interstate 15.	No [1]

Footnotes:

1. The timing in the SANDAG RTP does not contemplate completion of the SR 56 widening until Year 2040 (after the cumulative impacts occur in Year 2035) and SR 56 is within Caltrans' jurisdiction. Because neither the City nor the applicant can assure the completion of these improvements in a timely manner, the impacts would remain significant and not fully mitigated.
2. A Community Plan Amendment (CPA) to the Rancho Peñasquitos Community Plan to downgrade the classification of Black Mountain Road from six lanes to four was initiated on February 27, 2014 by Black Mountain Ranch and is expected to go before City Council in 2018. Should the CPA be approved, the Project would not be required to make the fair share contribution and this cumulative impact would remain significant and unmitigated.
3. Payment of the highest 15.6% fair share of the unfunded portion of the most recent Fiscal Year 2014 Rancho Peñasquitos PFFP Project No. T-2D would mitigate all impacts TRA-3 through TRA-6. Currently, the unfunded portion of Rancho Peñasquitos PFFP Project No. T-2D is $6,398,439, and 15.6% would be $998,155.

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TRANSPORTATION IMPACT ANALYSIS

THE PRESERVE AT TORREY HIGHLANDS

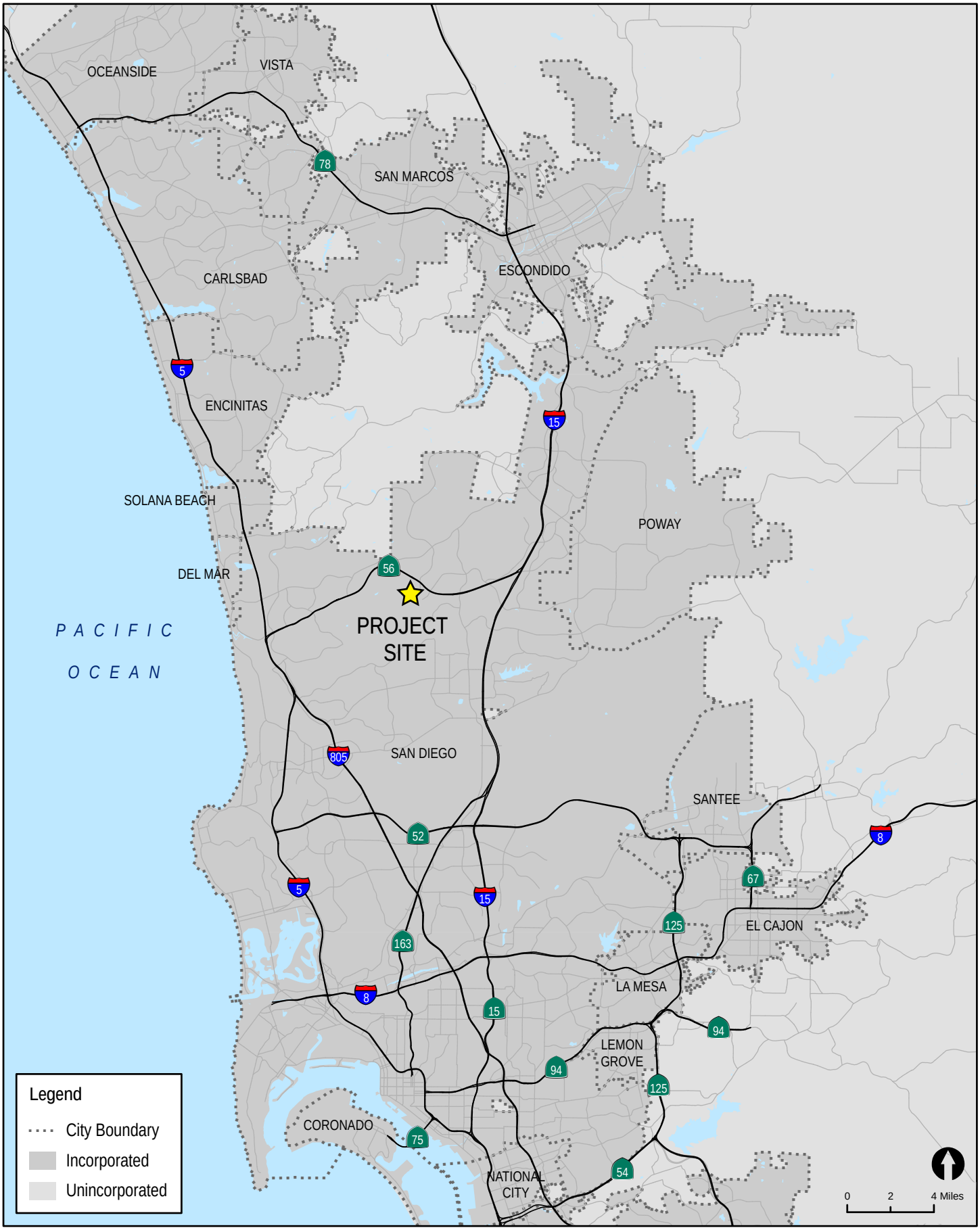
San Diego, California
June 7, 2018

1.0 INTRODUCTION

The following traffic study has been prepared to determine and evaluate the traffic impacts on the local circulation system due to the development of the proposed The Preserve at Torrey Highlands project, hereby referred to as the "Project." The Project consists of 450,000 square feet (SF) of commercial office land use with a 3,800 SF café (for internal site use only) on a 11.10-acre site. The site is located west of the planned extension of Camino Del Sur, south of State Route 56 in the City of San Diego. ***Figure 1–1*** shows the Project vicinity, and ***Figure 1–2*** is a more detailed Project area map.

The traffic analysis presented in this report includes the following:

- Project Description
- Existing Conditions Discussion
- Study Area, Analysis Approach & Methodology
- Significance Criteria
- Analysis of Existing Conditions
- Opening Day (Year 2020) Conditions Discussion
- Trip Generation, Distribution & Assignment
- Analysis of Opening Day Scenarios
- Year 2035 Conditions Discussion
- Analysis of Year 2035 Scenarios
- Access Assessment
- Site Circulation & Other Modes
- Parking Discussion
- Transportation Demand Management
- Significance of Impacts & Mitigation Measures



LINSCOTT LAW & GREENSPAN engineers

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Figure 1-1

Vicinity Map

THE PRESERVE AT TORREY HIGHLANDS

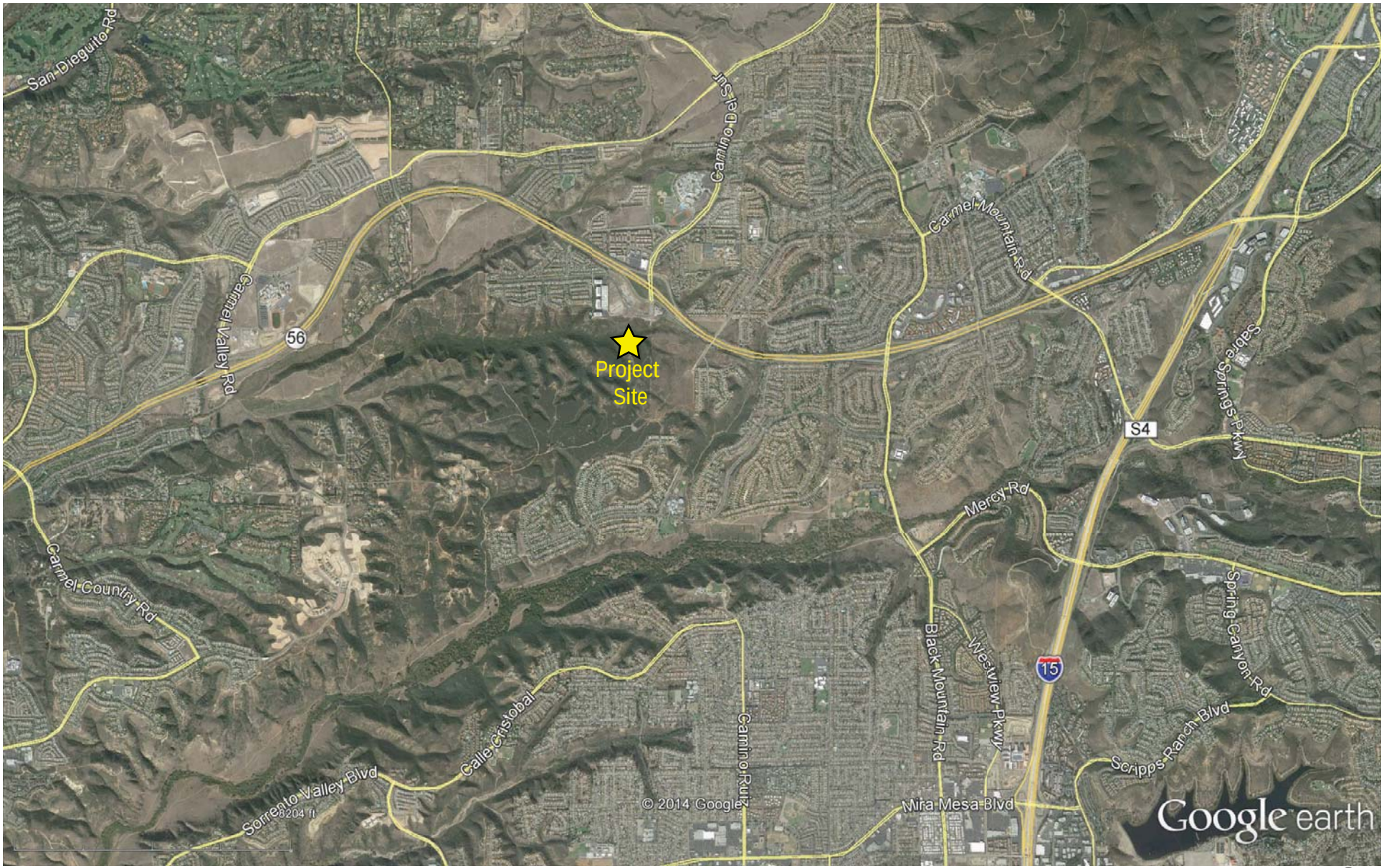

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Figure 1-2

Project Area Map

THE PRESERVE AT TORREY HIGHALNDS

2.0 PROJECT DESCRIPTION

2.1 Project Location

The Project is located west of the planned extension of Camino Del Sur and south of SR 56 in the City of San Diego. The site is located within the Torrey Highlands Community Plan area. The Project study area also includes roadways within the Rancho Peñasquitos Community Plan area.

2.2 Project Description

The Preserve at Torrey Highlands proposes to develop 450,000 SF of commercial office land use with a 3,800 SF café (for internal site use only) on an 11.10-acre site. The Project site lies within the Torrey Highlands (Subarea IV) Plan and is identified in the Subarea Plan as the proposed Santa Fe Summit IV site consisting of "Commercial Limited" uses. In 2004, the site was approved and entitled to construct a 1,200-seat church/campus with a Kindergarten through eighth grade school; the permit has since expired. The proposed office Project requires a Community Plan Amendment (CPA) which was initiated via an application into the City to redesignate the "Commercial Limited" site to "Employment Center" land use, submitted by Kilroy Realty, the former applicant for the site. Per City long-range planning staff, a General Plan Amendment (GPA) initiation is not required as the GPA is included as part of the CPA process. The Project also requires a Rezone from AR-1-1 (agriculture/residential) to IP-3-1 (industrial park) and a Site Development Permit.

2.3 Project Access

Two access intersections are proposed along future Camino Del Sur. The Northerly Project Driveway is proposed in close proximity to the northern site boundary. This signalized access intersection would primarily serve the 62 surface parking spaces (visitor and pick-up/drop-off areas) and approximately 241 subterranean parking spaces under the northern building. This access would be the fourth leg of the Camino Del Sur intersection with Private Drive 'M'; the main access intersection to the adjacent Merge 56 development.

The main access to the Project will be provided via a signalized "tee" intersection on Camino Del Sur connecting to the Southerly Project Driveway. This intersection would serve as the primary Project driveway providing access to/from the seven-story approximately 1,478-space parking structure. A signal warrant analysis for this intersection is provided later on in this report.

Figure 2–1 shows the Conceptual Site Plan.

2.4 Planned Improvements

The adjacent Merge 56 mixed-use development project proposed directly east of the Project site is currently under review by the City. The Merge 56 applicant proposes to modify and reconfigure land uses approved for Units 4, 5 and 10 of the original Rhodes Crossings VTM (No. 7938) .This project is currently updating the approved *Public Facilities Phasing for Plan Rhodes Crossing Final Map* prepared and revised by Latitude 33 Planning and Engineering, as part of the entitlement process to identify Merge 56 as responsible for the full width improvements to construct Camino Del Sur and Carmel Mountain Road in their entirety with financial reimbursement from the Torrey Highlands Facilities Benefit Assessment (FBA). In addition, the Merge 56 applicant would construct

underground utilities (i.e., sewer, water, electrical and storm drains/detention basins) and full-width improvements for Camino Del Sur and Carmel Mountain Road along the frontage of the proposed Project (Camino Del Sur) and Merge 56 property. Onsite, Private Drive 'M' would serve as an east-west spine road between Camino Del Sur and Carmel Mountain Road for the Merge 56 site providing primary access to all on-site land uses in addition to being the fourth leg of the Camino Del Sur/Private Drive 'M'/Proposed Northerly Project Driveway intersection.

Final grading and improvement plans would be concurrently processed for the off-site segments of Camino Del Sur and Carmel Mountain Road bordering the limits of the Merge 56 project, as well as the southern extension of Camino Del Sur from its planned intersection with Carmel Mountain Road southerly approximately 0.5 mile to Dormouse Road in the neighboring Park Village area. Camino Del Sur and Carmel Mountain Road are improvement projects identified in the *Torrey Highlands* and *Rancho Peñasquitos Public Facilities Financing Plans* (PFFP) as 100% subdivider responsibility.

As discussed above, the Project site is located south of SR 56 and is adjacent to the future extension of Camino Del Sur. The construction of Camino Del Sur and Carmel Mountain Road are necessary to provide sufficient access to the Project and for economic reasons the applicant cannot construct these roadways in advance of the approval of Merge 56. Thus, the applicant would accept a permit condition that would state that *"Prior to the issuance of any building buildings, the Owner/Permittee shall submit documentation that the extensions of Camino Del Sur and Carmel Mountain Road as described in this document have been assured by permit and bond, satisfactory to the City Engineer. Additionally, the connection of Camino Del Sur between Torrey Santa Fe Road and Dormouse Road and the connection of Carmel Mountain Road between Via Las Lenas and Camino Del Sur shall be completed and open to traffic to the satisfaction of the City Engineer prior to the issuance of any occupancy permit.."*

Complete details on the construction of Camino Del Sur and Carmel Mountain Road are provided in *Section 7.2* of this report.

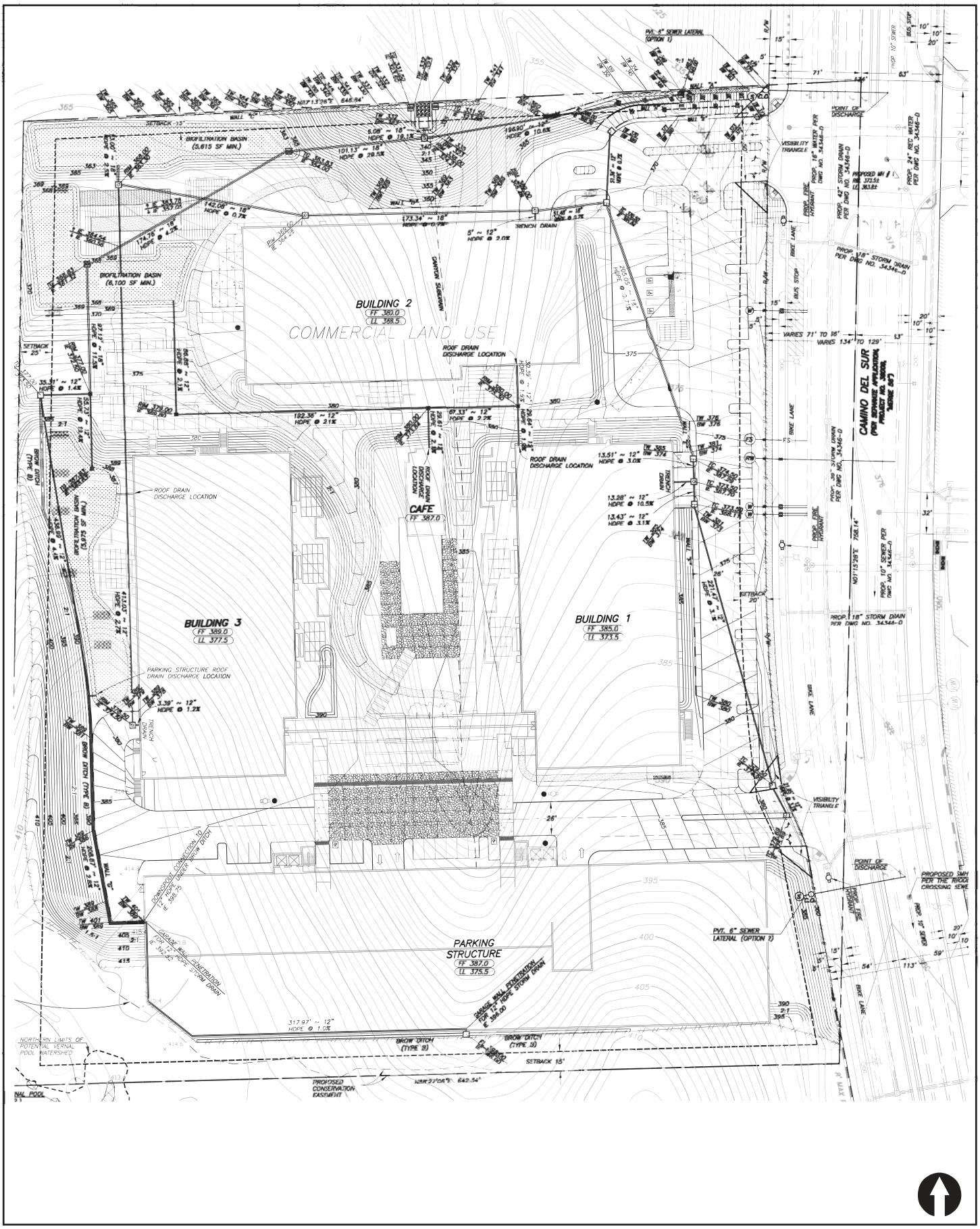

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Figure 2-1

Site Plan

THE PRESERVE AT TORREY HIGHLANDS

3.0 EXISTING CONDITIONS

The principal roadways in the Project study area are described briefly below. Functional roadway classifications were determined from a review of the *City of San Diego Street Design Manual* and field observations. Ultimate classifications were based on a review of the Torrey Highlands and Rancho Peñasquitos Community Plans. ***Figure 3–1*** illustrates the existing transportation conditions.

3.1 Existing Street Network

State Route 56 (SR 56) is an east/west predominately four-lane freeway between Interstate 5 and Interstate 15 providing two travel lanes in each direction. SR 56 is planned to be widened to six lanes in the future, however, funding is not yet identified for this improvement and the widening is not programmed in the SANDAG Regional Transportation Plan until Year 2040.

Camino Del Sur is classified as a Six-Lane Major Road on the Torrey Highlands Community Plan from Carmel Valley Road to its current terminus at Torrey Santa Fe Drive. From Carmel Valley Road to Highlands Village Place it is built as a four-lane divided roadway. From Highlands Village Place to the SR 56 Westbound Ramps, additional lanes are provided for turning movements at the Camino Del Sur intersections with Highlands Village Place and the Westbound Ramps increasing the capacity along this portion of the roadway. Between the SR 56 Ramps the roadway provides three travel lanes in the southbound direction and two northbound. From the SR 56 Eastbound Ramps to its current terminus at Torrey Santa Fe Road, this brief 350-foot segment provides two northbound lanes with an auxiliary right-turn lane onto eastbound SR 56 and in the southbound direction provides one channelized turn lane onto Torrey Santa Fe Road and one into the gas station to the east. The roadway has a reserved paved width to stripe additional lanes meeting the standards for a Six-Lane Major Arterial. The posted speed limit is 45 mph. Parking is not permitted, there are no bus stops located along the roadway, and bike lanes are provided.

As mentioned, Camino Del Sur currently terminates at Torrey Santa Fe Road. According to the Rancho Peñasquitos Community Plan, Camino Del Sur is planned from the northern Community boundary at Carmel Mountain Road to be connected to just north of Dormouse Road as a Four-Lane Major Road. As part of the Merge 56 development, Camino Del Sur will be constructed as a Four-Lane Major Road with intersection enhancements from Torrey Santa Fe Road to the intersection with Private Drive 'M' (and the Project's Northerly Driveway) to accommodate turn lanes for the adjacent developments. South of Private Drive 'M', it is proposed to be constructed to Four-Lane Major Road standards connecting to Carmel Mountain Road. From Carmel Mountain Road to the existing terminus just north of Dormouse Road the roadway is proposed to be constructed as a Two-Lane Modified Collector with a 14-foot raised center median, not as proposed per the *Torrey Highlands PFFP Project No. T3-1.A, T3-1.B and 3-2.A and 3-2.B*, as well as *Rancho Peñasquitos Public PFFP Project No. T-4B.* The Merge 56 project is seeking a CPA to downgrade Camino Del Sur between Carmel Mountain Road and Dormouse Road to two lanes based on revised buildout traffic volumes that no longer suggest the need for a four-lane roadway. ***Appendix A*** contains excerpts from the sourced PFFPs.

Carmel Mountain Road is classified as a Four-Lane Major Road in the Torrey Highlands Community Plan from the Rancho Peñasquitos Community boundary on the east to Camino Del Sur. It is currently built to its Four-Lane Major Road classification from Sundance Avenue to Cloudbreak Avenue where it then narrows to two lanes at the SR 56 overpass to Via Panacea. Bike lanes are provided and curbside parking is not permitted. South of Cloud Break Avenue, no bike lanes are provided. No posted speed limit was observed along the section of the roadway between Via Panacea and Sundance Avenue. From Sundance Avenue to Paseo Montalban, it is classified and currently built as a Four-Lane Major Road on the Rancho Peñasquitos Community Plan. The posted speed limit is 40 mph. Parking is not permitted and bike lanes are provided. Bus stops are located intermittently along Carmel Mountain Road northeast of Rancho Peñasquitos Boulevard.

Carmel Mountain Road currently originates south of SR 56 at Via Panacea within the Project area. According to the Torrey Highlands Community Plan, Carmel Mountain Road is planned to be connected to the future extension of Camino Del Sur as a Four-Lane Major Road. As part of the Merge 56 project, Carmel Mountain Road is proposed to be constructed as a Two-Lane Modified Collector with a 14-foot raised center median from SR 56 to Camino Del Sur, not as planned per the *Torrey Highlands PFFP Project No. T-5.2*, and the corresponding *Rancho Peñasquitos PFFP Project No. T-5B*. The Merge 56 project is seeking a CPA to downgrade the roadway to two lanes based on revised buildout traffic volumes that no longer suggest the need for a four-lane roadway. The intersection of Carmel Mountain Road at Camino Del Sur is planned to be signalized per the *Rancho Peñasquitos PFFP Project No. T-15*. *Appendix A* contains excerpts from the sourced PFFPs.

Black Mountain Road is classified as a Four-Lane Major Road in the Rancho Peñasquitos Community Plan from Carmel Valley Road to Twin Trails Drive. The roadway is classified as a Six-Lane Primary Arterial from Twin Trails Drive south to the Community Plan boundary. The widening of this portion of Black Mountain Road is identified as *Rancho Peñasquitos PFFP Project No. T-5B*, and corresponding *Black Mountain PFFP Project No. T-57 and Pacific Highlands Ranch PFFP Project No. T-11.1*. It is currently built as a four-lane divided roadway for its entirety. The posted speed limit ranges between 40-45 mph. Parking is not permitted, there are no bus stops located along the roadway, and bike lanes are provided.

The Black Mountain Road segment from Twin Trails Drive to the Community Plan boundary just north of Mercy Road is in the process of being downgraded on the Rancho Peñasquitos Community Plan to maintain its current configuration as a Four-Lane Major Road. A Community Plan Amendment (CPA) to the Rancho Peñasquitos Community Plan to downgrade this roadway classification was initiated on February 27, 2014 by Black Mountain Ranch and is expected to go before City Council in 2018 based on information provided by KOA Corporation, the consultant who prepared the analysis for Black Mountain Ranch. (If this downgrade is approved, the Project's long-term cumulative impacts to this segment would be considered significant and unmitigated. *Section 18.0* provides more details on the Project's cumulative impacts to Black Mountain Road.)

Sundance Avenue is an unclassified roadway in the Rancho Peñasquitos Community Plan. It is currently built as a two-lane undivided roadway measuring 40-feet from curb-to-curb and providing curbside parking along both sides of the roadway. Residential roadways that primarily serve the

residences located along them as feeder roads to the adjacent residential communities are not typically analyzed using the volume-to-capacity method. However, there have been concerns in the past over the use of Sundance Avenue and Twin Trails Drive as a cut-through route between Carmel Mountain Road and Black Mountain Road. Therefore, this report provides an LOS analysis of the road as a "Two-Lane Collector". Traffic along the roadway is controlled by several stop-signs that have effectively reduced the amount of cut-through traffic from Black Mountain Road to Carmel Mountain Road. There are currently no bus stops or bike lanes along the roadway and the posted speed limit is 25 mph.

Park Village Road is classified and currently built as a Four-Lane Major Road in the Rancho Peñasquitos Community Plan for the majority of its length. A portion of the roadway between Rumex Lane and Darkwood Road functions as a Four-Lane Collector with four lanes separated by a striped median. The posted speed limit is 45 mph. Parking is not permitted and bike lanes are provided. It should be noted that the location of count data collected on Park Village Road was taken on the Four-Lane Major Road section west of Darkwood Road.

Mercy Road from Black Mountain Road to I-15 is classified and currently built as a Four-Lane Major Road in the Mira Mesa Community Plan. Curbside parking is not permitted and bike lanes are provided. The posted speed limit is 50 mph.

3.2 Existing Bicycle Network

Based on a review of the City of San Diego *Bicycle Master Plan* (July 2013) and field observations, there are existing Class II bike lanes provided on the entire length of most study area roadways including: Camino Del Sur, Black Mountain Road, and Park Village Road. There are no bike lanes provided on Sundance Avenue. On Carmel Mountain Road, Class II bike lanes are provided, with the exception of the segments of the roadway south of Sundance Avenue (western intersection) and from Paseo Montalban to Rancho Peñasquitos Boulevard, which is designated as a Class III bike route.

The SR 56 Bike Path is a Class I separated bikeway that runs between I-5 and I-15 adjacent to and south of SR 56.

The *Bicycle Master Plan* also proposes Class II or III bikeways on the portions of Carmel Mountain Road and Camino Del Sur in the Project vicinity that are not yet constructed. Additional details on planned bicycle improvements to the future sections of Camino Del Sur and Carmel Mountain Road are provided later in this report in *Section 7.2*.

3.3 Existing Transit Conditions

Based on the most recent information from the San Diego Metropolitan Transit System (MTS) website, the following transit conditions are noted.

Route 20 travels between the Del Lago Transit Station in Escondido and downtown San Diego. In the study area, Route 20 serves only the Carmel Mountain Road / Peñasquitos Drive intersection within the study area which is approximately three (3) miles from the Project site. Service is Monday

through Sunday with peak hour frequencies of around 15 minutes and off-peak frequencies between 30 and 60 minutes.

No other public transit serves the 92129 zip code encompassing the study area.

3.4 Existing Pedestrian Conditions

Based on field observations, contiguous or non-contiguous sidewalks are generally provided on all study area street segments. A detailed discussion of the pedestrian improvements proposed by the Project is contained in *Section 12.2*.

3.5 Existing Traffic Volumes

Existing AM and PM peak hour traffic volumes at key area intersections and 24-hour street segment counts were collected on Wednesday and Thursday, May 28th and 29th of the year 2014 when local schools were in session.

Table 3–1 shows the existing street segment Average Daily Traffic (ADT) volumes in the Project area. ***Figure 3–2*** shows the existing AM/PM peak hour turning movement volumes and ADTs.

The peak hour traffic volumes at the freeway ramps were derived from the ramp peak hour intersection turning movement counts conducted by LLG. Ramp volumes were validated against those provided directly by Caltrans and from the Caltrans Performance Measurement System (PeMS). Freeway ADT volumes were taken from the most recent Caltrans Traffic Census data, year 2014.

A count validation study was completed under separate cover indicating that recent counts in the area are generally flat or have slightly decreased. A copy of this validation memo is included in ***Appendix B***.

Appendix B also contains the manual count sheets for intersections and street segments and the freeway volumes taken from Caltrans records.

TABLE 3–1
EXISTING TRAFFIC VOLUMES

Street Segments	ADT [a]
Camino Del Sur	
1. Carmel Valley Rd to Wolverine Wy	17,730
2. Wolverine Wy to Torrey Meadows Dr	20,710
3. Torrey Meadows Dr to SR 56 WB Ramps	25,920
4. SR 56 EB Ramps to Torrey Santa Fe Rd	10,670
5. Torrey Santa Fe Rd to Northern Project Dwy	DNE
6. Northern Project Dwy to Southern Project Dwy	DNE
7. Southern Project Dwy to Carmel Mountain Rd	DNE
8. Carmel Mountain Rd to Dormouse Rd	Partially Exists
9. Dormouse Rd to Park Village Rd	1,890
Carmel Mountain Road	
10. Camino Del Sur to Via Las Lenas	DNE
11. Via Las Lenas to Sundance Ave	1,240
12. Sundance Ave to Sedorus St	1,510
13. Sedorus St to Entreken Wy	2,780
14. Entreken Wy to Sparren Ave	6,810
15. Sparren Ave to Twin Trails Dr	12,320
Sundance Avenue	
16. Carmel Mountain Rd to Twin Trails Dr	1,880
Park Village Road	
17. Camino Del Sur to Ragweed St	8,430
18. Ragweed St to Black Mountain Rd	17,550
Black Mountain Road	
19. SR 56 EB Ramps to Park Village Rd	35,440
20. Park Village Rd to Mercy Rd	30,380
Mercy Road	
21. Black Mountain Rd to I-15 SB Ramps	19,850
Freeway Mainline Segments	**ADT**
State Route 56	
1. Carmel Valley Rd to Camino Del Sur	65,000
2. Camino Del Sur to Black Mountain Road	73,000
3. Black Mountain Rd to Ranch Peñasquitos Blvd	73,000
4. Rancho Peñasquitos Blvd to I-15	68,000

Source: Street segment counts commissioned by LLG Engineers in May 2014. Freeway segment ADTs from most recent Caltrans Traffic Census, 2014.

Footnotes:

a. Average Daily Traffic Volumes.

General Notes:

1. DNE – Does Not Exist

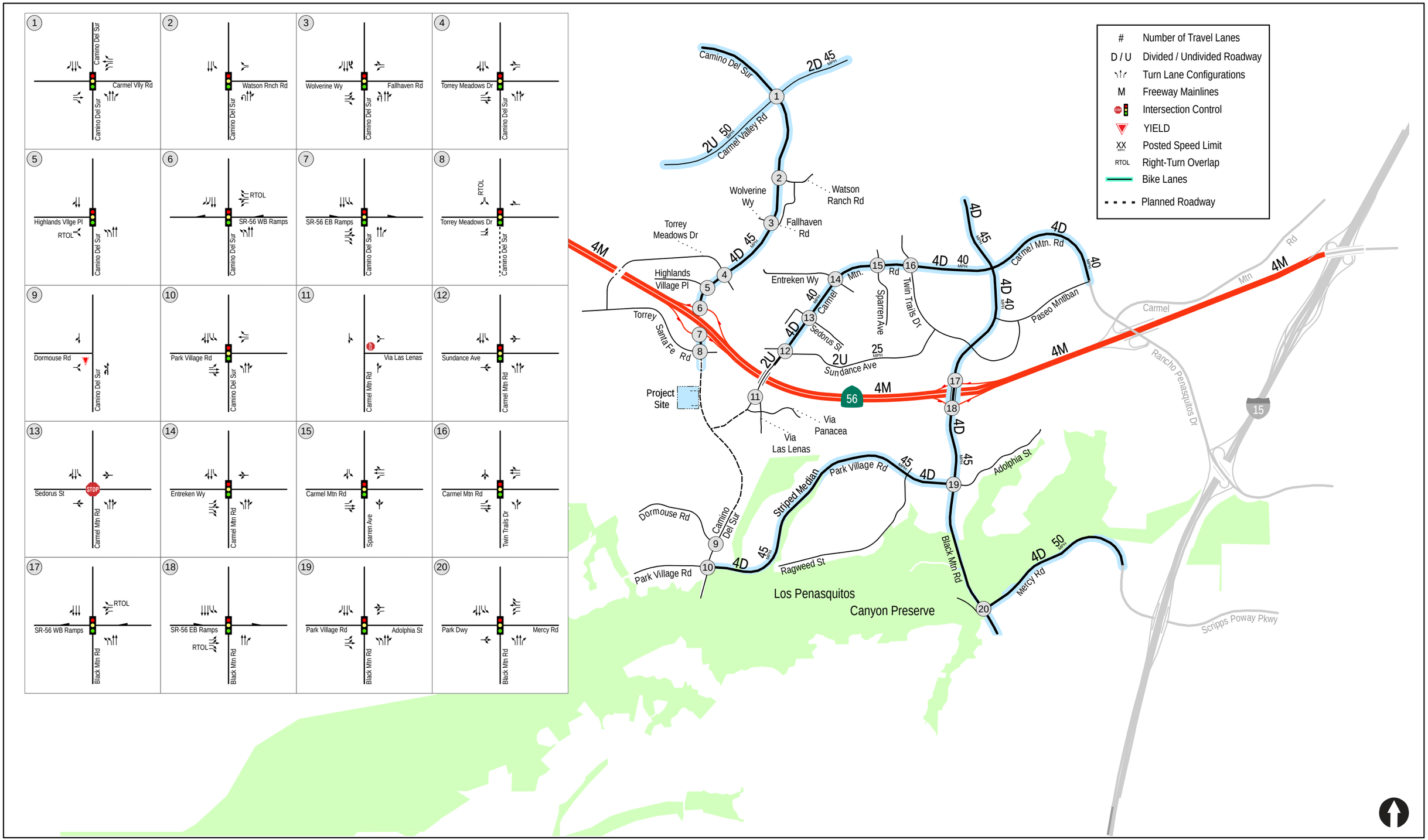

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Figure 3-1

Existing Conditions Diagram

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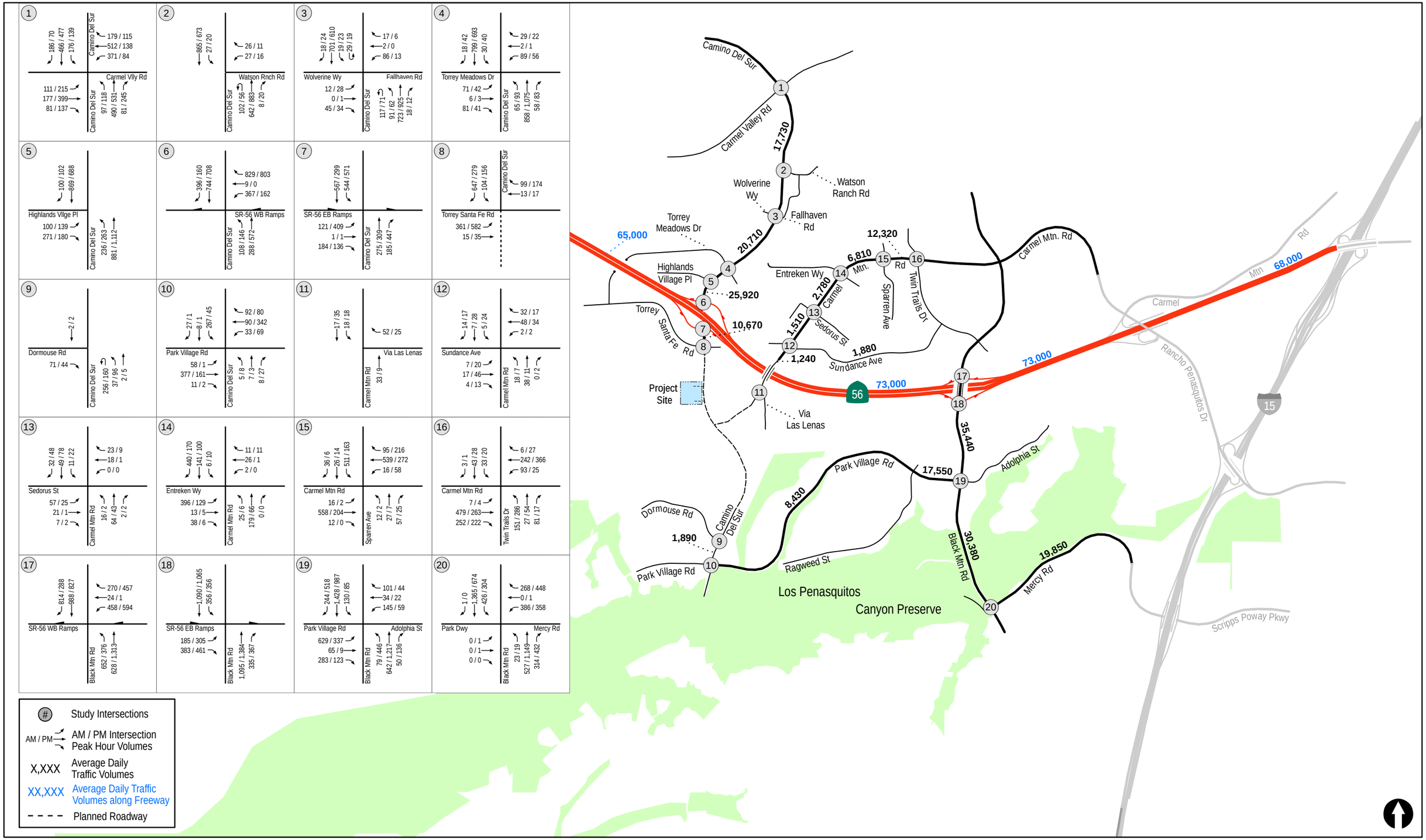

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Figure 3-2

Existing Traffic Volumes

THE PRESERVE AT TORREY HIGHLANDS

4.0 STUDY AREA, ANALYSIS APPROACH AND METHODOLOGY

4.1 Study Area

The study area was based on the criteria identified in the City of San Diego *Traffic Impact Study Manual*, July 1998. Based on these criteria, the traffic study shall evaluate all adjacent intersections plus the first major signalized intersection in each direction of the site. In addition, the study area must include "all regionally significant arterial system segments and intersections, including mainline freeway locations, and on/off ramp intersections, where the project will add 50 or more peak hour trips in either direction to the adjacent street traffic." In addition, there are metered freeway on-ramps in the Project study area. Per regionally adopted San Diego Traffic Engineer's Council/Institute of Transportation Engineers (SANTEC/ITE) guidelines, the threshold to conduct ramp meter analysis is 20 peak hour trips.

Using the above criteria, the Project study area includes the following locations:

Intersections

1. Camino Del Sur / Carmel Valley Road
2. Camino Del Sur / Watson Ranch Road
3. Camino Del Sur / Wolverine Way / Fallhaven Road
4. Camino Del Sur / Torrey Meadows Drive
5. Camino Del Sur / Highlands Village Place
6. Camino Del Sur / SR 56 Westbound Ramps
7. Camino Del Sur / SR 56 Eastbound Ramps
8. Camino Del Sur / Torrey Santa Fe Road
9. Camino Del Sur/ Dormouse Road
10. Camino Del Sur / Park Village Road
11. Carmel Mountain Road / Via Las Lenas
12. Carmel Mountain Road / Sundance Avenue
13. Carmel Mountain Road / Sedorus Street
14. Carmel Mountain Road / Entreken Way
15. Carmel Mountain Road / Sparren Avenue
16. Carmel Mountain Road / Twin Trails Drive
17. Black Mountain Road / SR 56 Westbound Ramps
18. Black Mountain Road / SR 56 Eastbound Ramps
19. Black Mountain Road / Park Village Road
20. Black Mountain Road / Mercy Road
21. Camino Del Sur/ Northern Project Driveway/ Private Drive 'M' *(Planned Intersection)*
22. Camino Del Sur/ Southern Project Driveway *(Planned Intersection)*
23. Carmel Mountain Road/ Camino Del Sur *(Planned Intersection)*

Street Segments

Camino Del Sur

1. Carmel Valley Road to Wolverine Way
2. Wolverine Way to Torrey Meadows Drive
3. Torrey Meadows Drive to SR 56 Westbound Ramps
4. SR 56 Eastbound Ramps to Torrey Santa Fe Road
5. Torrey Santa Fe Road to Northern Project Driveway/ Private Drive 'M' *(Planned Segment)*
6. Northern Project Driveway/ Private Drive 'M' to Southern Project Driveway *(Planned Segment)*
7. Southern Project Driveway to Carmel Mountain Road *(Planned Segment)*
8. Carmel Mountain Road to Dormouse Road *(Planned Segment)*
9. Dormouse Road to Park Village Road

Carmel Mountain Road

10. Camino Del Sur to Via Las Lenas *(Planned Segment)*
11. Via Las Lenas to Sundance Avenue
12. Sundance avenue to Sedorus Street
13. Sedorus Street to Entreken Way
14. Entreken Way to Sparren Avenue
15. Sparren Avenue to Twin Trails Drive

Sundance Avenue

16. Carmel Mountain Road to Twin Trails Drive

Park Village Road

17. Camino Del Sur to Ragweed Street
18. Ragweed Street to Black Mountain Road

Black Mountain Road

19. SR 56 Eastbound Ramps to Park Village Road
20. Park Village Road to Mercy Road

Mercy Road

21. Black Mountain Road to I-15 Southbound Ramps

Freeway Mainline Segments

State Route 56

1. Carmel Valley Road to Camino Del Sur
2. Camino Del Sur to Black Mountain Road
3. Black Mountain Road to Rancho Peñasquitos Boulevard
4. Rancho Peñasquitos Boulevard to I-15

Freeway Ramp Meter Locations

State Route 56

1. Camino Del Sur – Westbound On-Ramp (AM peak hour)
2. Camino Del Sur – Eastbound On-Ramp (PM peak hour)
3. Black Mountain Road – Westbound On-Ramp (AM peak hour)
4. Black Mountain Road – Eastbound On-Ramp (PM peak hour)

4.2 Analysis Approach

As discussed in *Section 2.4* earlier in this report, the Project has requested to be conditioned not to be allowed to receive occupancy permits until after the completion of Camino Del Sur and Carmel Mountain Road. It is anticipated that these roads would be constructed by the adjacent Merge 56 development and fully operational by the Project's Opening Day in Year 2020.

It should be noted that the analysis of an "Existing + Project" scenario is not included as part of this study. Camino Del Sur along the Project frontage is not currently constructed, and the applicant has requested that the Project be conditioned to not go forward prior to Camino Del Sur and Carmel Mountain Road being constructed by the Merge 56 project, so there would be no situation envisioned where the Project would be opened prior to Merge 56. Therefore, an "Existing + Project" analysis is not included in this study.

Table 4–1 shows the analyses performed in each of the scenarios to determine the potential impacts to the road network.

TABLE 4–1
ANALYSIS SCENARIOS

Scenario	Analysis Performed
Existing & Opening Day Conditions	
Existing Opening Day (Year 2020) Without Project Opening Day (Year 2020) With Project	Peak Hour Intersection Analysis
	Daily Street Segment Analysis
	Peak Hour Freeway Mainline Analysis
	Peak Hour Ramp Meter Analysis
Long-Term Condition	
Year 2035 Without Project Year 2035 With Project	Peak Hour Intersection Analysis
	Daily Street Segment Analysis
	Peak Hour Freeway Mainline Analysis
	Peak Hour Ramp Meter Analysis

As discussed in *Section 2.4*, several changes to the roadway network are planned for the future. ***Table 4–2*** summarizes the analysis scenarios and street network conditions for each scenario analyzed. Further details on the network conditions for the scenarios analyzed are provided in their corresponding sections of this report.

TABLE 4–1
ROADWAY NETWORK SCENARIOS

Assumed Roadway Network	Scenario				
	Existing	**Opening Day (2020) Without Project**	**Opening Day (2020) With Project**	**Year 2035 Without Project**	**Year 2035 With Project**
Freeway Segments					
State Route 56: Six Lanes	Not Completed	Not Completed	Not Completed	Not Completed	Not Completed
Roadway Segments					
Camino Del Sur (Torrey Santa Fe Road to Dormouse Road)	Does Not Exist	Fully Constructed	Fully Constructed	Fully Constructed	Fully Constructed
Carmel Mountain Road	Does Not Exist	Fully Constructed	Fully Constructed	Fully Constructed	Fully Constructed
Torrey Meadows Drive Overcrossing	Does Not Exist	Does Not Exist	Does Not Exist	Fully Constructed	Fully Constructed
Private Drive 'M'	Does Not Exist	Fully Constructed	Fully Constructed	Fully Constructed	Fully Constructed
Intersections					
Camino Del Sur/ SR 56 NB to WB and SB to EB Loop Ramps	Not Completed	Not Completed	Not Completed	Not Completed	Not Completed
Camino Del Sur/ Carmel Mountain Road	Does Not Exist	"tee" Intersection	"tee" Intersection	4th Approach Added	4th Approach Added
Camino Del Sur/ Northern Access/ Private Drive 'M'	Does Not Exist	"tee" Intersection for Merge 56 Access	Fully Constructed	"tee" Intersection for Merge 56 Access	Fully Constructed
Camino Del Sur/ Southern Access	Does Not Exist	Does Not Exist	"tee" Intersection for Project Access	Does Not Exist	"tee" Intersection for Project Access
Carmel Mountain Road/ Via Las Lenas/ Private Drive 'M'	"tee" intersection for Via Las Lenas	Fully Constructed	Fully Constructed	Fully Constructed	Fully Constructed

General Notes:

1. Camino Del Sur network condition represents the planned extension from its current terminus at Torrey Santa Fe Road to its southerly connection just north of Dormouse Road, except where noted. In Year 2035, it also includes the northern improvements to six lanes from Carmel Valley Road to Torrey Santa Fe Road since this improvement is fully funded in the Black Mountain PFFP.
2. Carmel Mountain Road network condition represents the planned extension from its current terminus at Via Panacea to Camino Del Sur, including the realignment from Via Las Lenas.
3. Torrey Meadows Drive Overcrossing network condition represents the connection of Torrey Meadows Drive over SR 56 to Torrey Santa Fe Road. It is not included in the "Near-Term" conditions since these scenarios represent the effects of Project and cumulative traffic and network improvements on the existing street network at the time of data collection (May 2014). However, the overcrossing is an infrastructure project in the City of San Diego Torrey Highlands PFFP. Project No. T-9 is currently in the design stage (approximately 65% PS&E) and is estimated to be completed prior to Year 2035 based on information provided by the City's Public Works Department stating construction is expected to start in summer/fall 2018.
4. Private Drive 'M' is a proposed on-site roadway primarily serving the Merge 56 project that will experience cut-through traffic (including Project trips) between Camino Del Sur and Carmel Mountain Road under the opening day cumulative and long-term conditions.
5. Further details on the Project Access intersections are provided in *Section 12.1* of this report.
6. "Fully Constructed" represents construction of roadways to their current Community Plan classification. ("Fully Constructed" for Camino Del Sur from Private Drive 'M' to just north of Dormouse Road and for Carmel Mountain Road from SR 56 to Camino Del Sur represents the proposed Merge 56 Community Plan Amendment downgraded classifications.)
7. The 4th leg of the Camino Del Sur/ Carmel Mountain Road intersection will be constructed by Unit 8 of the original Rhodes Crossing VTM.

4.3 Methodology

Level of Service (LOS) is the term used to denote the different operating conditions that occur on a given roadway segment under various traffic volume loads. It is a qualitative measure used to describe a quantitative analysis taking into account factors such as roadway geometries, signal phasing, speed, travel delay, freedom to maneuver, and safety. Level of Service provides an index to the operational qualities of a roadway segment or an intersection. Level of Service designations range from A to F, with LOS A representing the best operating conditions and LOS F representing the worst operating conditions. Level of Service designation is reported differently for signalized, unsignalized intersections, and roadway segments, as described below.

4.3.1 *Intersections*

Signalized intersections were analyzed under AM and PM peak hour conditions. Average vehicle delay was determined utilizing the methodology found in Chapter 16 of the *2000 Highway Capacity Manual (HCM),* with the assistance of the *Synchro* (version 8) computer software. The delay values (represented in seconds) were qualified with a corresponding intersection LOS. City of San Diego and Caltrans location-specific signal timing information such as minimum greens, cycle lengths, splits for the freeway interchanges and real-time peak hour field observations were included in the analysis, where available.

Unsignalized intersections were analyzed under AM and PM peak hour conditions. Average vehicle delay and LOS was determined based upon the procedures found in Chapter 17 and 18 of the *2000 HCM,* with the assistance of the *Synchro* (version 8) computer software.

Roundabout intersections were analyzed under AM and PM peak hour conditions along Private Drive 'M'. Average vehicle delay and LOS was determined based upon the procedures found in Chapter 21 of the *2010 HCM,* with the assistance of the *aaSIDRA INTERSECTION* computer software.

4.3.2 *Street Segments*

Street segment functional classifications were based on field observations and ultimate classifications were taken from the Torrey Highlands and Rancho Peñasquitos Community Plan Circulation Elements. Street segment analysis is based upon the comparison of daily traffic volumes (ADTs) to the City of San Diego's *Roadway Classification, Level of Service, and ADT Table*. This table provides segment capacities for different street classifications, based on traffic volumes and roadway characteristics. A copy of the individual Community Plan Circulation Element maps and the City of San Diego roadway classification table are attached in ***Appendix C***.

4.3.3 *Freeway Mainline Segments*

Level of Service analysis is based on the procedure developed by Caltrans District 11 based on methods described in the *HCM*. The procedure involves comparing the peak hour volume of the mainline segment to the theoretical capacity of the roadway (V/C). V/C ratios are then compared to V/C thresholds to determine the LOS of each segment.

4.3.4 *Freeway Ramp Meters*

As previously mentioned, there are metered freeway on-ramps in the Project study area where the Project adds more than 20 peak hour trips. For these locations, ramp delays and queues were calculated using a calculated delay and queue methodology. For determining the high occupancy vehicle (HOV) rate at on-ramps, a review of Caltrans PeMS data at SR 56 on-ramps identified an average carpool rate of 15% at the Carmel Valley Road westbound on-ramp. This ramp was selected due to a 100% "healthy" sensor reading for the most recent available data. PeMs HOV data was not readily available at the Camino Del Sur and Black Mountain Road ramps. Therefore, a 15% HOV percentage was applied to the ramp meter analysis. The calculated delay and queue approach is based solely on the specific time intervals at which the ramp meter is programmed to release traffic entering the freeway. The calculated delay and queue approach generally tends to produce unrealistic queue lengths and delays. The results are theoretical and based on the most restrictive (rate code F) ramp meter rate. Furthermore, the fixed rate approach does not take into account driver behavior and trip diversion due to high ramp meter delays.

As a City standard of practice, ramp meter observations were conducted at the SR 56 interchanges with Camino Del Sur and Black Mountain Road. The data was collected in June 2015 during typical commuter peak periods. However, since the observations were conducted during the summer season, they may not accurately reflect school traffic that typically traverses this corridor. In order to account for the atypical conditions, a seasonal adjustment factor was applied to the observed data. According to the Caltrans *Highway Performance Monitoring System (PeMS): Instructions for Updates Including the HPMS Monitoring System*, April 2007, which is a program used by Caltrans which defines the standards for data collection, seasonal urban factors generally vary by less than 10%. However, a 15% growth factor was added to the summer counts to provide for a conservative increase. The maximum demand and queues were observed for the single-occupancy vehicle (SOV) lanes and HOV lanes, and are provided for the existing analyses.

The purpose of the observations is to help understand the operations and calibrate the existing ramp meter analysis. The standard, non-calibrated ramp meter analysis tends to produce unrealistic results using the most restrictive discharge rates. In the near-term, both the non-calibrated and calibrated rates were used in the ramp meter analysis. The long-term analysis remains non-calibrated since it is difficult to predict future operations based on existing performance.

Based on these criteria, the following on-ramps have been analyzed in this report:

1. Camino Del Sur to Westbound SR 56 – AM peak hour
2. Camino Del Sur to Eastbound SR 56 – PM peak hour
3. Black Mountain Road to Westbound SR 56 – AM peak hour
4. Black Mountain Road to Eastbound SR 56 – PM peak hour

Appendix D contains a copy of the existing ramp meter rates and 15% HOV calculation obtained from Caltrans.

5.0 SIGNIFICANCE CRITERIA

According to the City of San Diego's *Significance Determination Thresholds* report dated January 2011, a project is considered to have a significant impact if the new project traffic has decreased the operations of surrounding roadways by a City defined threshold. For projects deemed complete on or after January 1, 2011, the City defined threshold by roadway type or intersection is shown in ***Table 5–1***.

The impact is designated either a "direct" or "cumulative" impact. According to the City's *Significance Determination Thresholds* report,

> "*Direct* traffic impacts are those projected to occur at the time a proposed development becomes operational, including other developments not presently operational but which are anticipated to be operational at that time (near term)."
>
> "*Cumulative* traffic impacts are those projected to occur at some point after a proposed development becomes operational, such as during subsequent phases of a project and when additional proposed developments in the area become operational (short-term cumulative) or when affected community plan area reaches full planned Year 2035 (long-term cumulative)."
>
> "It is possible that a project's near term (direct) impacts may be reduced in the long term, as future projects develop and provide additional roadway improvements (for instance, through implementation of traffic phasing plans). In such a case, the project may have direct impacts but not contribute considerably to a cumulative impact."
>
> "For intersections and roadway segments affected by a project, LOS D or better is considered acceptable under both direct and cumulative conditions."

If the project exceeds the thresholds in *Table 5–1*, then the project may be considered to have a significant "direct" or "cumulative" project impact. A significant impact can also occur if a project causes the LOS to degrade from D to E, even if the allowable increases in *Table 5–1* are not exceeded. A feasible mitigation measure will need to be identified to return the impact within the City thresholds, or the impact will be considered significant and unmitigated.

Caltrans currently does not have significance criteria for ramp meter analyses. Therefore, analyses performed at these locations are technically informational at best. However, the City of San Diego has indicated that an impact to a ramp meter is a factor of the mainline operations. When Project traffic results in an increase in the delay at a ramp meter greater than 2.0 minutes for LOS E operating freeway mainline segments and greater than 1.0 minute for LOS F operating freeway mainline segments where existing on-ramp delays of greater than 15 minutes are calculated, a significant ramp meter impact is identified.

TABLE 5–1
CITY OF SAN DIEGO
TRAFFIC IMPACT SIGNIFICANT THRESHOLDS

Level of Service with Project [b]	Allowable Increase Due to Project Impacts [a]					
	Freeways		Roadway Segments		Intersections	Ramp Metering
	V/C	Speed (mph)	V/C	Speed (mph)	Delay (sec.)	Delay (min.)
E	0.010	1.0	0.02	1.0	2.0	2.0 [c]
F	0.005	0.5	0.01	0.5	1.0	1.0 [c]

Footnotes:

a. If a proposed project's traffic causes the values shown in the table to be exceeded, the impacts are determined to be significant. The project applicant shall then identify feasible improvements (within the Traffic Impact Study) that will restore/and maintain the traffic facility at an acceptable LOS. If the LOS with the proposed project becomes unacceptable (see note b), or if the project adds a significant amount of peak-hour trips to cause any traffic queues to exceed on- or off-ramp storage capacities, the project applicant shall be responsible for mitigating the project's direct significant and/or cumulatively considerable traffic impacts.

b. All LOS measurements are based upon Highway Capacity Manual procedures for peak-hour conditions. However, V/C ratios for roadway segments are estimated on an ADT/24-hour traffic volume basis (using Table 2 of the City's Traffic Impact Study Manual). The acceptable LOS for freeways, roadways, and intersections is generally "D" ("C" for undeveloped locations). For metered freeway ramps, LOS does not apply. However, ramp meter delays above 15 minutes are considered excessive.

c. The allowable increase in delay at a ramp meter with more than 15 minutes delay and freeway LOS E (upstream) is 2 minutes. The allowable increase in delay at a ramp meter with more than 15 minutes delay and freeway LOS F (upstream) is 1 minute.

General Notes:

1. Delay = Average control delay per vehicle measured in seconds for intersections, or minutes for ramp meters.
2. LOS = Level of Service
3. V/C = Volume to Capacity Ratio (capacity at LOS E should be used)
4. Speed = Arterial speed measured in miles per hour for Congestion Management Program (CMP) analyses. *CMP analyses are no longer required.

6.0 ANALYSIS OF EXISTING CONDITIONS

The analysis of existing conditions includes the assessment of the study area intersections and street segments.

6.1 Peak Hour Intersection Operations

Table 6–1 summarizes the Existing intersection operations. As seen in *Table 6*–1, the study area intersections are calculated to currently operate at LOS D or better under Existing conditions except the following:

- Intersection #3. Camino Del Sur/ Wolverine Way – LOS E (AM peak hour)
- Intersection #17. Black Mountain Rd / SR 56 WB Ramps – LOS F (AM peak hour)
- Intersection #18. Black Mountain Rd / SR-56 EB Ramps – LOS E/E (AM/PM peak hours)
- Intersection #19. Black Mountain Rd / Park Village Rd – LOS E/E (AM/PM peak hours)

Appendix E contains the Existing peak hour intersection calculation worksheets.

6.2 Daily Street Segment Operations

Table 6–2 summarizes the Existing roadway segment operations. As seen in *Table 6–2*, all of the study area segments are calculated to currently operate at LOS D or better under Existing conditions except the following:

- Segment #19. Black Mountain Rd from SR 56 EB Ramps to Park Village Rd – LOS E

6.3 Peak Hour Freeway Mainline Operations

Table 6–3 summarizes the Existing freeway mainline segment operations. As seen in *Table 6–3*, all study area freeway mainline segments are calculated to currently operate at LOS D or better under Existing conditions.

It should be noted field observations indicate that there is reoccurring congestion in the westbound direction during the AM commute period and in the eastbound direction during the PM commute period. This is believed to be due to the bottleneck at the bridge over Darkwood Canyon and capacity constraints west of Carmel Valley Road. This is reflected as LOS D conditions in the analysis.

6.4 Peak Hour Freeway Ramp Meter Operations

Table 6–4 summarizes the Existing operations of the on-ramp meters using the fixed rate analysis methodology and the observed queues/delays. The fixed rate approach generally tends to produce unrealistic queue lengths and delays. The results are theoretical and based on the most restrictive ramp meter rate. Because ramp meter rates are not constant, even within the peak hours, the analysis was conducted using the most restrictive meter rates. The meter rates dynamically adjust based on

the level of traffic on the freeway mainlines. Furthermore, the fixed rate approach does not take into account driver behavior such as "ramp shopping" or trip diversion.

To account for this, queuing observations were conducted to calibrate the analysis and best reflect current operations. As seen in *Table 6–4*, there is no delay calculated at any of the study area on-ramps under Existing conditions. The observed queuing validates the calculations that no excess demand and thus, excessive queues and delays, occur at the study area on-ramps.

TABLE 6–1
EXISTING INTERSECTION OPERATIONS

Intersection	Control Type	Peak Hour	Existing	
			Delay [a]	LOS [b]
1. Camino Del Sur / Carmel Valley Road	Signal	AM PM	40.9 34.8	D C
2. Camino Del Sur / Watson Ranch Road	Signal	AM PM	21.3 8.1	C A
3. Camino Del Sur / Wolverine Way/Fallhaven Raod	Signal	AM PM	57.6 15.3	E B
4. Camino Del Sur / Torrey Meadows Drive	Signal	AM PM	21.7 18.0	C B
5. Camino Del Sur / Highlands Village Place	Signal	AM PM	16.1 12.8	B B
6. Camino Del Sur / SR 56 WB Ramps	Signal	AM PM	24.3 26.4	C C
7. Camino Del Sur / SR 56 EB Ramps	Signal	AM PM	23.9 30.8	C C
8. Camino Del Sur / Torrey Santa Fe Road	Signal	AM PM	9.0 15.9	A B
9. Camino Del Sur / Dormouse Road	Signal	AM PM	9.1 8.5	A A
10. Camino Del Sur / Park Village Road	Signal	AM PM	17.0 12.2	B B
11. Carmel Mountain Road / Via Las Lenas	Signal	AM PM	8.7 8.5	A A
12. Carmel Mountain Road / Sundance Avenue	Signal	AM PM	16.7 21.9	B C
13. Carmel Mountain Road / Sedorus Street	AWSC [c]	AM PM	8.2 7.7	A A
14. Carmel Mountain Road / Entreken Way	Signal	AM PM	17.4 10.0	B A

(Continued on Next Page)

TABLE 6–1
EXISTING INTERSECTION OPERATIONS

Intersection	Control Type	Peak Hour	Existing	
			Delay [a]	LOS [b]
(Continued from Previous Page)				
15. Carmel Mountain Road / Sparren Avenue	Signal	AM PM	25.8 12.2	C B
16. Carmel Mountain Road / Twin Trails Drive	Signal	AM PM	24.8 17.9	C B
17. Black Mountain Road / SR 56 WB Ramps	Signal	AM PM	84.4 33.9	F C
18. Black Mountain Road / SR 56 EB Ramps	Signal	AM PM	59.1 67.7	E E
19. Black Mountain Road / Park Village Road	Signal	AM PM	60.1 58.3	E E
20. Black Mountain Road / Mercy Road	Signal	AM PM	32.3 29.3	C C
21. Camino Del Sur / Northern Project Driveway	DNE	AM PM	— —	— —
22. Camino Del Sur / Southern Project Driveway	DNE	AM PM	— —	— —
23. Camino Del Sur / Carmel Mountain Road	DNE	AM PM	— —	— —

Footnotes:

a. Average delay expressed in seconds per vehicle
b. Level of Service
c. All-Way Stop Controlled intersection. Average intersection delay reported

General Notes:

1. DNE = Does not exist

SIGNALIZED		UNSIGNALIZED	
DELAY/LOS THRESHOLDS		DELAY/LOS THRESHOLDS	
Delay	LOS	Delay	LOS
0.0 ≤ 10.0	A	0.0 ≤ 10.0	A
10.1 to 20.0	B	10.1 to 15.0	B
20.1 to 35.0	C	15.1 to 25.0	C
35.1 to 55.0	D	25.1 to 35.0	D
55.1 to 80.0	E	35.1 to 50.0	E
≥ 80.1	F	≥ 50.1	F

TABLE 6–2
EXISTING STREET SEGMENT OPERATIONS

Street Segment	Capacity (LOS E) [a]	ADT [b]	LOS [c]	V/C [d]
Camino Del Sur				
1. Carmel Valley Rd to Watson Ranch Rd	40,000	17,730	B	0.443
2. Wolverine Way to Torrey Meadows Dr	40,000	20,710	B	0.518
3. Torrey Meadows Dr to SR 56 WB Ramps	40,000	25,920	C	0.648
4. SR-56 EB Ramps to Torrey Santa Fe Rd	40,000	10,670	A	0.267
5. Torrey Santa Fe Rd to N. Project Driveway	DNE	—	—	—
6. N. Project Driveway to S. Project Driveway	DNE	—	—	—
7. S. Project Driveway to Carmel Mountain Rd	DNE	—	—	—
8. Carmel Mountain Rd to Dormouse Rd	DNE	—	—	—
9. Dormouse Rd to Park Village Rd	40,000	1,890	A	0.047
Carmel Mountain Road				
10. Camino Del Sur to Via Las Lenas	DNE	—	—	—
11. Via Las Lenas to Sundance Ave	10,000	1,240	A	0.124
12. Sundance Ave to Sedorus St	40,000	1,510	A	0.038
13. Sedorus St to Entreken Way	40,000	2,780	A	0.070
14. Entreken Way to Sparren Ave	40,000	6,810	A	0.170
15. Sparren Ave to Twin Trails Dr	40,000	12,320	A	0.308
Sundance Avenue [e]				
16. Carmel Mountain Rd to Twin Trails Dr	8,000	1,880	A	0.235
Park Village Road				
17. Camino Del Sur to Ragweed St [f]	40,000	8,430	A	0.211
18. Ragweed St to Black Mountain Rd	40,000	17,550	B	0.439
Black Mountain Road				
19. SR-56 EB Ramps to Park Village Rd	40,000	35,440	E	0.886
20. Park Village Rd to Mercy Rd	40,000	30,380	D	0.760
Mercy Road				
21. Black Mountain Rd to I-15 SB Ramps	40,000	19,850	B	0.496

Footnotes:

a. Capacities based on City of San Diego Roadway Classification & LOS table *(See Appendix C).*
b. Average Daily Traffic Volumes
c. Level of Service
d. Volume to Capacity ratio
e. Sundance Avenue is currently built to two-lane Collector standards with a 40' curb-to-curb width providing an LOS E capacity of 8,000 ADT.
f. Location of count data collected along Four-Lane Major Road section of Park Village Road west of Darkwood Road. Thus, the 40,000 ADT capacity was used in the analysis.

General Notes:

1. DNE = Does Not Exist

TABLE 6–3
EXISTING FREEWAY MAINLINE OPERATIONS

Freeway Segment	Dir	# of Lanes [a]	Hourly Capacity [b]	Volume [c]	Peak Hour Volume [d]		V/C [e]		LOS [f]	
					AM	PM	AM	PM	AM	PM
State Route 56										
1. Carmel Valley Rd to	EB	2M	4,000	65,000	2,884	2,808	0.721	0.702	C	C
Camino Del Sur	WB	2M	4,000		3,490	1,485	0.873	0.371	D	A
2. Camino Del Sur to	EB	2M	4,000	73,000	1,623	3,218	0.406	0.805	A	D
Black Mountain Rd	WB	2M	4,000		2,829	1,813	0.707	0.453	C	B
3. Black Mountain Rd to	EB	3M	6,000	73,000	2,267	3,058	0.378	0.510	A	B
Rancho Peñasquitos Blvd	WB	2M+1A	5,200		3,170	1,720	0.610	0.331	B	A
4. Rancho Peñasquitos Blvd	EB	2M	4,000	68,000	2,284	2,750	0.571	0.688	B	C
to I-15	WB	2M	4,000		2,842	2,349	0.711	0.587	C	B

Footnotes:

a. Lane geometry taken from PeMS lane configurations at corresponding postmile.
b. Capacity calculated at 2000 vehicles per hour (vph) per lane (pcphpl) for mainline lanes and 1200 vph for auxiliary lanes, from *Caltrans Guide for the Preparation of Traffic Impact Studies, Dec 2002.*
c. Existing ADT volumes taken from 2014 Caltrans traffic volumes.
d. Peak hour volumes taken from most recent 2014 PeMS traffic volumes.
e. V/C = (Peak Hour Volume/Hourly Capacity)
f. LOS = Level of Service

General Note:

1. M = Mainline
2. A = Auxiliary

TABLE 6–4
EXISTING RAMP METER ANALYSIS – FIXED RATE

Location	Peak Hour [a]	Lane	Existing						Observed [e]			
			Volume	Peak Hour Demand (D) [b]	Meter Rate [c]	Excess Demand (E) (veh)	Delay (min)	Queue (ft)[d]	Available Storage (ft) [f]	Maximum SOV Queue (ft)	Excess Demand (Max SOV Queue – Available Storage)	Maximum Delay (min/sec)
SR 56 / Camino Del Sur Interchange												
1. Camino Del Sur to SR 56 WB (2 SOV+1 HOV)	AM	SOV	436	218	680	0	0	0	700	200	0	00:26
		HOV	77	77	680	0	0	0	–	–	–	–
2. Camino Del Sur to SR 56 EB (2 SOV+1 HOV)	PM	SOV	866	433	800	0	0	0	610	320	0	00:35
		HOV	153	153	800	0	0	0	–	–	–	–
SR 56 / Black Mountain Road Interchange												
3. Black Mountain Rd to SR 56 WB (2 SOV+1 HOV)	AM	SOV	1267	633	765	0	0	0	1900	230	0	00:37
		HOV	224	224	765	0	0	0	–	–	–	–
4. Black Mountain Rd to SR 56 EB (2 SOV+1 HOV)	PM	SOV	615	307	910	0	0	0	1200	150	0	00:26
		HOV	108	108	910	0	0	0	–	–	–	–

Footnotes:

a. Selected peak hour based on period when ramp meter is operating.
b. Peak hour demand in vehicles/hour/lane for SOV and HOV lanes.
c. Most restrictive meter rates obtained from Caltrans measured in number of vehicles processed per hour per lane. *Appendix D* provides the Caltrans meter rate data.
d. Queue calculated assuming vehicle length of 25 feet.
e. Field observations conducted on Tuesday Jun 16, 2015 to verify accuracy of calculated queue lengths. SOV observed queues increased by a 15% seasonal adjustment factor.
f. Available storage represents total storage available in SOV lanes, on a per lane basis.

General Notes:

1. SOV = Single Occupancy Vehicle, HOV = High Occupancy Vehicle
2. Lane utilization factor accounted for in peak hour demand calculation. (Assumed 15% for HOV).

7.0 OPENING DAY (2020) CONDITIONS

For purposes of this analysis, it was assumed the Project would be constructed and fully operational by the Year 2020. This timeframe represents the near-term "Opening Day" baseline conditions. By Opening Day, it would be expected that ambient growth would occur within the study area due to other developments projects. "Cumulative" projects are other projects in the study area that are expected to be constructed and occupied between the date of existing data collection (May 2014) and the time of the Project's expected Opening Day in Year 2020, thus adding traffic to the local circulation system. LLG consulted with City of San Diego staff to identify relevant, pending cumulative projects in the study area that could be constructed and generating traffic in the Project vicinity. Based on information received from City staff and subsequent research, two (2) cumulative development projects are planned for the area for the Opening Day condition. The following is a brief description of each of the cumulative projects. ***Table 7–1*** provides a summary of the cumulative project trip generation summary. ***Figure 7–1*** depicts the Cumulative Projects Location Map.

7.1 Description of Cumulative Projects

1. **Merge 56** proposes to develop 525,000 square feet of commercial, office, theater and hotel uses, and 242 residential dwelling units. The residential units would include a mix of housing types including multi-family (approximately 47 affordable units), townhomes (approximately 111 units), and single family (approximately 84 units). The project includes the construction of Camino Del Sur south of Torrey Santa Fe Road to its current terminus north of Dormouse Road and the realignment and construction of Carmel Mountain Road from Via Las Lenas to Camino Del Sur. The project requires a Community Plan Amendment and currently has an discretionary permit application into the City (PTS#360009) as of August 12, 2013. The proposed Merge 56 project was included in both the near-term and long-term analyses. The project is calculated to generate approximately 19,468 ADT with 806 inbound and 386 outbound trips in the AM peak hour, and 929 inbound and 1,166 outbound trips in the PM peak hour. *Trip distribution and assignment taken from a SANDAG Series 12 Year 2035 Select Zone Assignment prepared for a custom zone assigned to Merge 56 used in the City staff-approved LLG traffic study dated January 14, 2016.*

2. **KB Homes** is currently under construction to develop 94 single-family homes along the existing two-lane portion of Carmel Mountain Road south of Sundance Drive and north of Via Las Lenas, north and south of SR 56. The project is calculated to generate approximately 940 ADT with 15 inbound and 60 outbound trips in the AM peak hour, and 66 inbound and 28 outbound trips in the PM peak hour. The proposed KB Homes project representing Units 1, 6 and 7 of the original Rhodes Crossing VTM was included in both the near-term and long-term analysis. *Trip generation distribution and assignment was taken from the Rhodes Crossing Units 1, 6 and 7 Traffic Study prepared by Urban Systems Associates in February 2014.*

TABLE 7–1
CUMULATIVE DEVELOPMENT PROJECTS SUMMARY

No.	Name	Project	ADT [a]	AM		PM		Status
				In	Out	In	Out	
1	Merge 56	525 KSF Commercial/ Office + 242 Residential Units	19,468	806	386	929	1,166	Under Review CPA Initiated August 2013
2	KB Homes	94 Single-Family Homes	940	15	57	66	28	Approved – Under Construction
Total Cumulative Projects			**20,408**	**1,746**	**443**	**995**	**1,194**	–

Footnotes:

a. Average daily traffic.

Other cumulative projects were noted by City staff during the scoping process for the Project: Santa Fe Summit II & III; New One Paseo; and Rhodes CPA. Upon further review, it was determined that although Santa Fe Summit II & III has completed grading for the site, the property has sat vacant for several years with an unknown timeframe for physical building construction and occupancy. It was therefore decided to exclude traffic from this cumulative project in the Opening Day analysis, but assume full occupancy by Year 2035. For the New One Paseo project, a review of the traffic study completed by Urban Systems Associates, March 23, 2012 and reduced project traffic assignment indicate that zero trips were forecasted within the Project study area and only a nominal amount of trips would use SR 56 near the Project. It was therefore determined to exclude the New One Paseo project from the Opening Day analysis. Lastly, the Rhodes CPA, initiated in November 2013, has yet to submit a permit application and therefore has no reasonably foreseeable completion date. This CPA project was thus excluded from traffic the Opening Day analysis, but assumed to be completed by Year 2035. *Section 10.0* of this report discusses these long-term cumulative projects in more detail.

7.2 Network Conditions

Improvements to the roadway system would be necessary with the proposed development of the Opening Day cumulative projects. For the KB Homes project, access intersections would be constructed along the existing portion of Carmel Mountain Road south of Sundance Avenue. KB Homes is also required by its permit conditions to install a traffic signal at the Carmel Mountain Road and Sedorus Street intersection with the occupation of Units 1, 6 and 7. This signalization was included in the Opening Day conditions.

As mentioned earlier in *Section 2.4* of this report, the Merge 56 development proposes to construct the Camino Del Sur Extension Project and Carmel Mountain Road. As part of that project, the approved *Public Facilities Phasing for Plan Rhodes Crossing Final Map* has been revised by Latitude 33 Planning and Engineering, as part of the entitlement process to identify Merge 56 as

responsible for the full width improvements to construct Camino Del Sur and Carmel Mountain Road in their entirety with financial reimbursement provided by the Torrey Highlands FBA.

Camino Del Sur from Torrey Santa Fe Road to the proposed Project's Northerly Driveway/ Merge 56's Private Drive 'M' would be designed as a Four-Lane Major Arterial with intersection enhancements; from Private Drive 'M' to Carmel Mountain Road it would also be a Four-Lane Major Arterial with intersection enhancements; and from Carmel Mountain Road to Dormouse Road it would be a Two-Lane Modified Collector with a raised median. Bike lanes will be provided on all sections of Camino Del Sur South and curbside parking will be prohibited. In addition, a parkway-adjacent five-foot wide decomposed granite (DG) running path is proposed connecting the existing trail from Del Mar Mesa Preserve in the west to Darkwood Canyon in the east. The path will start at the base of the western fill slope on the west side of Camino Del Sur just north of Private Drive 'M' (north of the Northern Project Driveway), cross at the Carmel Mountain Road intersection to the east side of the roadway, and continue south to the proposed connection with Darkwood Canyon.

Carmel Mountain Road would be designed as a Two-Lane Modified Collector with a raised median. Bike lanes will be provided on Carmel Mountain Road south of SR 56 and curbside parking will be prohibited. A roundabout is proposed by Merge 56 at the intersection of Carmel Mountain Road and Private Drive 'M'/Via Las Lenas.

The two PFFP roadways would be connected by Private Drive 'M' through the Merge 56 development. The following summarizes the off-site network improvements proposed by the Merge 56 project included in the Opening Day conditions:

Camino Del Sur – Constructed from Torrey Santa Fe Road to Private Drive 'M' as a Four-Lane Major Arterial with an LOS E capacity of 40,000 ADT (with intersection enhancements providing for additional lanes – a third southbound lane turning right onto the west leg of the Private Drive 'M' intersection).. South of Private Drive 'M' to Carmel Mountain Road, constructed as a Four-Lane Major Arterial providing for an LOS E capacity of 40,000 ADT. From Carmel Mountain Road to the existing terminus north of Dormouse Road, constructed as a Two-Lane Modified Collector with raised center median providing for an LOS E capacity of 15,000 ADT. Bike lanes will be provided on all sections of Camino Del Sur south of Torrey Santa Fe Road and curbside parking will be prohibited. It should be noted the Project proposes to extend the third southbound lane from Private Drive 'M' (Project Northerly Driveway) to the Southerly Driveway, trapping into the de-facto southbound right-turn lane.

Signalized intersections at Private Drive 'M' (the Northerly Project Driveway) and Dormouse Road are assumed.

PFFP Projects: *Torrey Highlands PFFP Project No. T3-1.A, T3-1.B and 3-2.A and 3-2.B; Rancho Peñasquitos PFFP Project No. T-4B*

Carmel Mountain Road – Constructed from SR 56 to Camino Del Sur as a Two-Lane Modified Collector with a raised center median providing for an LOS E capacity of 15,000 ADT. Bike lanes will be provided on Carmel Mountain Road south of SR 56 and curbside parking will be prohibited.

A four-legged roundabout is proposed by Merge 56 at the Carmel Mountain Road/Private Drive 'M'/Via Las Lenas intersection.

PFFP Projects: *Torrey Highlands PFFP Project No. T-5.1 and T-5.2; Rancho Peñasquitos PFFP Project No. T-5B; Rancho Peñasquitos PFFP Project No. T-15*

Appendix A contains excerpts from the sourced PFFPs.

Black Mountain Road CPA – Black Mountain Road is classified as a Six-Lane Primary Arterial starting from Twin Trails Drive continuing south to the Rancho Peñasquitos Community Plan border. This portion of Black Mountain Road is in the process of being downgraded on the Rancho Peñasquitos Community Plan to maintain its current configuration as a Four-Lane Major Arterial. An amendment to the Rancho Peñasquitos Community Plan to downgrade this roadway classification is in progress by Black Mountain Ranch and anticipated to go before City Council in 2018, based on information provided by the consultant who prepared that study.

With these major network changes in the direct vicinity of the proposed Project, changes in existing traffic volumes would result. The following section discusses the Opening Day traffic volumes.

Table 7–2 provides a summary for the Opening Day (2020) roadway network conditions. ***Figure 7–2*** shows the Opening Day (2020) Conditions Diagram without the Project. ***Figure 7–3*** shows the Opening Day (Year 2020) Conditions Diagram focusing on the access changes with and without the Project.

TABLE 7–2
OPENING DAY (2020) ROADWAY NETWORK CONDITIONS

Planned Roadway Network	Scenario	
	Opening Day Without Project	**Opening Day With Project**
Roadway Segments		
Camino Del Sur (Torrey Santa Fe Road to Dormouse Road)	Fully Constructed	Fully Constructed
Carmel Mountain Road (South of Via Panacea)	Fully Constructed	Fully Constructed
Merge 56 Private Drive 'M'	Fully Constructed	Fully Constructed
Intersections		
Camino Del Sur/ Northern Project Driveway/ Private Drive 'M'	Partially Constructed for Merge 56 Access	Fully Constructed
Camino Del Sur/ Southern Project Driveway	Does Not Exist	"tee" Intersection
Camino Del Sur/ Carmel Mountain Road	"tee" Intersection	"tee" Intersection
Carmel Mountain Road/ Via Las Lenas/ Private Drive 'M'	Fully Constructed	Fully Constructed

General Notes:

1. Camino Del Sur network condition represents the planned extension from its current terminus at Torrey Santa Fe Road to its southerly connection just north of Dormouse Road.
2. Carmel Mountain Road network condition represents the planned extension from its current terminus at Via Panacea to Camino Del Sur, including the realignment from Via Las Lenas.
3. Private Drive 'M' is an on-site roadway primarily serving the Merge 56 project that will experience cut-through traffic (including Project trips) between Camino Del Sur and Carmel Mountain Road under the Opening Day and Year 2035 conditions.
4. Further details on the Project Access intersections are provided in *Section 12.1* of this report.
5. "Fully Constructed" represents construction of roadways to their current Community Plan classification. ("Fully Constructed" for Camino Del Sur from Private Drive 'M' to just north of Dormouse Road and for Carmel Mountain Road from SR 56 to Camino Del Sur represents the proposed Merge 56 Community Plan Amendment downgraded classification.)

7.3 Traffic Volumes

The connections of Camino Del Sur and Carmel Mountain Road by Merge 56 provide an important link in the Rancho Peñasquitos street network. These roadways provide a more direct route for trips destined to/from SR 56 from Carmel Valley Road, Park Village Road, and Carmel Mountain Road, reducing the number of trips along Park Village Road, Black Mountain Road, Sundance Avenue and Carmel Mountain Road.

With the connection of these roadways and the more direct access to SR 56 at the Camino Del Sur interchange, along with the downgrade of Black Mountain Road to maintain its four-lane configuration, it would be expected that drivers in the area would alter their travel patterns along study area roadways. In order to account for these changes in traffic volumes, a portion of the residential trips from the communities north and south of SR 56 between Camino Del Sur and Black Mountain Road were rerouted from the Black Mountain Road interchange to Camino Del Sur.

Northern Residential Community (Twin Trails)
Of the many residences along Carmel Mountain Road from its current terminus just south of Sundance Avenue near SR 56 and to Black Mountain Road in the east and along Sundance Avenue, it was assumed that approximately 35% of existing trips would reroute from the Black Mountain Road interchange to the Camino Del Sur interchange, reducing the number of trips along Carmel Mountain Road and Sundance Avenue toward the east and Black Mountain Road. These trips would travel along the southwest portion of Carmel Mountain Road over SR 56 and use the proposed Private Drive 'M' access road to reach the Camino Del Sur interchange.

Due to the current development of the Twin Trails neighborhood, vehicular access to Camino Del Sur is restricted by a finger canyon just west of Russett Leaf Lane and per previous decisions to have no local connections between Rancho Peñasquitos and Torrey Highlands between SR 56 and Carmel Valley Road. In order to reach any of the land uses along Camino Del Sur and/or SR 56, the Twin Trails residents must currently travel via Black Mountain Road to SR 56 in the south or via Black Mountain Road to Carmel Valley Road in the north. A review of the SANDAG Year 2035 model indicates that approximately 4,700 ADT from the Twin Trails neighborhood would travel on Carmel Mountain Road south of Sundance Avenue using Private Drive 'M' to reach the Camino Del Sur/SR 56 interchange with the completion of the roadway network while approximately 8,300 ADT would remain on Carmel Mountain Road using Black Mountain Road to/from SR 56. For the total trips assumed to be entering/exiting Twin Trails (13,000 ADT), the 4,700 ADT using Carmel Mountain Road to Private Drive 'M' to the Camino Del Sur/ SR 56 interchange account for approximately 35% of the total trips. It was therefore determined that approximately 35% of existing area traffic would reroute to Private Drive 'M' with the completion of Camino Del Sur, Carmel Mountain Road and Private Drive 'M'.

As a result of this change in travel patterns, existing traffic volumes were also rerouted through the Merge 56 site, using Private Drive 'M' as a cut-through street.

Southern Residential Community (Park Village)
Of the many residences along Park Village Road taking access to SR 56 via Black Mountain Road, it was assumed that approximately 25% of existing trips would reroute from the Black Mountain Road interchange to the Camino Del Sur interchange, reducing the number of trips along Park Village Road to the east and on Black Mountain Road.

A review of the SANDAG Year 2035 traffic model with the completion of Camino Del Sur, Carmel Mountain Road, and Black Mountain Road as a four-lane roadway indicates that approximately 8,400 ADT from the Park Village community would travel on the new Camino Del Sur connection to/from SR 56 north and approximately 15,800 ADT would travel on Black Mountain Road to/from SR 56. For the total trips assumed to be entering/exiting Park Village (24,200 ADT), the 8,400 ADT using Camino Del Sur account for approximately 35% of the total trips. Since 2,000 ADT of the 8,400 ADT assigned to Camino Del Sur South are generated by the Merge 56 land uses (1,500 ADT) and the proposed Project (500 ADT), the 35% reroute was reduced to 25% for use as the baseline assumption in the Opening Day analysis.

In order to arrive at Opening Day baseline conditions, the rerouted existing traffic volumes were added to/deducted from the existing traffic volumes and then the individually cumulative projects assignments were included.

The rerouted existing traffic volumes can be found in ***Appendix F***. ***Appendix F Figure 1*** illustrates the Rerouted Existing traffic volumes and ***Appendix F Figure 2*** shows the Existing + Rerouted Existing traffic volumes with the completion of the network improvements.

Figure 7–3 depicts the individual Cumulative Projects traffic volumes on the Opening Day network and ***Figure 7–4*** depicts the Opening Day (2020) Without Project traffic volumes (existing + rerouted existing + cumulative assignments). ***Appendix G*** contains the individual cumulative projects assignment sheets.

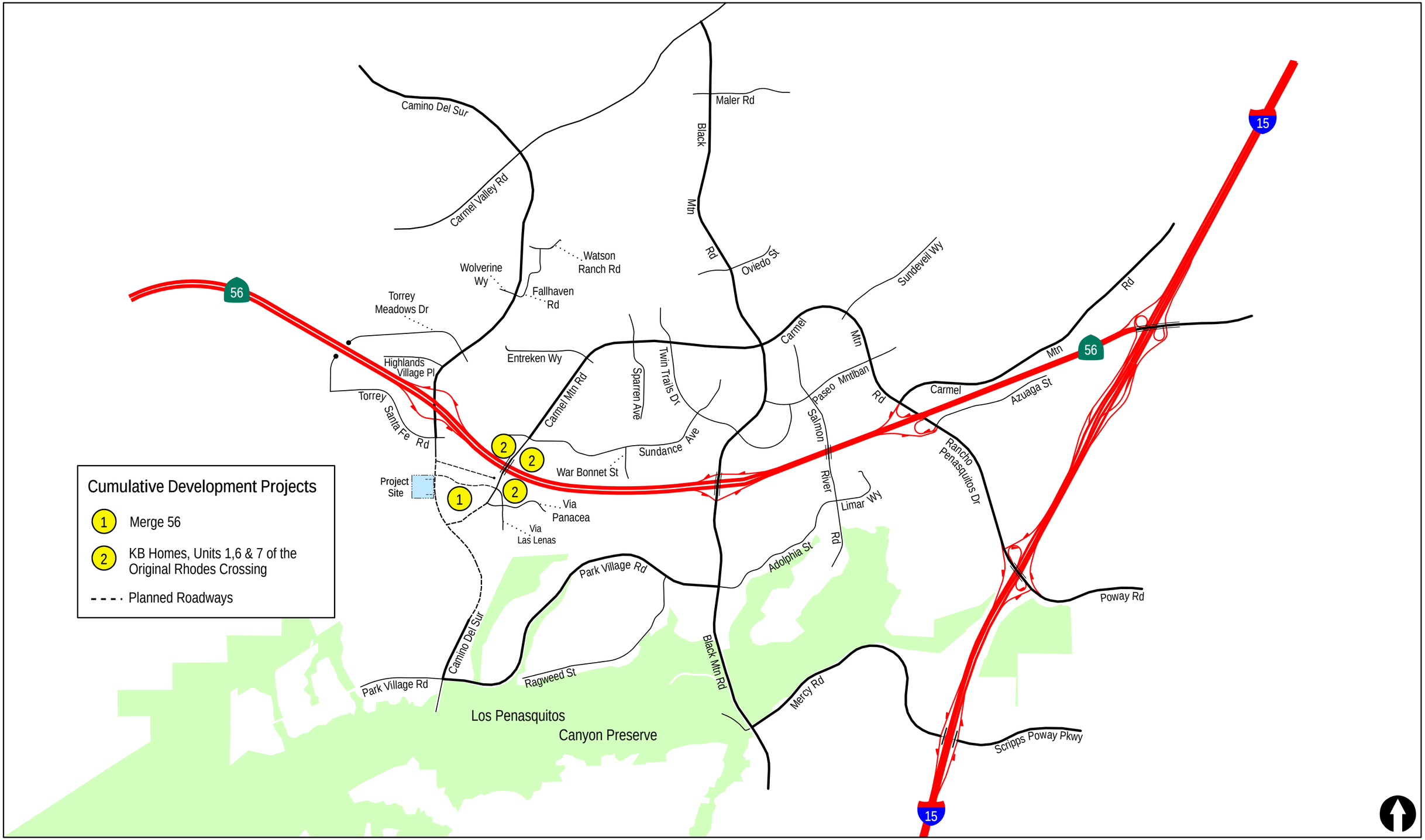

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Figure 7-1

Cumulative Projects Location Map

THE PRESERVE AT TORREY HIGHLANDS

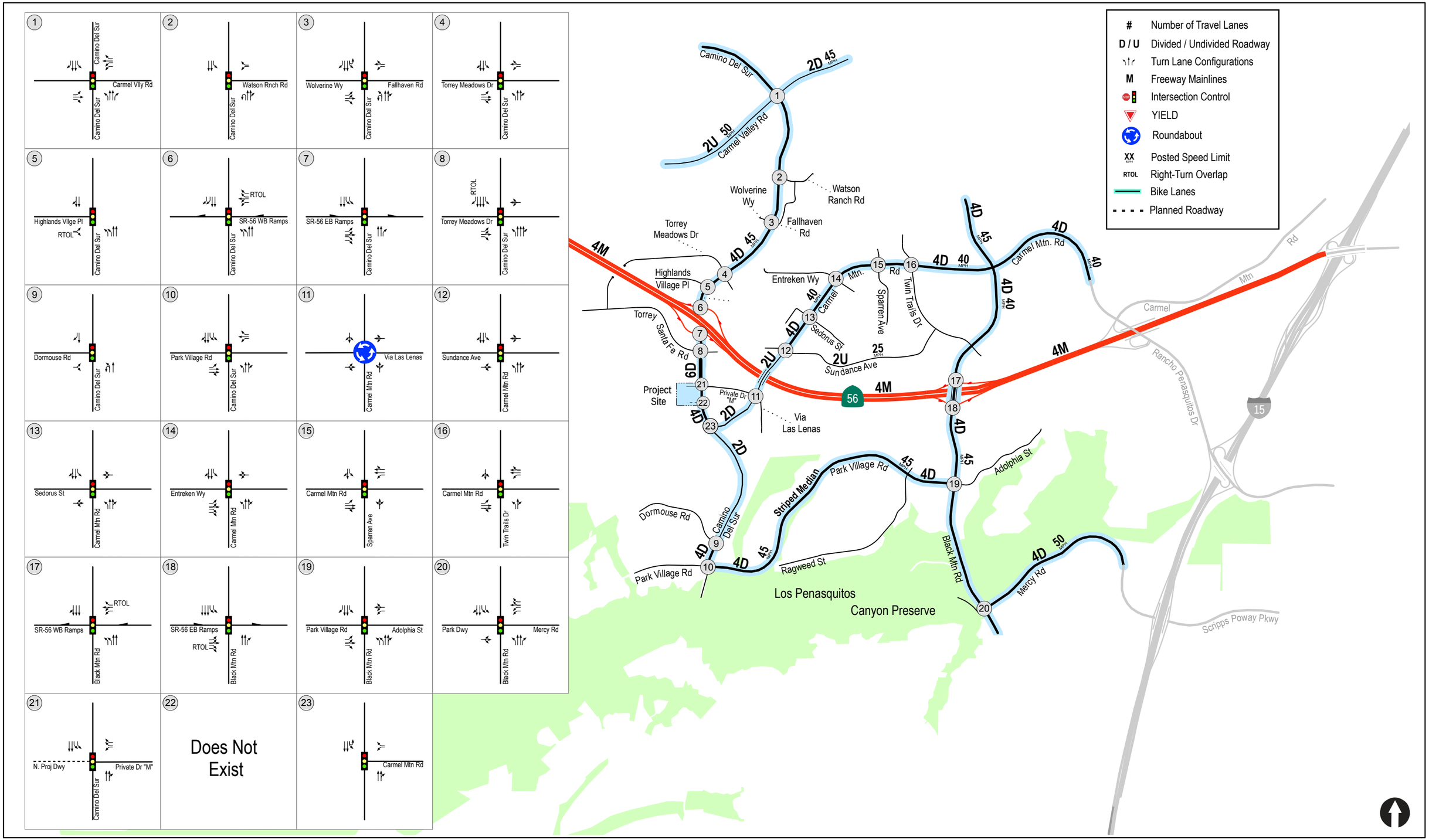

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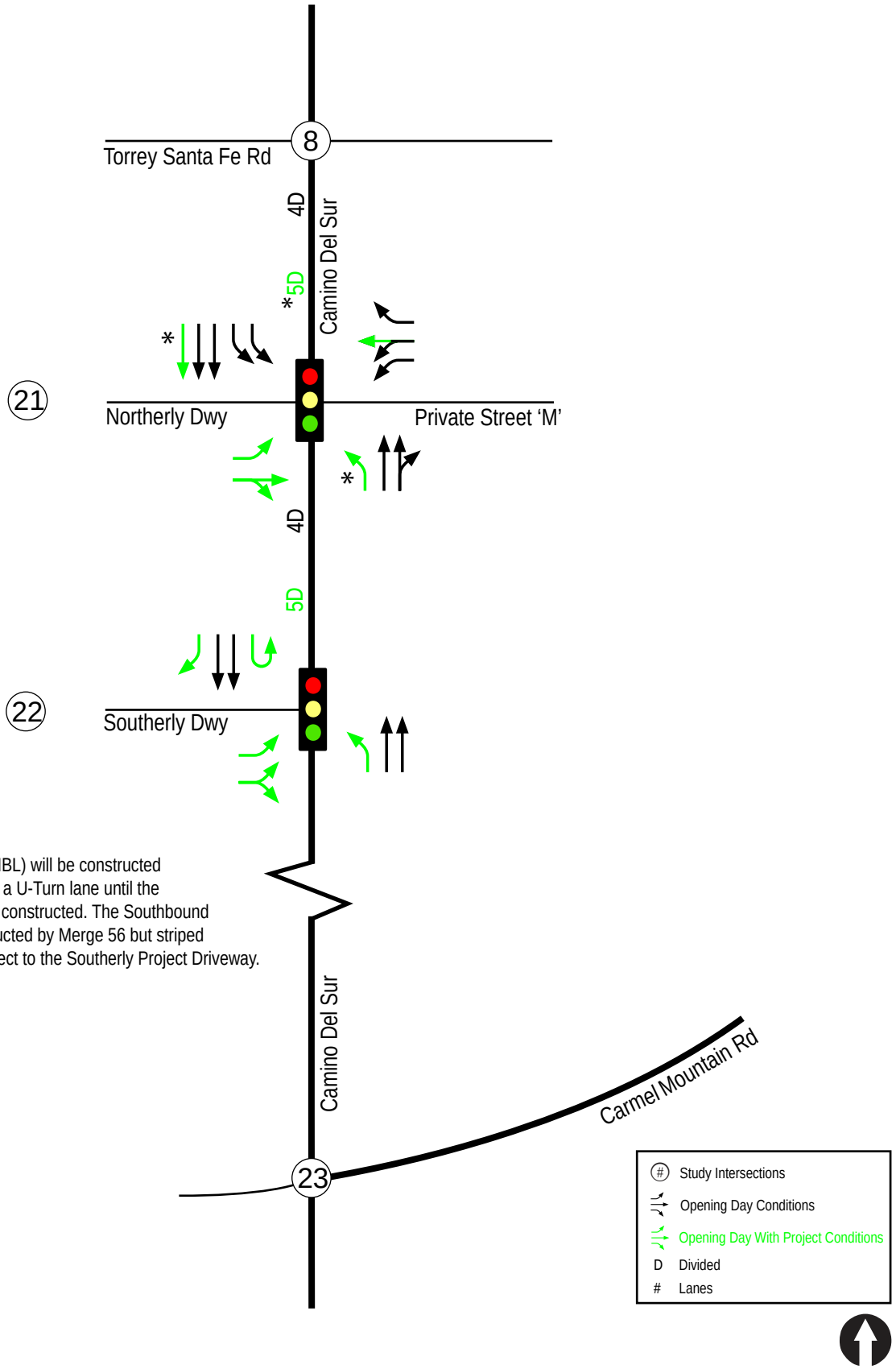
Figure 7-2

Opening Day (2020) Conditions Diagram

THE PRESERVE AT TORREY HIGHLANDS



* The Northbound Left-Turn (NBL) will be constructed by Merge 56 but will serve as a U-Turn lane until the Northerly Project Driveway is constructed. The Southbound Through (SBT) will be constructed by Merge 56 but striped out until extended by the project to the Southerly Project Driveway.

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Figure 7-3

Opening Day (2020) Project Access Diagram

THE PRESERVE AT TORREY HIGHLANDS

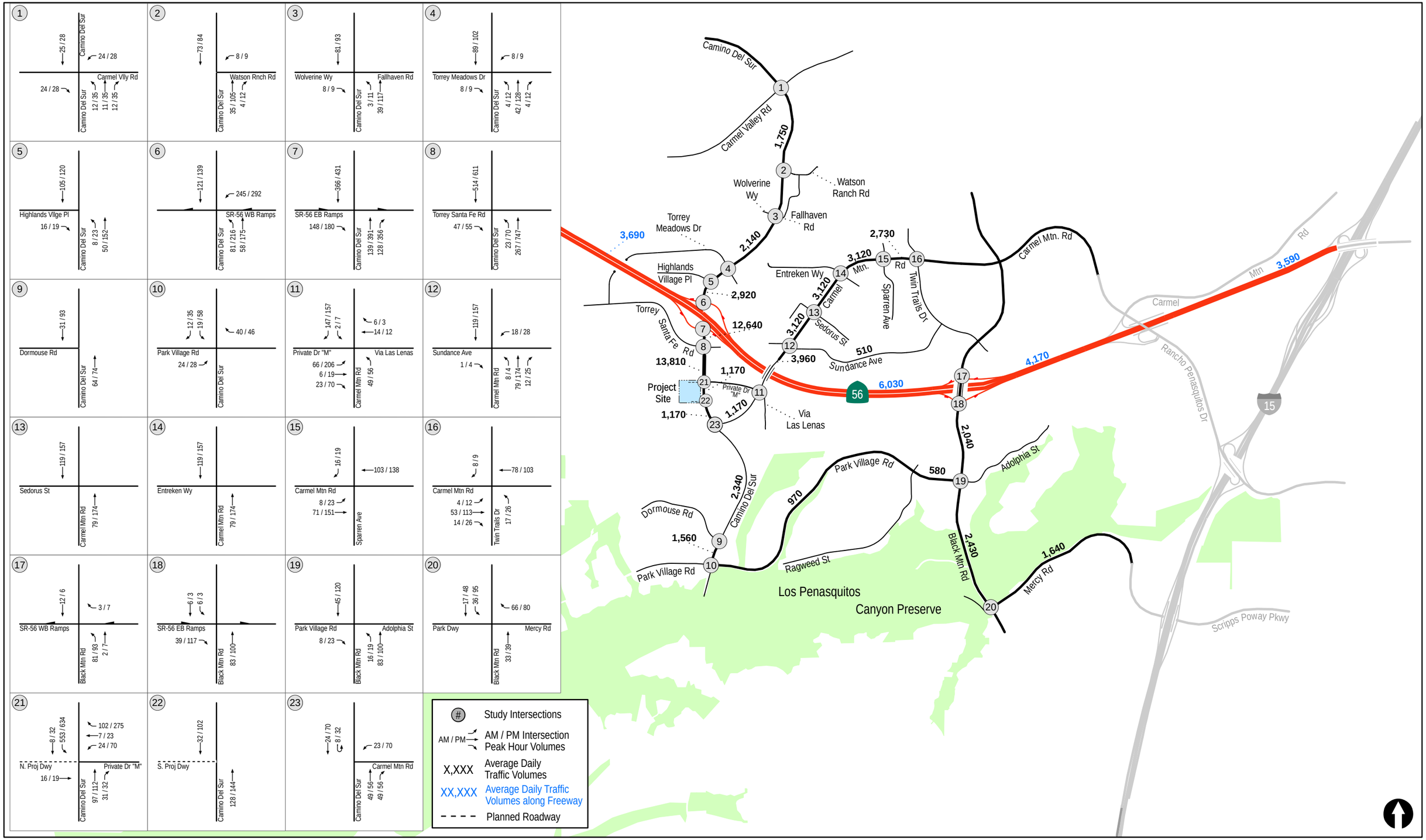

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Figure 7-4

Cumulative Projects Only Traffic Volumes

Opening Day Network

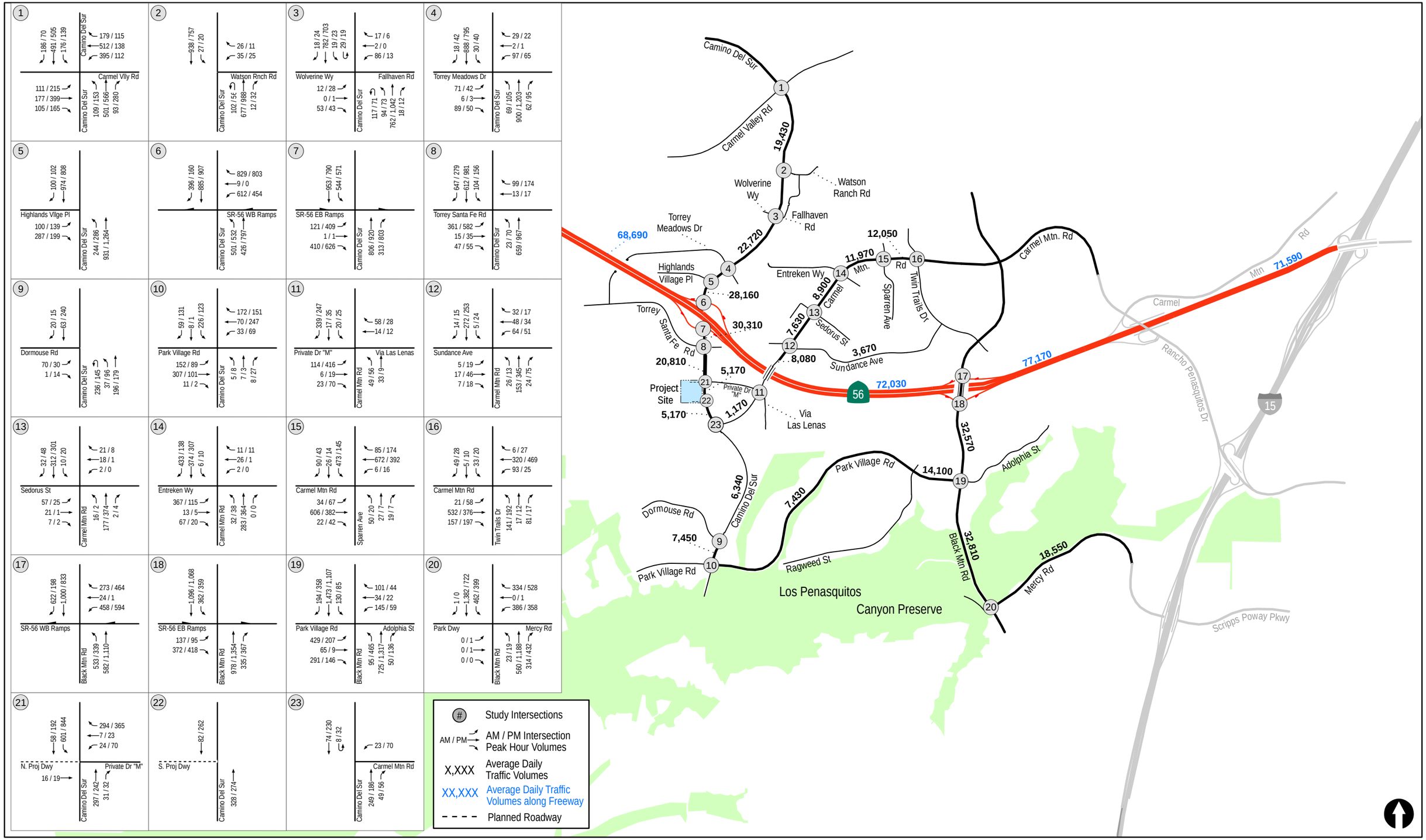

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Figure 7-5

Opening Day (2020) Without Project Traffic Volumes

Opening Day Network

8.0 TRIP GENERATION/DISTRIBUTION/ASSIGNMENT

8.1 Trip Generation

The Project is proposed to be constructed and occupied as a commercial office "campus". Therefore, a phased analysis was not conducted. Trip generation estimates for the proposed development were calculated using published City of San Diego trip rates. The Project proposes 450,000 SF of commercial office with a 3,800 SF internal site café serving the employees of the offices. Using the City's logarithmic formula for commercial office land use, the Project is calculated to generate 5,264 ADT with 684 AM peak hour trips (616 inbound / 68 outbound) and 737 PM peak hour trips (147 inbound / 590 outbound), as shown in ***Table 8–1***.

TABLE 8–1
PROJECT TRIP GENERATION

Land Use	Size	Daily Trip Ends (ADTs) [a]		Peak Hour	% of ADT [b]	In:Out	Volume		
		Rate [b]	Volume			Split [b]	In	Out	Total
Commercial Office	450 KSF	[c]	5,264	AM	13%	9:1	616	68	684
				PM	14%	2:8	147	590	737

Footnotes:

a. ADT = Average Daily Traffic.
b. Rates taken from the City of San Diego Trip Generation Rate Summary Table.
c. $\text{Ln}(T) = 0.756\ \text{Ln}(x) + 3.95$; where x is the Gross Floor Area in KSF

General Notes:

1. KSF = thousand square feet

8.2 Trip Distribution/Assignment

The SANDAG Series 12 Year 2035 traffic model was utilized to obtain a Select Zone Assignment (SZA) for the purposes of estimating trip distribution and ultimately the study area. Two zones in the SANDAG base model were modified to represent a) the Proposed Project (TAZ 4684), and b) the adjacent Merge 56 project (TAZ 4683) given the close proximity of these two projects and the substantial changes in network conditions with the development of Merge 56. In addition, the Merge 56 zone was modified to include the proposed Private Drive 'M', which is the private drive proposed to provide primary internal circulation to that site and an alternative route for existing and Project trips destined to/from Carmel Mountain Road north of SR 56. Both projects were coded into the TAZs given their respective proposed land uses.

The Year 2035 street network used in the SANDAG SZA models included the following:

Network	Assumption	Notes
SR 56	Four-Lane Regional Freeway	Six-Lane Widening Project Not fully funded, not planned to be completed by Year 2035
Camino Del Sur Extension south of Carmel Mountain Road	Four-Lane Major	As part of the Merge 56 project Traffic Impact Study to be reclassified to two lanes given low forecast volumes
Carmel Mountain Road	Four-Lane Major	As part of the Merge 56 project Traffic Impact Study to be reclassified to two lanes given low forecast volumes
Black Mountain Road	Six-Lane Primary Arterial	Community Plan Amendment by Black Mountain Ranch to reclassify as a Four-Lane Major currently under review

Following a thorough review of the traffic modeling results, it is believed that the SZA overstates potential trips on Park Village Road between the Project and Black Mountain Road at 13%. It would be expected that a larger portion of those trips (5%) would utilize SR 56 to travel between the site and Black Mountain Road. This discrepancy is likely due to future forecast volumes on SR 56 as a four-lane facility deterring trips from local roadways.

Similarly, the model forecasts 9% of traffic on Black Mountain Road south of Mercy Road. This distribution also appears to be overstated given that the office land use generates trips that are mostly freeway-oriented and the Project site is in close proximity to SR 56.

Appendix H provides a graphic depicting the original distribution generated by the SZA model and a marked-up version showing the overall proposed Project trip distribution with the rerouted changes discussed above. The primary changes to the SZA are listed below:

- 9% oriented to the south on Camino Del Sur to Black Mountain Road via Park Village Road redirected via SR 56 to Black Mountain Road.
- 7% oriented to I-15 via Black Mountain Road south of Mercy Road redirected to the east via Mercy Road to I-15.

Figures 8–1 and ***8–2*** depicts the Project trip distribution and trip assignment under Opening Day conditions, respectively.

Figure 8–3 shows the Opening Day (2020) With Project traffic volumes for the study area locations.

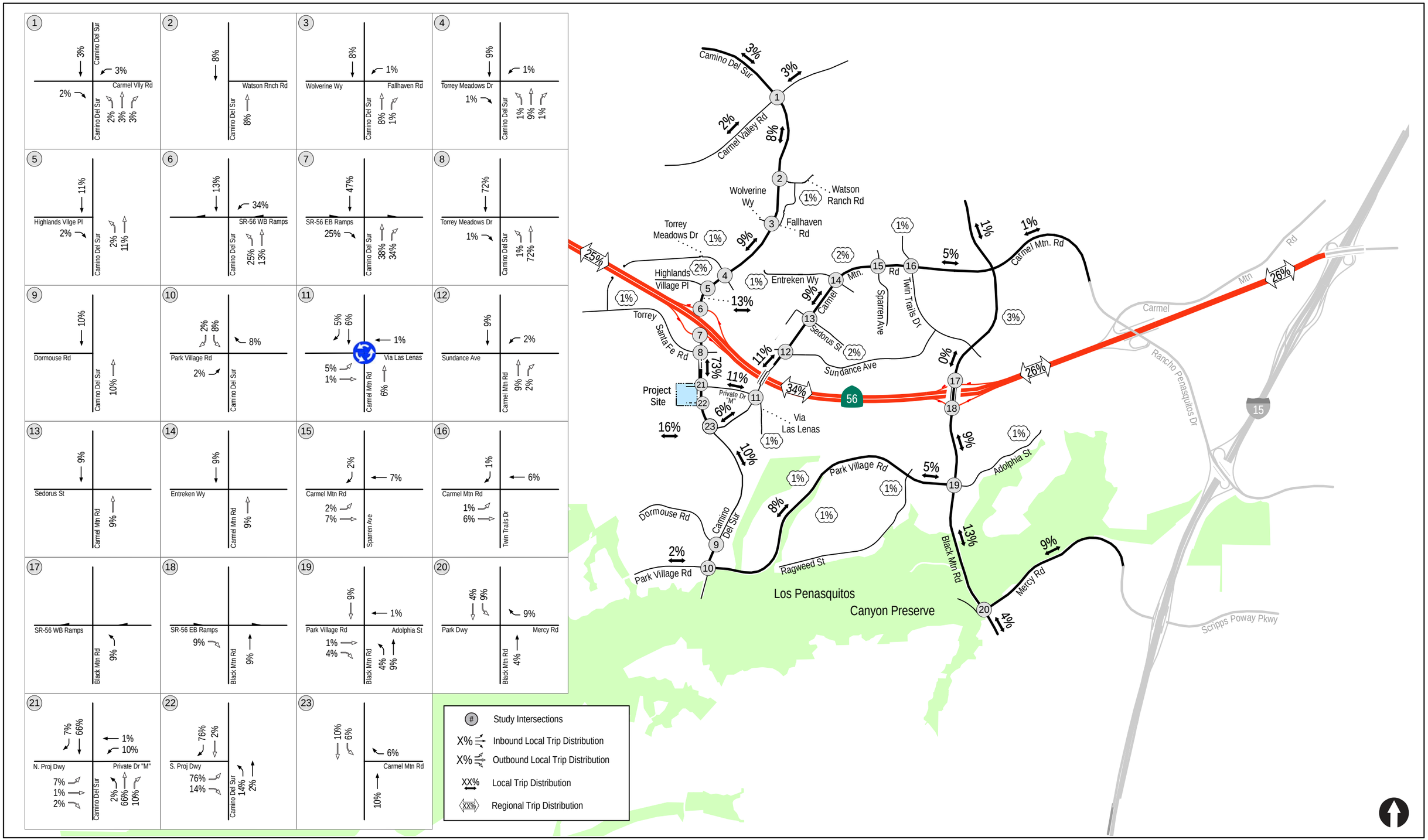

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Figure 8-1

Project Trip Distribution

THE PRESERVE AT TORREY HIGHLANDS

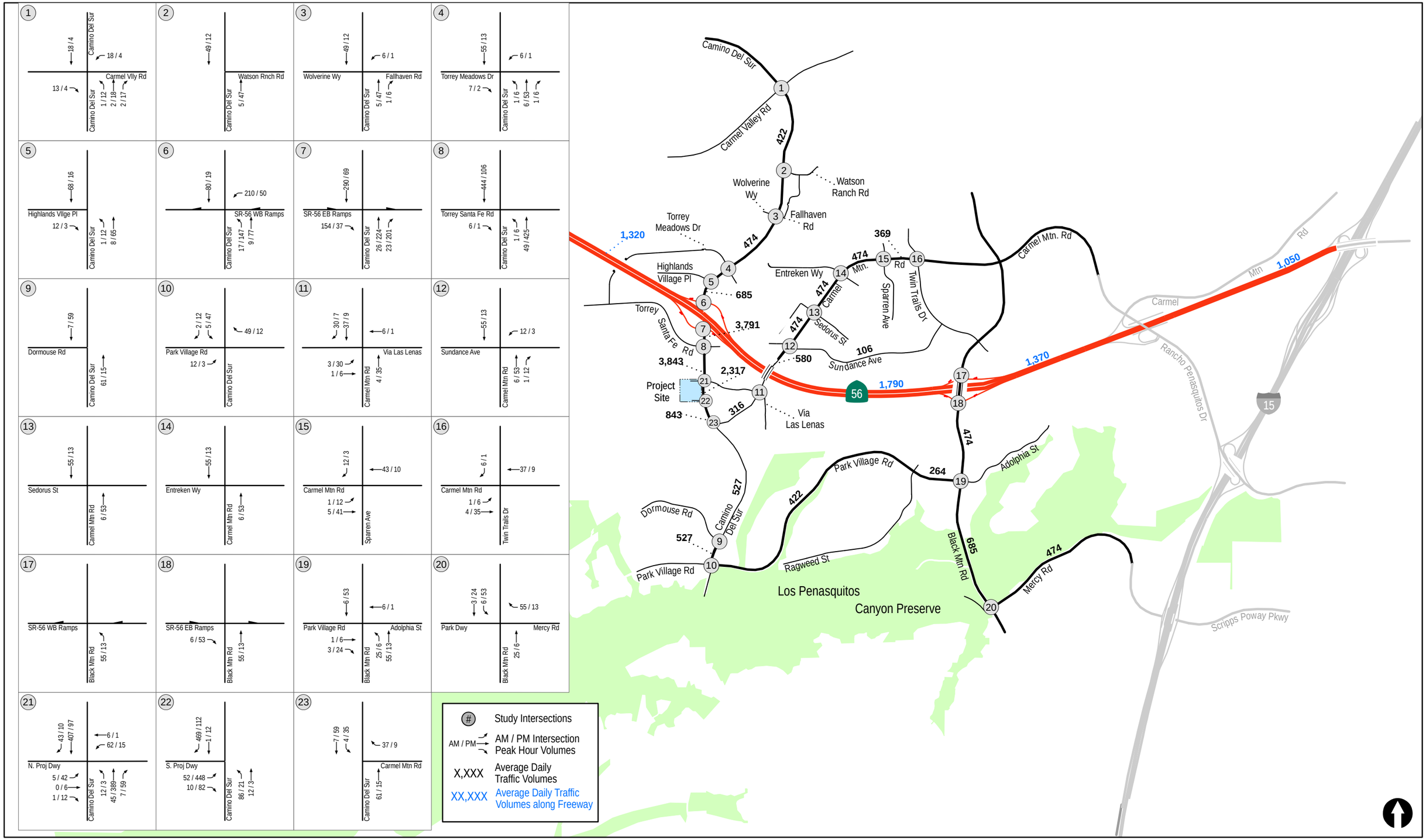

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Figure 8-2

Project Traffic Volumes

Opening Day Network

THE PRESERVE AT TORREY HIGHLANDS

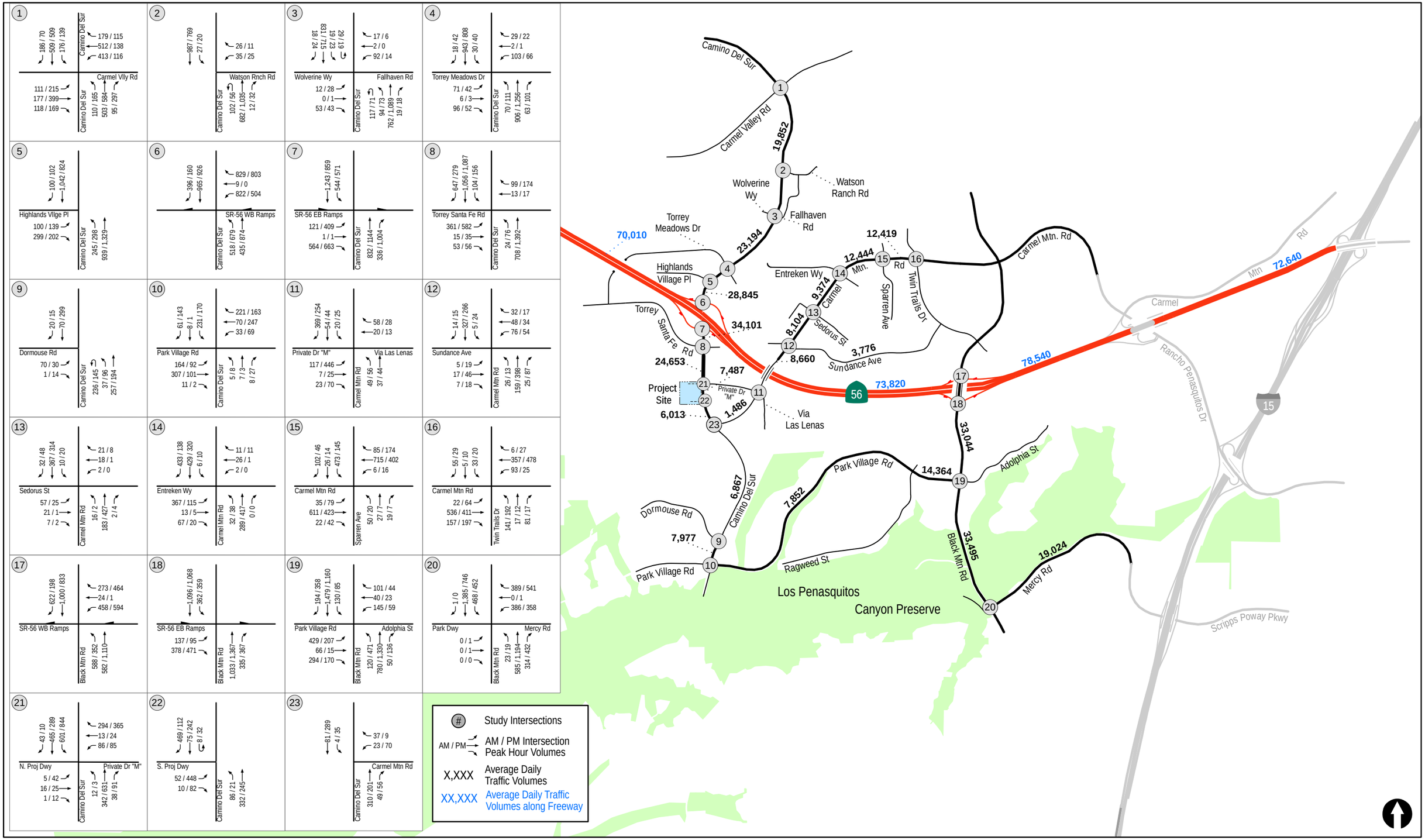

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Figure 8-3

Opening Day (2020) With Project Traffic Volumes

Opening Day Network

9.0 ANALYSIS OF OPENING DAY (2020) SCENARIOS

The Opening Day Without Project scenario is an assessment of the impact of ambient growth due to cumulative development projects within the general study area expected to occur by opening day of the proposed Project, in relation to the existing conditions. The Opening Day With Project scenario is an assessment of the impact of the total Project in relation to the near-term baseline condition. These analyses include intersection, street segment, freeway mainline operations, and ramp meter operations.

9.1 Opening Day (2020) Without Project

9.1.1 *Peak Hour Intersection Operations*

Table 9–1 summarizes the Opening Day Without Project intersection operations. As seen in *Table 9–1*, the following study area intersections are calculated to operate at LOS E or F under Opening Day Without Project conditions:

- Intersection #3. Camino Del Sur/ Wolverine Way – LOS E (AM peak hour)
- Intersection #19. Black Mountain Road/ Park Village Road – LOS E (AM peak hour)

Appendix I contains the Opening Day Without Project peak hour intersection calculation worksheets.

9.1.2 *Daily Street Segment Operations*

Table 9–2 summarizes the Opening Day Without Project street operations. As seen in *Table 9–2*, all study area street segments are calculated to operate at LOS D or better under Opening Day Without Project conditions.

9.1.3 *Peak Hour Freeway Mainline Operations*

Table 9–3 shows that the study area freeway mainline segments are calculated to operate at LOS D or better under Opening Day Without Project conditions.

9.1.4 *Peak Hour Freeway Ramp Meter Operations*

Table 9–4 summarizes the operations of the on-ramp meter using the fixed rate analysis methodology with the addition of cumulative projects traffic. As seen in *Table 9–4*, there is no delay calculated for any of the study area on-ramps under Opening Day Without Project conditions.

9.2 Opening Day (2020) With Project

9.2.1 *Peak Hour Intersection Operations*

Table 9–1 summarizes the Opening Day With Project intersection operations. As seen in *Table 9–1*, the following study area intersections are calculated to continue to operate at LOS E or F conditions with the addition of Project traffic:

- Intersection #3. Camino Del Sur/ Wolverine Way – LOS E (AM peak hour)
- Intersection #19. Black Mountain Road/ Park Village Road – LOS E (AM peak hour)

Based on City of San Diego significance criteria, **no significant direct impacts** were calculated with the addition of Project traffic at study area locations.

Appendix J contains the Opening Day With Project peak hour intersection calculation worksheets.

9.2.2 *Daily Street Segment Operations*

Table 9–2 summarizes the Opening Day With Project street segment operations. As seen in *Table 9–2*, all study area street segments are calculated to operate at LOS D or better with the addition of Project traffic.

Based on City of San Diego significance criteria, **no significant direct impacts** were calculated with the addition of Project traffic at study area locations.

9.2.3 *Peak Hour Freeway Mainline Operations*

Table 9–3 shows that the study area freeway mainline segments are calculated to operate at LOS D or better with the addition of Project traffic to the Opening Day condition.

Based on City of San Diego significance criteria, **no significant impacts** were calculated with the addition of Project traffic at study area freeway mainline segments.

9.2.4 *Peak Hour Freeway Ramp Meter Operations*

As seen in *Table 9–4*, there is no delay calculated for any of the study area on-ramps under Opening Day With Project conditions.

Based on City of San Diego significance criteria, **no significant impacts** were calculated with the addition of Project traffic at study area ramp meter locations.

TABLE 9–1
OPENING DAY (2020) INTERSECTION OPERATIONS

Intersection	Control Type	Peak Hour	Opening Day Without Project		Opening Day With Project		Δ [c] Delay	Sig?
			Delay [a]	LOS [b]	Delay	LOS		
1. Carmel Valley Rd / Camino Del Sur	Signal	AM	43.0	D	43.1	D	0.1	No
		PM	36.4	D	36.9	D	0.5	
2. Camino Del Sur / Watson Ranch Rd	Signal	AM	24.9	C	25.1	C	0.2	No
		PM	8.7	A	9.1	A	0.4	
3. Camino Del Sur / Wolverine Wy	Signal	AM	59.4	E	59.7	E	0.3	No
		PM	15.7	B	15.9	B	0.2	
4. Camino Del Sur / Torrey Meadows Dr	Signal	AM	27.2	C	27.5	C	0.3	No
		PM	20.3	C	21.4	C	1.1	
5. Camino Del Sur / Highlands Village Pl	Signal	AM	17.0	B	17.8	B	0.8	No
		PM	14.0	B	14.6	B	0.6	
6. Camino Del Sur / SR 56 WB Ramps	Signal	AM	34.7	C	41.0	D	6.3	No
		PM	33.4	C	37.8	D	4.0	
7. Camino Del Sur / SR 56 EB Ramps	Signal	AM	23.8	C	27.4	C	3.6	No
		PM	38.8	D	49.6	D	10.8	
8. Camino Del Sur / Torrey Santa Fe Rd	Signal	AM	18.3	B	19.0	B	0.7	No
		PM	30.4	C	33.9	C	3.5	
9. Camino Del Sur / Dormouse Rd	Signal	AM	11.8	B	11.9	B	0.1	No
		PM	12.8	B	13.2	B	0.4	
10. Camino Del Sur / Park Village Rd	Signal	AM	20.3	C	20.4	B	0.1	No
		PM	18.6	B	19.3	B	0.7	
11. Carmel Mountain Rd / Via Las Lenas/ Private Dr. 'M'	Round-about	AM	7.4	A	8.6	A	1.2	No
		PM	10.2	B	11.2	B	1.0	
12. Carmel Mountain Rd / Sundance Ave	Signal	AM	12.3	B	12.3	B	0.0	No
		PM	11.1	B	11.2	B	0.1	
13. Carmel Mountain Rd / Sedorus St	Signal	AM	14.7	B	14.8	B	0.1	No
		PM	12.7	B	12.8	B	0.1	
14. Carmel Mountain Rd / Entreken Way	Signal	AM	21.6	C	22.7	C	1.1	No
		PM	10.0	A	10.1	A	0.1	
15. Carmel Mountain Rd / Sparren Ave	Signal	AM	24.5	C	25.0	C	0.5	No
		PM	13.9	B	14.0	B	0.1	
16. Carmel Mountain Rd / Twin Trails Dr	Signal	AM	23.7	C	23.7	C	0.0	No
		PM	19.5	B	19.6	B	0.1	

(Continued on Next Page)

TABLE 9–1
OPENING DAY (2020) INTERSECTION OPERATIONS

Intersection	Control Type	Peak Hour	Opening Day Without Project		Opening Day With Project		Δ [c] Delay	Sig?
			Delay [a]	LOS [b]	Delay	LOS		
(Continued from Previous Page)								
17. Black Mountain Rd / SR 56 WB Ramps	Signal	AM	49.4	D	51.3	D	1.9	No
		PM	32.9	C	33.1	C	0.2	
18. Black Mountain Rd / SR 56 EB Ramps	Signal	AM	44.5	D	48.0	D	3.5	No
		PM	37.1	D	38.3	D	1.2	
19. Black Mountain Rd / Park Village Rd	Signal	AM	56.0	E	56.7	E	0.7	No
		PM	49.8	D	51.9	D	2.1	
20. Black Mountain Rd / Mercy Rd	Signal	AM	38.1	D	39.6	D	1.5	No
		PM	35.2	D	41.3	D	6.1	
21. Camino Del Sur / Northern Project Dwy	Signal	AM	15.9	B	19.4	B	3.5	No
		PM	17.0	B	32.4	C	15.4	
22. Camino Del Sur / Southern Project Dwy	MSSC [d]	AM	—	—	13.4	B	13.4	No
		PM	—	—	23.7	C	23.7	
23. Camino Del Sur / Carmel Mountain Rd	Signal	AM	4.7	A	6.1	A	1.4	No
		PM	14.4	B	15.3	B	0.9	

Footnotes:

a. Average delay expressed in seconds per vehicle.
b. Level of Service
c. Δ denotes the increase in delay due to Project.
d. Minor street stop-controlled intersection. Critical movement delay reported.

General Notes:

1. Sig = Significant impact, yes or no.

SIGNALIZED DELAY/LOS THRESHOLDS		UNSIGNALIZED DELAY/LOS THRESHOLDS	
Delay	LOS	Delay	LOS
0.0 ≤ 10.0	A	0.0 ≤ 10.0	A
10.1 to 20.0	B	10.1 to 15.0	B
20.1 to 35.0	C	15.1 to 25.0	C
35.1 to 55.0	D	25.1 to 35.0	D
55.1 to 80.0	E	35.1 to 50.0	E
≥ 80.1	F	≥ 50.1	F

TABLE 9–2
OPENING DAY (2020) STREET SEGMENT OPERATIONS

Street Segment	Existing Capacity (LOS E) [a]	Planned Capacity (LOS E) [a]	Opening Day Without Project			Opening Day With Project			Project Volumes	Δ [e] V/C	Sig?
			ADT [b]	LOS [c]	V/C [d]	ADT	LOS	V/C			
Camino Del Sur											
1. Carmel Valley Rd to Wolverine Wy	40,000	40,000	19,430	B	0.486	19,852	B	0.496	422	0.010	No
2. Wolverine Wy to Torrey Meadows Dr	40,000	40,000	22,720	C	0.568	23,194	C	0.580	474	0.012	No
3. Torrey Meadows Dr to SR 56 WB Ramps	40,000	40,000	28,160	C	0.704	28,845	C	0.721	685	0.017	No
4. SR 56 EB Ramps to Torrey Santa Fe	40,000	40,000	30,310	D	0.758	34,101	D	0.853	3,791	0.095	No
5. Torrey Santa Fe Rd to N. Project Dwy/ Private Drive 'M'	DNE	40,000	20,810	B	0.520	24,653	C	0.616	3,843	0.096	No
6. N. Project Dwy to S. Project Dwy	DNE	40,000 [f]	5,170	A	0.129	7,487	A	0.187	2,317	0.058	No
7. S. Project Dwy to Carmel Mountain Rd	DNE	40,000 [f]	5,170	A	0.129	6,013	A	0.150	843	0.021	No
8. Carmel Mountain Rd to Dormouse Rd	DNE	15,000 [g]	6,340	B	0.423	6,867	B	0.458	527	0.035	No
9. Dormouse Rd to Park Village Rd	40,000	40,000	7,450	A	0.186	7,977	A	0.199	527	0.013	No
Carmel Mountain Road											
10. Camino Del Sur to Via Las Lenas/ Private Drive 'M'	DNE	15,000 [g]	1,170	A	0.078	1,486	A	0.099	316	0.021	No
11. Via Las Lenas to Sundance Ave	10,000	10,000 [g]	8,080	D	0.808	8,660	D	0.866	580	0.058	No
12. Sundance Ave to Sedorus St	40,000	40,000	7,630	A	0.191	8,104	A	0.203	474	0.012	No
13. Sedorus St to Entreken Wy	40,000	40,000	8,900	A	0.223	9,374	A	0.234	474	0.011	No
14. Entreken Wy to Sparren Ave	40,000	40,000	11,970	A	0.299	12,444	A	0.311	474	0.012	No
15. Sparren Ave to Twin Trails Dr	40,000	40,000	12,050	A	0.301	12,419	A	0.310	369	0.009	No
Sundance Avenue											
16. Carmel Mountain Rd to Twin Trails Dr	8,000 [h]	8,000	3,670	C	0.459	3,776	C	0.472	106	0.013	No

Continued on Next Page

TABLE 9–2
OPENING DAY (2020) STREET SEGMENT OPERATIONS

Street Segment	Existing Capacity (LOS E) [a]	Planned Capacity (LOS E) [a]	Opening Day Without Project			Opening Day With Project			Project Volumes	Δ [e] V/C	Sig?
			ADT [b]	LOS [c]	V/C [d]	ADT	LOS	V/C			
Continued from Previous Page											
Park Village Road											
17. Camino Del Sur to Ragweed St	40,000	40,000	7,430	A	0.186	7,852	A	0.196	422	0.010	No
18. Ragweed St to Black Mountain Road	40,000	40,000	14,100	A	0.353	14,364	A	0.359	264	0.006	No
Black Mountain Road											
19. SR 56 EB Ramps to Park Village Rd	40,000	40,000	32,570	D	0.814	33,044	D	0.826	474	0.012	No
20. Park Village Rd to Mercy Rd	40,000	40,000	32,810	D	0.820	33,495	D	0.837	685	0.017	No
Mercy Road											
21. Black Mountain Rd to I-15 SB Ramps	40,000	40,000	18,550	B	0.464	19,024	B	0.476	474	0.012	No

Footnotes:

a. Capacities based on City of San Diego's Roadway Classification & LOS table *(See Appendix C).*
b. Average Daily Traffic
c. Level of Service
d. Volume to Capacity ratio
e. Δ denotes a Project-induced increase in the Volume to Capacity ratio
f. The Project applicant would accept a permit condition stating occupancy of the buildings would be subject to the completion of Camino Del Sur and Carmel Mountain Road to their Community Plan classifications. Therefore, this roadway is assumed to be a Four-Lane Major Arterial providing for an LOS E capacity of 40,000 ADT by Opening Day.
g. The "Planned Capacity" shown reflects the changes to the Community Plan roadway classifications/capacities proposed by the Merge 56 development. That project proposes a CPA to downgrade these roadways from Four-Lane Major Arterials with a 40,000 ADT capacity to a Two-Lane Modified Collector with a raised center median with an LOS E capacity of 15,000 ADT. The portion of Carmel Mountain Road north of SR 56 to Sundance would remain an undivided two-lane road with an LOS E capacity of 10,000 ADT.
h. Sundance Avenue is currently built to two-lane Collector standards with a 40' curb-to-curb width providing an LOS E capacity of 8,000 ADT

General Notes:

1. Sig = Significant impact, yes or no.

TABLE 9–3
OPENING DAY (2020) FREEWAY SEGMENT OPERATIONS

State Route 56 Freeway Segment	Dir	# of Lanes [a]	Hourly Capacity [b]	Opening Day Without Project						Project Volumes		Opening Day With Project						Δ V/C [f]		Sig?
				Volume [c]		V/C [d]		LOS [e]				Volume		V/C		LOS				
				AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	
1. Carmel Valley Rd to Camino Del Sur	EB	2M	4,000	3,032	2,988	0.758	0.747	C	C	154	37	3,186	3,025	0.797	0.756	C	C	0.039	0.009	No
	WB	2M	4,000	3,571	1,701	0.893	0.425	D	B	17	148	3,588	1,849	0.897	0.462	D	B	0.004	0.037	No
2. Camino Del Sur to Black Mountain Rd	EB	2M	4,000	1,653	3,204	0.413	0.801	B	D	23	201	1,676	3,405	0.419	0.851	B	D	0.006	0.050	No
	WB	2M	4,000	2,682	1,885	0.671	0.471	C	B	209	50	2,891	1,935	0.723	0.484	C	B	0.052	0.013	No
3. Black Mountain Rd to Rancho Peñasquitos Blvd	EB	3M	6,000	2,362	3,299	0.394	0.550	A	B	18	153	2,380	3,452	0.397	0.575	A	B	0.003	0.026	No
	WB	2M+1A	5,200	3,336	1,926	0.642	0.370	C	A	160	38	3,496	1,964	0.672	0.378	C	A	0.031	0.007	No
4. East of Rancho Peñasquitos Blvd	EB	2M	4,000	2,368	2,956	0.592	0.739	B	C	14	118	2,382	3,074	0.596	0.769	B	C	0.004	0.030	No
	WB	2M	4,000	2,984	2,527	0.746	0.632	C	C	123	29	3,107	2,556	0.777	0.639	C	C	0.031	0.007	No

Footnotes:

a. Lane geometry taken from PeMS lane configurations at corresponding postmile.

b. Capacity calculated at 2000 vehicles per hour (vph) per mainline lane (pcphpl) and 1200 vph per lane for auxiliary lane from *Caltrans Guide for the Preparation of Traffic Impact Studies, Dec. 2002.*

c. Existing volume taken from PeMS peak hour data (2014).

d. V/C = (Peak Hour Volume/Hourly Capacity)

e. LOS = Level of Service

f. "Δ" denotes the Project-induced increase in V/C. Per City Guidelines, a significant impact occurs when the V/C is increased by 0.01 for LOS E or 0.005 for LOS F.

LOS	V/C
A	<0.41
B	0.62
C	0.8
D	0.92
E	1
F(0)	1.25
F(1)	1.35
F(2)	1.45
F(3)	>1.46

General Note:

1. Sig? = Significant impact, yes or no.
2. M = Mainline
3. A = Auxiliary
4. Improvement in V/C due to rerouting of existing traffic with connection of Camino Del Sur and Carmel Mountain Road and the completion of the Merge 56 proposed Private Drive 'M' connecting to the SR 56 / Camino Del Sur interchange.

TABLE 9–4
OPENING DAY (2020) RAMP METER ANALYSIS – FIXED RATE

Location	Peak Hour [a]	Opening Day							Calibrated			
		Volume [b]	Peak Hour Demand (D) [b]	Meter Rate [c]	Excess Demand (E) (veh)	Delay (min)	Queue (ft) [d]	Sig?	Meter Rate [f]	Excess Demand (veh)	Delay (min)	Queue (ft)
Camino Del Sur to SR 56 WB (2 SOV+1 HOV)												
Opening Day Without Project	AM	906	453	680	0	0	0	—	*454*	*0*	*0.0*	*0*
Opening Day With Project	AM	923	462		0	0	0	—		*8*	*1.1*	*200*
Project Increase	AM	17	9	—	—	0	0	No	—	*8*	*1.1*	*200*
Camino Del Sur to SR 56 EB (2 SOV+1 HOV)												
Opening Day Without Project	PM	1,375	688	800	0	0	0	—	*776*	*0*	*0.0*	*0*
Opening Day With Project	PM	1,576	788		0	0	0	—		*12*	*0.9*	*300*
Project Increase	PM	201	100	—	—	0	0	No	—	*12*	*0.9*	*300*
Black Mountain Road to SR 56 WB (2 SOV+1 HOV)												
Opening Day Without Project	AM	1,179	590	765	0	0	0	—	*608*	*0*	*0.0*	*0*
Opening Day With Project	AM	1,234	617		0	0	0	—		*9*	*0.9*	*225*
Project Increase	AM	55	27	—	—	0	0	No	—	*9*	*0.9*	*225*
Black Mountain Road to SR 56 EB (2 SOV+1 HOV)												
Opening Day Without Project	PM	726	363	910	0	0	0	—	*357*	*6*	*1.0*	*150*
Opening Day With Project	PM	726	363		0	0	0	—		*6*	*1.0*	*150*
Project Increase	PM	0	0	—	—	0	0	No	—	*0*	*0.0*	*0*

Footnotes:

a. Selected peak hour based on period when ramp meter is operating.
b. Peak hour volume and demand in vehicles/hour/lane for SOV only. Existing HOV analysis indicated no queues exceeding the available storage. A conservative analysis was prepared showing 100% of Project trips using the SOV lanes.
c. Meter rates obtained from Caltrans. *Appendix D* provides the Caltrans meter rate data.
d. Queue calculated assuming vehicle length of 25 feet.
e. Available storage represents total observed storage available in SOV lanes, on a per lane basis.
f. The calibrated queues were calculated using existing observed queue information from *Table 6–4*. Per a field review, sufficient storage within the on-ramps was observed under existing conditions. The meter rates were calibrated to reflect the observed queue for each location. Per Caltrans, the meters operate in traffic response mode and could be expected to decrease in the near-term with the additional cumulative project trips on the freeway. No conclusions of significance were drawn from the calibrated analysis. The information provided is informational only. However, it should be noted that ramp meter impacts are not significant in Opening Day With Project conditions since Project-induced delays are below 15 minutes and because the downstream freeway operates at acceptable LOS D or better.

General Notes:

1. Sig = Significant impact, yes or no.
2. SOV – Single Occupancy Vehicle, HOV – High Occupancy Vehicle.
3. Lane utilization factor accounted for in peak hour demand calculation.

10.0 YEAR 2035 CONDITIONS

In developing the SANDAG Regional Transportation Plan (RTP), the "Series 12" traffic forecast model series was prepared. The forecast model is completed in two stages. During the first stage, SANDAG produces a region-wide forecast based on existing demographic and economic trends. During the second stage, a sub-regional forecast is developed by working with local jurisdictions to understand existing and General Plan land use plans (including Community Plans). These land use plans then become an input to a sub-regional forecast model that uses data on existing development, future land use plans, proximity to existing job centers, past development patterns, and travel times to predict where growth is likely to occur in the future.

10.1 Network Conditions

As discussed in the trip distribution/assignment section of this report, *Section 8.2*, an SZA was obtained for the proposed Project TAZ using the Year 2035 traffic model. The Year 2035 street network includes SR 56 in its current configuration (predominately four lanes). SR 56 improvements to six lanes are not currently fully funded, and not programmed in the Regional Transportation Plan until 2040. Black Mountain Road was included as a Four-Lane Major Road from the northern Community Plan boundary to just north of Mercy Road. It was included as a Six-Lane Primary Arterial from just north of Mercy Road to its transition to Kearny Villa Road. According to the Rancho Peñasquitos Community Plan, Black Mountain Road is classified as a Six-Lane Primary Arterial south of Twin Trails Drive. The Black Mountain Road segment from Twin Trails Drive to the Community Plan boundary just north of Mercy Road is in the process of being downgraded on the Rancho Peñasquitos Community Plan to maintain its current configuration as a Four-Lane Major Arterial. An amendment to the Rancho Peñasquitos Community Plan to downgrade this roadway classification is in progress by Black Mountain Ranch and anticipated to go before City Council in 2016, based on information provided by the consultant currently preparing that study.

The Torrey Meadows Drive Overcrossing is an infrastructure project in the City of San Diego *Torrey Highlands PFFP*. *Project No. T-9* is currently in the design stage with an estimated completion date well prior to Year 2035 based on an estimate construction start date of summer/fall 2018 provided by the City's Public Works Department. This two-lane connection will provide access to the neighborhood park, elementary and high schools, and the local mixed use zone for the properties south of SR 56. In addition, its purpose is to help alleviate traffic through the Camino Del Sur interchange. As the completion date for this infrastructure project is approximate, this roadway connection was assumed to be completed in the long-term analysis only. *Appendix A* provides correspondence from City staff regarding the construction start date.

Other improvements are planned in the vicinity of the study area. The reconstructing of Camino Del Sur to six lanes from Carmel Valley Road to SR 56 (including the section between the eastbound ramps and Torrey Santa Fe Road) is fully funded in the *Torrey Highlands PFFP* as *Project No. T-2.2* (corresponding *Black Mountain Ranch PFFP Project No. T-14*) and is scheduled for design and construction by Black Mountain Ranch, LLC starting in FY 2018.

The loop ramps at the Camino Del Sur/ SR 56 interchange *(Torrey Highlands PFFP Project No. T-1.3)*, however, is not fully funded nor is the timeline for funding currently known. Therefore, the loop ramps were not assumed in the Year 2035 conditions. *Appendix A* contains excerpts from the PFFPs.

With respect to the roadway network in Year 2035, all improvements proposed by the near-term cumulative projects were assumed in the baseline long-term conditions. As discussed for the Opening Day conditions, construction of Camino Del Sur and Carmel Mountain Road fundamentally redistribute both existing and other projects' volumes throughout the area by providing access to SR 56 via Camino Del Sur to the Twin Trails neighborhood to the east. Furthermore, the connection of Camino Del Sur to Park Village Drive creates an additional north-south corridor within the area further redistributing traffic between the Rancho Peñasquitos and Torrey Highlands communities. *Section 7.3* provided earlier in this report explains the changes in travel patterns in more detail.

Table 4–2 in *Section 4.2* also provided earlier in this report details the network conditions assumed for each scenario analyzed. ***Table 10–1*** provides a summary for the Year 2035 roadway network conditions.

TABLE 10–1
YEAR 2035 ROADWAY NETWORK CONDITIONS

Planned Roadway Network	Scenario
	Year 2035 Without and With Project
SR 56: Six Lanes	Not Completed
Camino Del Sur/ SR 56 Interchange Loop Ramps	Not Completed
Camino Del Sur	Fully Constructed
Carmel Mountain Road	Fully Constructed
Torrey Meadows Drive Overcrossing	Fully Constructed
Black Mountain Road: Six Lanes	Not Completed

General Notes:

1. Camino Del Sur network condition represents the northern widening to six lanes and the planned extension from its current terminus at Torrey Santa Fe Road to its southerly connection just north of Dormouse Road. The model was run assuming 4-lanes per the PFFP, not 2-lanes as currently proposed. This provides a conservative analysis as the 4-lane network does not artificially constrain demand.
2. Carmel Mountain Road network condition represents the planned extension from its current terminus at Via Panacea to Camino Del Sur, including the realignment of the existing portion from Via Las Lenas to Via Panacea. The model was run assuming 4-lanes per the PFFP, not 2-lanes as currently proposed. This provides a conservative analysis as the 4-lane network does not artificially constrain demand.
3. Torrey Meadows Drive Overcrossing network condition represents the connection of Torrey Meadows Drive over SR 56 to Torrey Santa Fe Road.
4. "Fully Constructed" represents construction of roadways to their current Community Plan classification. ("Fully Constructed" for Camino Del Sur from Private Drive 'M' to just north of Dormouse Road and for Carmel Mountain Road from SR 56 to Camino Del Sur represents the proposed Community Plan Amendment classification.)

Table 10–2 provides the specific Community Plan roadway classifications for study area street segments and the assumed capacity used in the Year 2035 analysis. ***Figure 10–1*** shows the Year 2035 Conditions Diagram. *Appendix C* contains the Community Plan Circulation Element excerpts.

TABLE 10–2
YEAR 2035 ROADWAY CLASSIFICATIONS

Street Segment	Currently Built As	Community Planning Area	Community Plan Classification	Assumed in Year 2035 Analysis
Camino Del Sur				
1. Carmel Valley Rd to Wolverine Way	4-Ln Divided	Torrey Highlands	6-Ln Major	6-Ln Major
2. Wolverine Way to Torrey Meadows Dr	4-Ln Divided	Torrey Highlands	6-Ln Major	6-Ln Major
3. Torrey Meadows Dr to SR 56 WB Ramps	4-Ln Divided	Torrey Highlands	6-Ln Major	6-Ln Major
4. SR 56 EB Ramps to Torrey Santa Fe Rd	4-Ln Divided	Torrey Highlands	6-Ln Major	6-Ln Major
5. Torrey Santa Fe Rd to N. Project Dwy/ Private Drive 'M'	DNE	Torrey Highlands	4-Ln Major	4-Ln Major [a]
6. N. Project Dwy/Private Drive 'M' to S. Project Dwy	DNE	Torrey Highlands	4-Ln Major	4-Ln Major [a]
7. Project Dwy to Carmel Mountain Rd	DNE	Rancho Peñasquitos	4-Ln Major	4-Ln Major [a]
8. Carmel Mountain Rd to Dormouse Rd	DNE	Rancho Peñasquitos	4-Ln Major	2–Ln Modified Collector [a]
9. Dormouse Rd to Park Village Rd	4-Ln Divided	Rancho Peñasquitos	4-Ln Major	2–Ln Modified Collector [a]
Carmel Mountain Road				
10. Camino Del Sur to Via Las Lenas/ Private Drive 'M'	DNE	Torrey Highlands	4-Ln Major	2–Ln Modified Collector [a]
11. Via Las Lenas to Sundance Ave	2-Ln Undivided	Torrey Highlands	4-Ln Major	2–Ln Collector [a]
12. Sundance Ave to Sedorus St	4-Ln Divided	Rancho Peñasquitos	4-Ln Major	4-Ln Major
13. Sedorus St to Entreken Way	4-Ln Divided	Rancho Peñasquitos	4-Ln Major	4-Ln Major
14. Entreken Way to Sparren Ave	4-Ln Divided	Rancho Peñasquitos	4-Ln Major	4-Ln Major
15. Sparren Ave to Twin Trails Dr	4-Ln Divided	Rancho Peñasquitos	4-Ln Major	4-Ln Major

(Continued on Next Page)

TABLE 10–2
YEAR 2035 ROADWAY CLASSIFICATIONS

Street Segment	Currently Built As	Community Planning Area	Community Plan Classification	Assumed in Year 2035 Analysis
(Continued from Previous Page)				
Sundance Avenue				
16. Carmel Mountain Rd to Twin Trails Dr	2-Ln Undivided	Rancho Peñasquitos	Unclassified (2-Ln Undivided)	Unclassified (2-Ln Undivided)
Park Village Road				
17. Camino Del Sur to Ragweed St	4-Ln Divided	Rancho Peñasquitos	4-Ln Major	4-Ln Major
18. Ragweed St to Black Mountain Rd	4-Ln Divided	Rancho Peñasquitos	4-Ln Major	4-Ln Major
Black Mountain Road				
19. SR 56 EB Ramps to Park Village Rd	4-Ln Divided	Rancho Peñasquitos	6-Ln Primary Arterial	4-Ln Major [b]
20. Park Village Rd to Mercy Rd	4-Ln Divided	Rancho Peñasquitos / Mira Mesa	6-Ln Primary Arterial	4-Ln Major [b]
Mercy Road				
21. Black Mountain Rd to I-15 SB Ramps	4-Ln Divided	Mira Mesa	4-Ln Major	4-Ln Major

Footnotes:

a. Bike lanes are proposed along the future segments of Camino Del Sur and Carmel Mountain Road. Parking will be prohibited.
b. An amendment to the Rancho Peñasquitos Community Plan to downgrade this roadway classification is in progress by Black Mountain Ranch and anticipated to go before City Council in 2016.

General Notes:

1. DNE = Does not exist

10.2 Traffic Volumes

In coordination with City staff, other long-term cumulative projects were mentioned which could be developed in the future timeframe and could potentially add to forecast traffic volumes: Santa Fe Summit II & III and Rhodes CPA. In order to arrive at Year 2035 traffic volumes, the SANDAG traffic model was reviewed. As discussed in *Section 8.2*, two SZAs were run for the Year 2035 conditions, one for the Merge 56 site (TAZ 4363) and one for the proposed Project (TAZ 4364). According to the original approved Rhodes Crossing VTM, the following land uses are permitted within Units 1 through 13:

Units 1, 6, 7 (KB Homes) = 96 Residential Units (currently under construction)
Units 4, 5, 10 (Merge 56) = 525,000 SF Commercial/Office, 242 Residential Units (currently under City review)
Units 2, 3, 8, 9, 11, 12, 13 (Rhodes/Grus) = 398 Residential Units, 7,200 SF Commercial/Retail (CPA initiated)

The TAZs in the SANDAG model representing the original Rhodes Crossing VTM are TAZ 1827 for Units 1, 6 & 7; TAZ 4683 for Units 4, 5, & 10; and TAZ 1812 for Units 2, 3, 8, 9, 11. Units 12 and 13 are designated open space. The SZA model run for the Project analysis was customized to include the Merge 56 project in addition to the CPA for the Proposed Project (TAZ 4684). Formerly, Kilroy development initiated the CPA on September 19, 2013 to construct 450,000 SF of commercial office instead of the church/school uses currently permitted.

In addition to the land uses noted above, a CPA was initiated for the Rhodes/Grus units in November 2013. This CPA corresponds to land use changes for Units 3 and 8 of the original Rhodes Crossing VTM. The land uses permitted for these lots are 14 single-family dwelling units and 342 multi-family dwelling units, respectively. The CPA proposes to redesignate 26 acres from Low Density Residential and Open Space to Medium-High Density Residential allowing for multi-family residential development between 22 to 45 dwelling units per acre. This could increase the development potential to between 575 and 1,177 multifamily dwelling units.

A review of the Year 2035 traffic model was conducted to determine if all proposed land uses and CPAs within Units 1 through 13, and the proposed Project were properly accounted for in the forecast traffic volumes. ***Table 10–3*** summarizes the findings of this comparison.

TABLE 10–3
SANDAG SERIES 12 TRAFFIC MODEL COMPARISON

Location	Approved		Proposed		SANDAG Model Run	
					TAZ	ADT
	Land Use	ADT	Land Use	ADT		Year 2035
KB Homes Units 1, 6, 7	94 DU	940	94 DU	940	1827	1,527
Merge 56 Units 4, 5, 10	525KSF Commercial/Office 242 DU	19,500	525KSF Commercial/Office 242 DU	19,500	4683	19,500
Rhodes/Grus Units 2, 3, 8, 9, 11, 12, 13	398 DU 7.2KSF Commercial/Retail Open Space	3,580	575 to 1,177 DU 7.2KSF Commercial/Retail Open Space	7,060	1812	7,592
Proposed Project The Preserve at Torrey Highlands	1,200 seat church K-8 School	450 [a]	450KSF Office	5,260	4684	5,260
Total	**–**	**24,470**	**–**	**32,760**	**–**	**33,880**
Additional ADT included in Traffic Model (SANDAG – Proposed)						**1,120**

Footnotes:

a. The 450 ADT shown for the proposed Project under approved conditions uses the trips generated by the SANDAG Series 12 model for 7.7 acres of "church" land use.

General Notes:

1. Units 1, 6, 7 use the City rate of 10 trips/DU in the "Approved" and "Proposed" ADT calculations.
2. Units 4, 5, 10 use the trip generation calculations from the approved Merge 56 traffic study.
3. Units 2, 3, 8, 9, 11, 12, 13 use a mix of 8 trips/DU and 10 trips/DU for the mix of residential types in the "Approved" ADT calculations. For the "Proposed" calculations, the City rate of 6 trips/DU is used for densities of ≥ 20 DU/acre. The specialty rate of 40 trips/KSF is used for the commercial/retail.

As shown in the table above, the ADT generated by the SANDAG Year 2035 model exceeds the actual amount of traffic that would be anticipated with the proposed land use assumptions for the CPAs associated with Units 1 through 13 of the original Rhodes Crossing VTM and the proposed Project CPA. Therefore, it can be concluded that the traffic model effectively accounts for CPA-related growth by these properties in addition to ambient growth that could occur in the immediate vicinity (1,120 ADT). The balance of regional development through Year 2035 was also included. *Appendix H* contains these land use summaries for the TAZs comprising the projects noted above.

Since the model included the land uses for the proposed Project, the ADT generated by the SZA represented the "Plus Project" conditions for Year 2035. In order to derive Year 2035 traffic volumes without the Project, the following steps were taken. First, the Project assignment was subtracted from the forecast traffic volumes and adjusted for the changes in Project distribution along roadways noted in *Section 8.2* (Park Village Road, Black Mountain Road, Carmel Mountain Road). Once the Year 2035 Without Project ADTs were finalized, the peak hour intersection volumes were forecasted.

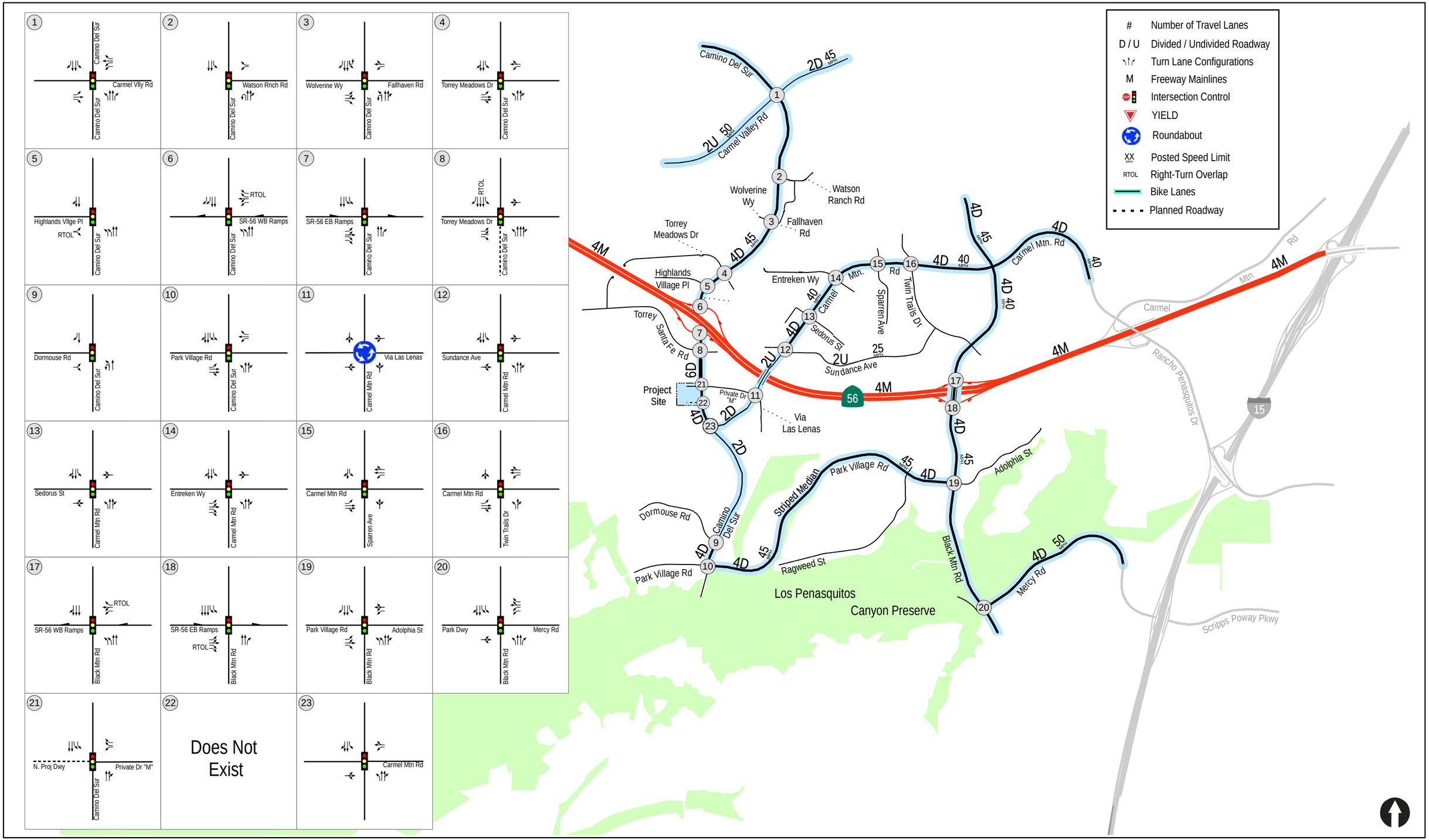
The model-generated peak hour volumes are not considered accurate as the primary purpose of the model is to forecast ADTs and not predict volumes on an hourly basis. Therefore, the peak hour

turning movement volumes at an intersection were estimated from future ADT volumes using the relationship between existing peak hour turning movements and the existing ADT volumes. In this case, the existing with existing rerouted traffic volumes was used in the forecast to account for the connections of Camino Del Sur and Carmel Mountain Road. The general relationship between ADTs and peak hour volumes (e.g., peak-hour percentage and directional factors) are assumed to continue in the future.

Once the ADTs and peak hour volumes were forecasted, the Project assignment was added to the Year 2035 traffic volumes to arrive at Year 2035 With Project traffic volumes.

Figure 10–2 depicts the Year 2035 Without Project traffic volumes. ***Figure 10–3*** depicts the Year 2035 With Project traffic volumes for the study area.

Appendix K contains the Year 2035 traffic volume forecasts.



LINSCOTT LAW & GREENSPAN engineers

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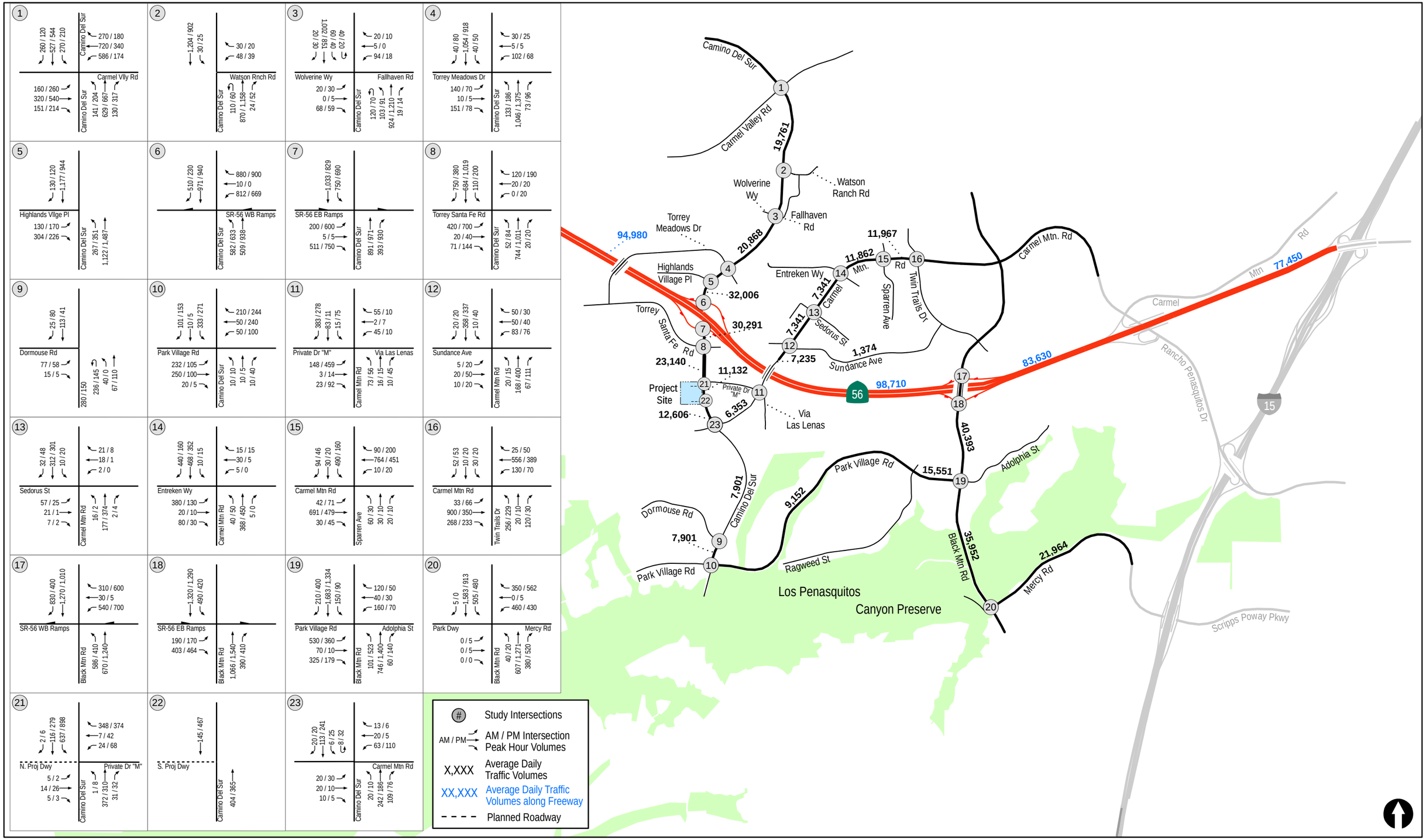
Figure 10-1

Year 2035 Conditions Diagram

THE PRESERVE AT TORREY HIGHLANDS



Study Intersections

AM / PM — AM / PM Intersection Peak Hour Volumes

X,XXX — Average Daily Traffic Volumes

XX,XXX — Average Daily Traffic Volumes along Freeway

Planned Roadway

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Figure 10-2

Year 2035 Without Project Traffic Volumes

Year 2035 Network

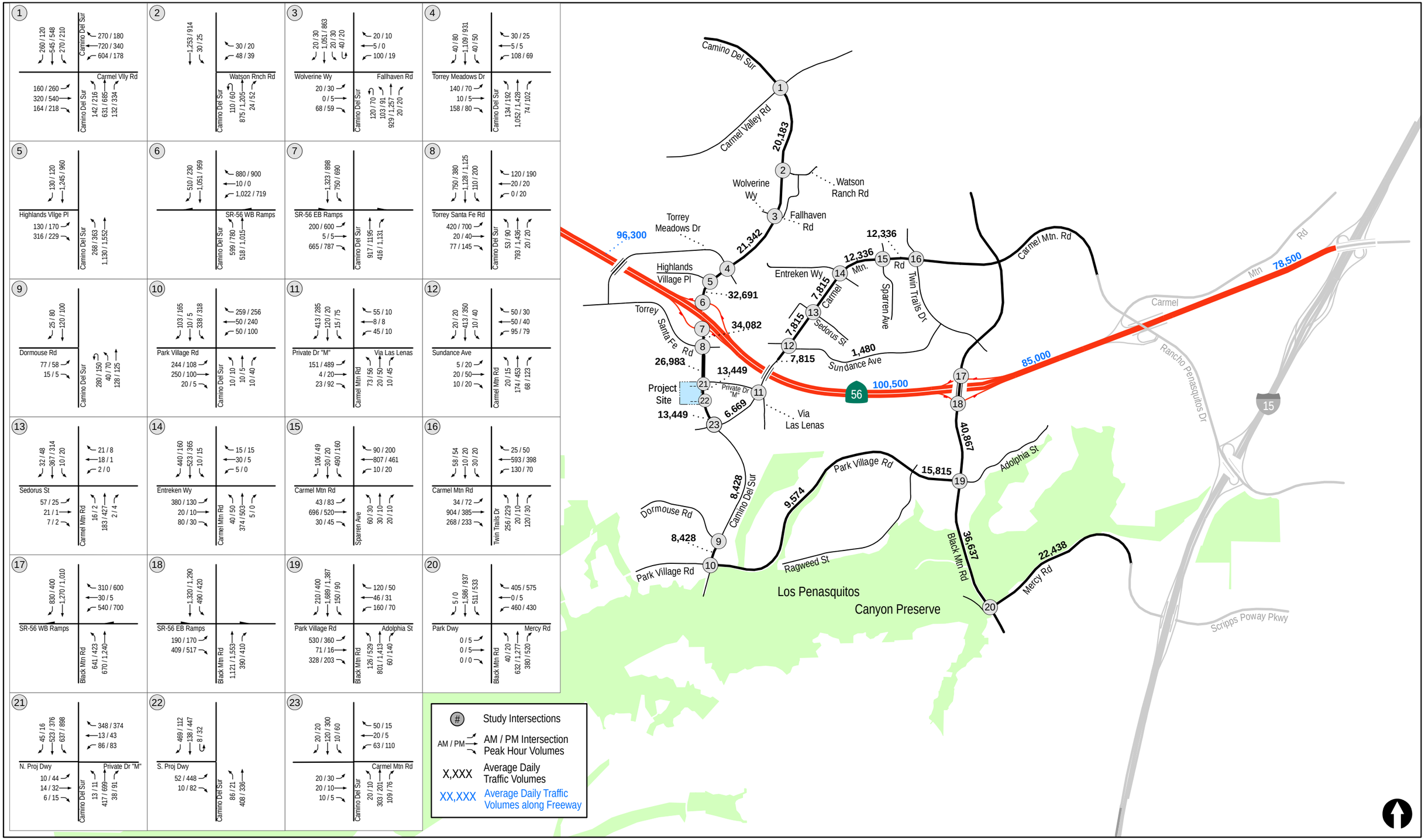

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Figure 10-3

Year 2035 With Project Traffic Volumes

Year 2035 Network

11.0 ANALYSIS OF YEAR 2035 SCENARIOS

The following is a summary of the Year 2035 operations.

11.1 Year 2035 Without Project

11.1.1 *Peak Hour Intersection Operations*

Table 11–1 summarizes the Year 2035 Without Project intersection operations. As seen in *Table 11–1*, the following study area intersections are calculated to operate at LOS E or F under Year 2035 Without Project conditions:

- Intersection #3. Camino Del Sur/ Wolverine Way – LOS E (AM peak hour)
- Intersection #7. Camino Del Sur/ SR 56 EB Ramps – LOS E (PM peak hour)
- Intersection #17. Black Mountain Rd / SR 56 WB Ramps – LOS F (AM peak hour)
- Intersection #18. Black Mountain Rd / SR 56 EB Ramps – LOS E (AM peak hour)
- Intersection #19. Black Mountain Rd / Park Village Road – LOS E/F (AM/PM peak hours)

Appendix L contains the Year 2035 Without Project peak hour intersection calculation worksheets.

11.1.2 *Daily Street Segment Operations*

Table 11–2 summarizes the Year 2035 Without Project street segment operations. As seen in *Table 11–2*, the following study area street segments are calculated to operate at LOS E or F under Year 2035 Without Project conditions:

- Segment #19. Black Mountain Rd from SR 56 EB Ramps to Park Village Rd – LOS F
- Segment #20. Black Mountain Rd from Park Village Rd to Mercy Rd – LOS E

11.1.3 *Peak Hour Freeway Mainline Operations*

Table 11–3 summarizes the Year 2035 Without Project freeway mainline segment operations. As seen in *Table 11–3*, the following study area freeway mainline segments are calculated to operate at LOS E or F under Year 2035 Without Project conditions:

- Mainline #1. SR 56 from Carmel Valley Rd to Camino Del Sur: Eastbound LOS F(0) – AM/PM peak hours
- Mainline #1. SR 56 from Carmel Valley Rd to Camino Del Sur: Westbound LOS F(1) – AM peak hour
- Mainline #2. SR 56 from Camino Del Sur to Black Mountain Rd: Eastbound LOS F(0) – PM peak hour

11.1.4 *Peak Hour Freeway Ramp Meter Operations*

Table 11–4 summarizes the operations of the on-ramp meter using the fixed rate analysis methodology in the Year 2035. As seen in *Table 11–4*, there is no delay calculated for any of the study area on-ramps under Year 2035 Without Project conditions.

11.2 Year 2035 With Project

11.2.1 *Peak Hour Intersection Operations*

Table 11–1 summarizes the Year 2035 With Project intersection operations. As seen in *Table 11–1*, the following study area intersections are calculated to operate at LOS E or F conditions with the addition of Project traffic:

- Intersection #3. Camino Del Sur / Wolverine Way – LOS E (AM peak hour)
- **Intersection #6. Camino Del Sur / SR 56 WB Ramps – LOS E (PM peak hour)**
- **Intersection #7. Camino Del Sur / SR 56 EB Ramps – LOS F (PM peak hour)**
- **Intersection #17. Black Mountain Rd / SR 56 WB Ramps – LOS F (AM peak hour)**
- **Intersection #18. Black Mountain Rd / SR 56 EB Ramps – LOS E (AM peak hour)**
- **Intersection #19. Black Mountain Rd / Park Village Rd – LOS F/F (AM/PM peak hours)**

Based on City of San Diego significance criteria, **five (5) significant cumulative impacts** were calculated with the addition of Project traffic at the intersections **bolded** and underlined above since the Project-induced change in delay is greater than 2.0 seconds for LOS E operating intersections and greater than 1.0 seconds for LOS F operating intersections.

It should be noted that a CPA is in progress to downgrade Black Mountain Road from Twin Trails Drive to the Community Plan boundary to remain at its current classification as a Four-Lane Major Arterial. If this downgrade is approved, LOS E/F operations along this section of Black Mountain Road would be considered significant and unmitigated.

Appendix M contains the Year 2035 With Project peak hour intersection calculation worksheets.

11.2.2 *Daily Segment Operations*

Table 11–2 summarizes the Year 2035 With Project street segment operations. As seen in *Table 11–2*, the following study area street segments are calculated to operate at LOS E or F conditions with the addition of Project traffic:

- **Segment #19. Black Mountain Rd from SR 56 EB Ramps to Park Village Rd – LOS F**
- Segment #20. Black Mountain Rd from Park Village Rd to Mercy Rd – LOS E

Based on City of San Diego significance criteria, **one (1) significant cumulative impact** was calculated with the addition of Project traffic at study area street segments since the Project-induced change in V/C is greater than 0.01 for this LOS F operating street segments.

It should be noted that a CPA is in progress to downgrade Black Mountain Road from Twin Trails Drive to the Community Plan boundary to remain at its current classification as a Four-Lane Major Arterial. If this downgrade is approved, LOS E/F operations along this section of Black Mountain Road would be considered significant and unmitigated.

11.2.3 *Peak Hour Freeway Mainline Operations*

Table 11–3 summarizes the Year 2035 With Project freeway mainline segment operations. As seen in *Table 11–3*, the following study area freeway mainline segments are calculated to operate at LOS E or F conditions with the addition of Project:

- **Mainline #1. SR 56 from Carmel Valley Rd to Camino Del Sur: Eastbound LOS F(0) – AM/PM peak hours**
- Mainline #1. SR 56 from Carmel Valley Rd to Camino Del Sur: Westbound LOS F(1) – AM peak hour
- **Mainline #2. SR 56 from Camino Del Sur to Black Mountain Rd: Eastbound LOS F(0) – AM peak hour**
- **Mainline #2. SR 56 from Camino Del Sur to Black Mountain Rd: Westbound LOS E – AM peak hour**

Based on City of San Diego significance criteria, **three (3) significant cumulative impacts** were calculated with the addition of Project traffic at study area freeway mainline segments since the Project-induced change in V/C is greater than 0.01 for LOS E operating freeway segments and greater than 0.005 for LOS F operating freeway segments.

11.2.4 *Peak Hour Freeway Ramp Meter Operations*

As seen in *Table 11–4*, there is no delay calculated for any of the study area on-ramps under Year 2035 With Project conditions.

Based on City of San Diego significance criteria, **no significant impacts** were calculated with the addition of Project traffic at study area ramp meter locations.

TABLE 11–1
YEAR 2035 INTERSECTION OPERATIONS

Intersection	Control Type	Peak Hour	Year 2035 Without Project		Year 2035 With Project		Δ [c] Delay	Sig?
			Delay [a]	LOS [b]	Delay	LOS		
1. Carmel Valley Rd / Camino Del Sur	Signal	AM	48.5	D	48.7	D	0.2	No
		PM	41.2	D	41.8	D	0.6	
2. Camino Del Sur / Watson Ranch Rd	Signal	AM	25.9	C	26.1	C	0.2	No
		PM	9.2	A	9.3	A	0.1	
3. Camino Del Sur / Wolverine Wy	Signal	AM	66.1	E	67.8	E	1.7	No
		PM	19.5	B	20.1	C	0.6	
4. Camino Del Sur / Torrey Meadows Dr	Signal	AM	36.3	D	37.3	D	1.0	No
		PM	24.7	C	25.7	C	1.0	
5. Camino Del Sur / Highlands Village Pl	Signal	AM	20.1	C	21.2	C	1.1	No
		PM	17.5	B	17.9	B	0.4	
6. Camino Del Sur / SR 56 WB Ramps	Signal	AM	39.5	D	51.4	D	11.9	**Yes**
		PM	44.2	D	**71.4**	**E**	**27.2**	
7. Camino Del Sur / SR 56 EB Ramps	Signal	AM	36.6	D	41.4	D	4.8	**Yes**
		PM	58.6	E	**84.6**	**F**	**26.0**	
8. Camino Del Sur / Torrey Santa Fe Rd	Signal	AM	22.3	C	23.9	C	1.6	No
		PM	38.9	D	44.7	D	5.8	
9. Camino Del Sur / Dormouse Rd	Signal	AM	16.2	B	16.3	B	0.1	No
		PM	12.5	B	12.5	B	0.0	
10. Camino Del Sur / Park Village Rd	Signal	AM	28.9	C	29.0	C	0.1	No
		PM	22.8	C	23.3	C	0.5	
11. Carmel Mountain Rd / Via Las Lenas/ Private Dr. 'M'	Round-about	AM	10.2	B	12.3	B	2.1	No
		PM	12.7	B	14.3	B	1.6	
12. Carmel Mountain Rd / Sundance Ave	Signal	AM	11.7	B	12.0	B	0.3	No
		PM	11.5	B	11.6	B	0.1	
13. Carmel Mountain Rd / Sedorus St	Signal	AM	8.5	A	8.6	A	0.1	No
		PM	7.0	A	7.1	A	0.1	
14. Carmel Mountain Rd / Entreken Way	Signal	AM	25.7	C	27.1	C	1.4	No
		PM	12.8	B	12.9	B	0.1	
15. Carmel Mountain Rd / Sparren Ave	Signal	AM	26.9	C	27.7	C	0.8	No
		PM	17.6	B	17.7	B	0.1	
16. Carmel Mountain Rd / Twin Trails Dr	Signal	AM	47.8	D	50.4	D	2.6	No
		PM	15.7	B	16.1	B	0.4	

(Continued on Next Page)

TABLE 11–1
YEAR 2035 INTERSECTION OPERATIONS

Intersection	Control Type	Peak Hour	Year 2035 Without Project		Year 2035 With Project		Δ [c] Delay	Sig?
			Delay [a]	LOS [b]	Delay	LOS		
(Continued from Previous Page)								
17. Black Mountain Rd / SR 56 WB Ramps [e]	Signal	AM	116.9	F	**133.8**	**F**	**16.9**	**Yes**
		PM	46.9	D	47.4	D	0.5	
18. Black Mountain Rd / SR 56 EB Ramps [e]	Signal	AM	65.0	E	**68.7**	**E**	**3.7**	**Yes**
		PM	48.2	D	49.4	D	1.2	
19. Black Mountain Rd / Park Village Rd [e]	Signal	AM	79.1	E	**83.1**	**F**	**4.0**	**Yes**
		PM	98.9	F	**105.6**	**F**	**6.7**	
20. Black Mountain Rd / Mercy Rd	Signal	AM	47.0	D	48.6	D	1.6	No
		PM	46.2	D	51.3	D	5.1	
21. Camino Del Sur / Northern Project Dwy	Signal	AM	16.3	B	22.2	C	5.9	No
		PM	17.2	B	36.4	D	19.2	
22. Camino Del Sur / Southern Project Dwy	MSSC [f]	AM		A	15.1	C	15.1	No
		PM		A	66.1	F	66.1	
23. Camino Del Sur / Carmel Mountain Rd	Signal	AM	7.0	A	7.7	A	0.7	No
		PM	9.2	A	9.3	A	0.1	

Footnotes:

a. Average delay expressed in seconds per vehicle.
b. Level of Service
c. Δ denotes the increase in delay due to Project.
d. All-Way Stop Controlled intersection. Average intersection delay reported.
e. If Black Mountain Road from Twin Trails Drive to the Community Plan boundary is downgraded to remain four lanes, impacts to this LOS E/F segment would be considered l significant and unmitigated.
f. Minor street stop-controlled intersection. Critical movement delay reported.

SIGNALIZED DELAY/LOS THRESHOLDS		UNSIGNALIZED DELAY/LOS THRESHOLDS	
Delay	LOS	Delay	LOS
0.0 ≤ 10.0	A	0.0 ≤ 10.0	A
10.1 to 20.0	B	10.1 to 15.0	B
20.1 to 35.0	C	15.1 to 25.0	C
35.1 to 55.0	D	25.1 to 35.0	D
55.1 to 80.0	E	35.1 to 50.0	E
≥ 80.1	F	≥ 50.1	F

General Notes:

1. Sig = Significant impact, yes or no.
2. **Bold** typeface and shading represents a significant cumulative impact.
3. Level of Service F is not acceptable for intersection approaches except for side streets on an interconnected arterial system. The prevailing standard of practice is that for LOS F at any approach, the intersection should be considered to be LOS F, even if the average intersection delay is less than LOS F thresholds.

TABLE 11–2
YEAR 2035 STREET SEGMENT OPERATIONS

Street Segment	Community Plan Capacity [a]	Existing/ Assumed Capacity (LOS E) [a]	Year 2035 Without Project			Year 2035 With Project			Project Volumes	Δ [e] V/C	Sig?
			ADT [b]	LOS [c]	V/C [d]	ADT	LOS	V/C			
Camino Del Sur											
1. Carmel Valley Rd to Wolverine Wy	50,000	50,000	19,761	A	0.395	20,183	B	0.404	422	0.009	No
2. Wolverine Wy to Torrey Meadows Dr	50,000	50,000	20,868	B	0.417	21,342	B	0.427	474	0.010	No
3. Torrey Meadows Dr to SR 56 WB Ramps	50,000	50,000	32,006	C	0.640	32,691	C	0.654	685	0.014	No
4. SR 56 EB Ramps to Torrey Santa Fe	50,000	50,000	30,291	C	0.606	34,082	C	0.682	3,791	0.076	No
5. Torrey Santa Fe Rd to N. Project Dwy/ Private Drive 'M'	DNE	40,000	23,140	B	0.579	26,983	C	0.675	3,843	0.096	No
6. N. Project Dwy to S. Project Dwy	DNE	40,000 [f]	11,132	A	0.278	13,449	A	0.336	2,317	0.058	No
7. S. Project Dwy to Carmel Mountain Rd	DNE	40,000 [f]	12,606	A	0.315	13,449	A	0.336	843	0.021	No
8. Carmel Mountain Rd to Dormouse Rd	DNE	15,000 [g]	7,901	C	0.527	8,428	C	0.562	527	0.035	No
9. Dormouse Rd to Park Village Rd	40,000	40,000	7,901	A	0.198	8,428	A	0.211	527	0.013	No
Carmel Mountain Road											
10. Camino Del Sur to Via Las Lenas/ Private Drive 'M'	DNE	15,000 [g]	6,353	B	0.424	6,669	B	0.445	316	0.021	No
11. Via Las Lenas to Sundance Ave	10,000	10,000 [g]	7,235	C	0.724	7,815	D	0.782	580	0.058	No
12. Sundance Ave to Sedorus St	40,000	40,000	7,341	A	0.184	7,815	A	0.195	474	0.011	No
13. Sedorus St to Entreken Wy	40,000	40,000	7,341	A	0.184	7,815	A	0.195	474	0.011	No
14. Entreken Wy to Sparren Ave	40,000	40,000	11,862	A	0.297	12,336	A	0.308	474	0.011	No
15. Sparren Ave to Twin Trails Dr	40,000	40,000	11,967	A	0.299	12,336	A	0.308	369	0.009	No
Sundance Avenue											
16. Carmel Mountain Rd to Twin Trails Dr	8,000 [h]	8,000	1,374	A	0.172	1,480	A	0.185	106	0.013	No

(Continued on Next Page)

TABLE 11–2
YEAR 2035 STREET SEGMENT OPERATIONS

Street Segment	Community Plan Capacity [a]	Existing/ Assumed Capacity (LOS E) [a]	Year 2035 Without Project			Year 2035 With Project			Project Volumes	Δ [e] V/C	Sig?
			ADT [b]	LOS [c]	V/C [d]	ADT	LOS	V/C			
(Continued from Previous Page)											
Park Village Road											
17. Camino Del Sur to Ragweed St	40,000	40,000	9,152	A	0.229	9,574	A	0.239	422	0.010	No
18. Ragweed St to Black Mountain Rd	40,000	40,000	15,551	B	0.389	15,815	B	0.395	264	0.006	No
Black Mountain Road											
19. SR 56 EB Ramps to Park Village Rd [i]	60,000	40,000	40,393	F	1.010	**40,867**	**F**	**1.022**	**474**	**0.012**	**Yes**
20. Park Village Rd to Mercy Rd	60,000	40,000	35,952	E	0.899	36,637	E	0.916	685	0.017	No
Mercy Road											
21. Black Mountain Rd to I-15 SB Ramps	40,000	40,000	21,964	C	0.549	22,438	C	0.561	474	0.012	No

Footnotes:

a. Capacities based on City of San Diego's Roadway Classification & LOS table (See *Appendix C*). Existing capacities used in the street segment analysis except where changes are proposed as part of the Project.
b. Average Daily Traffic
c. Level of Service
d. Volume to Capacity ratio
e. Δ denotes a Project-induced increase in the Volume to Capacity ratio
f. With the completion of the Merge 56 project, this roadway is assumed to be built to its Community Plan classification as a Four-Lane Major Arterial providing for an LOS E capacity of 40,000 ADT.
g. The "Planned Capacity" shown reflects the changes to the Community Plan roadway classifications/capacities proposed by the Merge 56 development. That project proposes a CPA to downgrade these roadways from Four-Lane Major Arterials with a 40,000 ADT capacity to a Two-Lane Modified Collector with a raised center median with an LOS E capacity of 15,000 ADT. The portion of Carmel Mountain Road north of SR 56 to Sundance would remain an undivided two-lane road with an LOS E capacity of 10,000 ADT.
h. Sundance Avenue is currently built to two-lane Collector standards with a 40' curb-to-curb width providing an LOS E capacity of 8,000 ADT
i. If Black Mountain Road from Twin Trails Drive to the Community Plan boundary is downgraded to remain four lanes, impacts to this LOS F segment would be considered significant and unmitigated.

General Notes:

1. Sig = Significant impact, yes or no.
2. **Bold** typeface and shading represents a significant impact.

TABLE 11–3
YEAR 2035 FREEWAY SEGMENT OPERATIONS

State Route 56 Freeway Segment	Dir.	# of Lanes [a]	Hourly Capacity [b]	Year 2305 Without Project						Year 2305 With Project						Δ V/C [f]		Sig?
				Volume [c]		V/C [d]		LOS [e]		Volume		V/C		LOS				
				AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	
Carmel Valley Rd to Camino Del Sur	EB	2M	4,000	4,214	4,103	1.054	1.026	F(0)	F(0)	**4,368**	**4,140**	**1.092**	**1.035**	**F(0)**	**F(0)**	**0.039**	**0.009**	**Yes**
	WB	2M	4,000	5,100	2,170	1.275	0.543	F(1)	B	5,117	2,318	1.279	0.580	F(1)	B	0.004	0.037	No
Camino Del Sur to Black Mountain Rd	EB	2M	4,000	2,281	4,259	0.570	1.065	B	F(0)	2,304	**4,460**	0.576	**1.115**	B	**F(0)**	0.006	**0.050**	**Yes**
	WB	2M	4,000	3,645	2,383	0.911	0.596	D	B	**3,854**	2,433	**0.9**64	0.608	**E**	B	**0.052**	0.013	**Yes**
Black Mountain Rd to Rancho Peñasquitos Blvd	EB	3M	6,000	2,597	3,503	0.433	0.584	B	B	2,615	3,656	0.436	0.609	B	B	0.003	0.026	No
	WB	2M+1A	5,200	3,632	1,970	0.698	0.379	C	A	3,792	2,008	0.729	0.386	C	A	0.031	0.007	No

Footnotes:

a. Lane geometry taken from PeMS lane configurations at corresponding postmile.
b. Capacity calculated at 2000 vehicles per hour (vph) per mainline lane (pcphpl) and 1200 vph per lane for auxiliary lane from *Caltrans Guide for the Preparation of Traffic Impact Studies, Dec. 2002.*
c. Peak hour volumes taken from PeMS peak hour data (2014) and grown against SANDAG Series 12 forecast volumes to reach Year 2035 conditions.
d. V/C = (Peak Hour Volume/Hourly Capacity)
e. LOS = Level of Service
f. "Δ" denotes the Project-induced increase in V/C. Per City Guidelines, a significant impact occurs when the V/C is increased by 0.01 for LOS E or 0.005 for LOS F.

LOS	V/C
A	<0.41
B	0.62
C	0.8
D	0.92
E	1
F(0)	1.25
F(1)	1.35
F(2)	1.45
F(3)	>1.46

General Note:

1. Sig? = Significant impact, yes or no.
2. **Bold** typeface and shading represents a significant impact.
3. M = Mainline
4. A = Auxiliary

TABLE 11–4
YEAR 2035 RAMP METER ANALYSIS – FIXED RATE

Location	Peak Hour [a]	Volume [b]	Peak Hour Demand (D) [b]	Meter Rate [c]	Excess Demand (E) (veh)	Delay (min)	Queue (ft) [d]	Sig?
1. **Camino Del Sur to SR 56 WB (2 SOV+1 HOV)**								
Year 2035 Without Project	AM	1,102	551	680	0	0	0	—
Year 2035 With Project	AM	1,119	560	680	0	0	0	—
Project Increase	*AM*	17	9	—	—	0	0	*No*
2. **Camino Del Sur to SR 56 EB (2 SOV+1 HOV)**								
Year 2035 Without Project	PM	1,625	813	800	0	0	0	—
Year 2035 With Project	PM	1,826	913	800	0	0	0	—
Project Increase	*PM*	201	100	—	—	0	0	*No*
3. **Black Mountain Road to SR 56 WB (2 SOV+1 HOV)**								
Year 2035 Without Project	AM	1,446	723	765	0	0	0	—
Year 2035 With Project	AM	1,501	751	765	0	0	0	—
Project Increase	*AM*	55	28	—	—	0	0	*No*
4. **Black Mountain Road to SR 56 EB (2 SOV+1 HOV)**								
Year 2035 Without Project	PM	830	415	910	0	0	0	—
Year 2035 With Project	PM	830	415	910	0	0	0	—
Project Increase	*PM*	0	0	—	—	0	0	*No*

Footnotes:

a. Selected peak hour based on period when ramp meter is operating.
b. Peak hour volume and demand in vehicles/hour/lane for SOV only. Existing HOV analysis indicated no queueing exceeding the available storage. A conservative analysis was prepared showing 100% of Project trips using the SOV lanes.
c. Meter rates obtained from Caltrans. *Appendix D* provides the Caltrans meter rate data.
d. Queue calculated assuming vehicle length of 25 feet.

General Notes:

1. Sig = Significant impact, yes or no.
2. SOV – Single Occupancy Vehicle, HOV – High Occupancy Vehicle.
3. Lane utilization factor accounted for in peak hour demand calculation..

12.0 ACCESS ASSESSMENT

This section provides a detailed assessment of the Project access intersections. The scenarios analyzed are the "Plus Project" conditions for Opening Day and Year 2035 conditions.

12.1 Access Assessment

12.1.1 *Driveways*

Following the completion of Camino Del Sur, Carmel Mountain Road, and Private Drive 'M' by the Merge 56 development, the Project proposes access along Camino Del Sur completing the fourth leg of the Camino Del Sur/ Private Drive 'M' intersection and via a "tee" intersection to the south.

The original Rhodes Crossing VTM proposed two signalized intersections on Camino Del Sur. These intersections were designed to serve the commercial component of Units 4, 5 and 10 and to provide access to the diocese property to the west (current Project site).

The northern intersection remains in its approved location on the Merge 56 VTM as Private Drive 'M', and the southerly signalized intersection has been removed from the Merge 56 plans. Instead, Merge 56 proposes a right-in/right-out only driveway south of Private Drive 'M' known as Private Drive 'N', approximately 210 feet south of Private Drive 'M'. Private Drive 'N' provides access to the office land uses south of Private Drive 'M' and to the residential component of the project.

Although the Merge 56 development has eliminated the approved signalized intersection south of Private Drive 'M', the Project desires to maintain two access points to the site. With this deletion, the proposed Project has located their southerly access point slightly north (about 120 feet) of the previous location. The primary reason for relocating this intersection to the north is due to the topographic constraints of the site. The parking structure has been nestled into the hillside in the southernmost portion of the site, thus improving the visual aesthetics of the property.

The southern Project driveway is proposed to be the main access into the site as it provides access adjacent to the seven-story parking structure. The current Rhodes Crossing VTM design of Camino Del Sur provides a southbound dedicated right-turn lane that ends at the Northerly Driveway/Private Drive 'M' intersection. This lane will be extended by the Project an additional 460 feet to reach the Southerly Driveway to carry the majority of Project trips expected to use this access point. With the placement of Merge 56's right-in/right-out only Private Drive 'N' in-between the Northerly Driveway and Southerly Driveway, there is the potential for illegal U-turns to be made at the Southerly Driveway should a U-turn pocket not be provided. Therefore, the Project proposes to provide a southbound U-turn lane at this intersection. It should also be noted that a traffic signal is proposed as mitigation at this intersection given the potential for U-turn movements, poor unsignalized LOS operations in Year 2035, and it meets City traffic signal warrants (see *Section 12.1.4* of this report).

As for the spacing between the signalized intersections of the Northerly Driveway/Private Drive 'M' and the Southerly Driveway, a total of 420 feet is proposed between the limit lines. By spacing these intersections 420 feet apart, appropriate transitions can be provided between the left-turn/U-turn

lanes. Below are the recommendations for the intersection configurations at the north and south driveways:

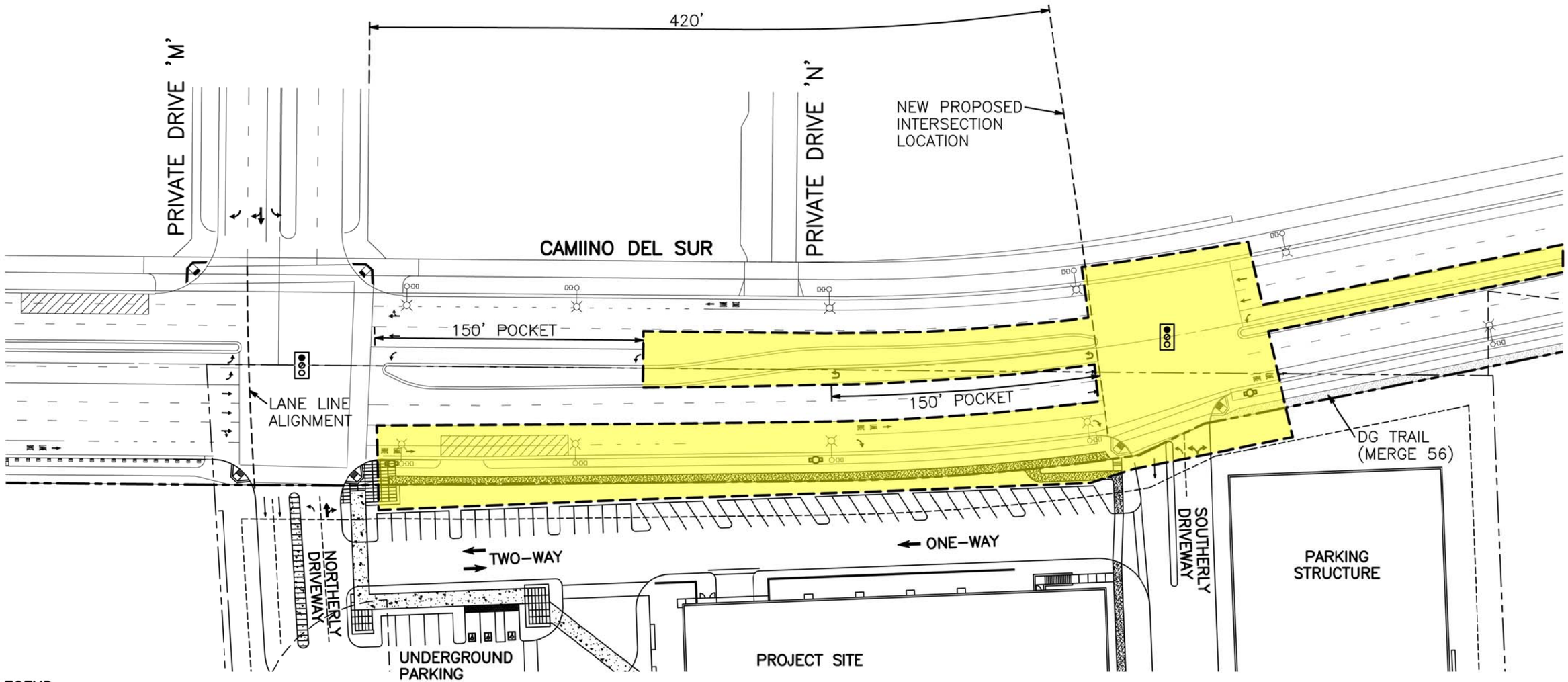
Northerly Driveway:

- Control Type: Traffic Signal
- Southbound: 2 left-turn lanes; 2 thru lanes, 1 shared thru/right-turn lane
- Westbound: 1 left-turn lane; 1 shared thru/right-turn lane; 1 right-turn lane
- Northbound: 1 left-turn lane (with 150' of storage with a 120' bay taper); 1 thru lane; 1 shared thru/right-turn lane
- Eastbound: 1 left-turn lane; 1 shared thru/right-turn lane

Southerly Driveway:

- Control Type: Traffic Signal
- Southbound: 1 U-turn lane (150 of storage with a 120' bay taper); 2 thru lanes; 1 dedicated right-turn lane
- Northbound: 1 left-turn lane; 2 thru lanes
- Eastbound: 1 left-turn lane; 1 shared left-turn/right-turn lane

Figure 12–1 shows a depiction of the conceptual design at the Project access intersections along Camino Del Sur. This graphic also identifies the additional improvements planned by the Proposed Project (i.e. the extension of the third southbound thru lane to the Southerly Driveway and the southbound to northbound U-turn lane at the Southerly Driveway).



LEGEND

– Traffic Signal

– Proposed changes from adjacent development (widening along project frontage, raised median modification, and installation of traffic signal).

REV. 06/7/2018
N:\2478\FIGURES\LLG2478 FIG 12-1_REV.DWG

NORTH
NOT TO SCALE

LINSCOTT LAW & GREENSPAN engineers

Figure 12-1

Project Access Conceptual Geometry

THE PRESERVE AT TORREY HIGHLANDS

12.1.2 *Intersection Operations*

Table 12–1 summarizes the results of the Project Access intersection analysis. As shown in this table, and as provided earlier in this report, the southerly access unsignalized intersection fails under Year 2035 With Project conditions. With the installation of a traffic signal, operations improve to LOS B or better. A signal warrant analysis has been completed for this intersection indicating warrants are met, thus allowing installation of a traffic signal. *Section 12.1.3* provides the signal warrant analysis.

Appendix N contains the intersection analysis sheets for each of the "Plus Project" access analysis scenarios.

TABLE 12–1
ACCESS INTERSECTION OPERATIONS

Intersection	Control Type	Peak Hour	Opening Day (2020) With Project		Year 2035 With Project	
			Delay	LOS	Delay	LOS
21. Camino Del Sur/ Northerly Project Driveway	Signal	AM	19.4	B	22.2	C
		PM	32.4	C	36.4	D
22. Camino Del Sur/ Southerly Project Driveway	MSSC [c]	AM	13.4	B	15.1	C
		PM	23.7	C	66.1	F
	Signal	AM	9.3	A	9.0	A
		PM	13.7	B	12.6	B

Footnotes:
a. Average delay expressed in seconds per vehicle.
b. Level of Service
c. Minor Street Stop Controlled intersection. Minor street left-turn critical movement delay reported.

SIGNALIZED DELAY/LOS THRESHOLDS		UNSIGNALIZED DELAY/LOS THRESHOLDS	
Delay	LOS	Delay	LOS
0.0 ≤ 10.0	A	0.0 ≤ 10.0	A
10.1 to 20.0	B	10.1 to 15.0	B
20.1 to 35.0	C	15.1 to 25.0	C
35.1 to 55.0	D	25.1 to 35.0	D
55.1 to 80.0	E	35.1 to 50.0	E
≥ 80.1	F	≥ 50.1	F

12.1.3 *Queueing Analysis*

In order to determine the required storage length for the northbound left-turn into the northerly driveway and southbound left-turn pocket at the proposed southerly driveway, a queuing analysis using *Synchro 10* software was completed. Both the Opening Day (Year 2020) With Project and Year 2035 with Project scenarios were analyzed assuming a traffic signal is installed at this intersection. According to the analysis results, the highest queues occur in the Year 2035 scenario. The Year 2035 northbound left-turn 95th percentile queue at the Northerly Driveway was calculated to be 31 feet and the southbound 95th percentile queue at the Southerly Driveway was calculated to be 41 feet.

It is therefore recommended that the Project provide 150-foot storage lanes for the back-to-back northbound and southbound left-turn lanes on Camino Del Sur. It can be concluded from the analysis performed that excessive queues would not be expected with the addition of Project traffic and the provision of 150-foot storage lanes.

Table 12–2 summarizes the results of the queuing analysis for the proposed Camino Del Sur Project Driveways signalized intersections. *Appendix N* contains the access intersection queuing analysis worksheets.

TABLE 12–2
CAMINO DEL SUR / PROJECT DRIVEWAYS
SIGNALIZED INTERSECTION QUEUING OPERATIONS

Intersection	Critical Movement	Proposed/ Recommended Storage (ft)	Opening Year (2020) With Project		Year 2035 With Project	
			95th Percentile Queue (ft) [a]		95th Percentile Queue (ft) [a]	
			AM	PM	AM	PM
Camino Del Sur/ Northerly Project Driveway	NBL	150’	26’	13’	27’	31’
Camino Del Sur/ Southerly Project Driveway	SBL	150’	18’	38’	18’	41’

Footnotes:
a. 95th percentile queue is defined as the queue length that has only a 5% probability of being exceeded.

General Notes:
1. Calculated queue lengths in feet per lane.
2. One vehicle length = approximately 22 feet.
3. Ft = Feet

12.1.4 *Signal Warrant Analysis*

Based on a preliminary analysis of the Camino Del Sur/ Southerly Driveway intersection, LOS F is forecasted for the critical left-turn out of the Project in the Year 2035 if the intersection is unsignalized. The improvement needed to improve LOS operations in the long-term to acceptable levels would be to install a traffic signal. A traffic signal warrant analysis was conducted for the Southerly Project Driveway to determine if this intersection meets the industry standard warrants. As outlined in Chapter 4C, “Traffic Control Signal Needs Studies,” of the *2012 California Manual on Uniform Traffic Control Devices* (California MUTCD), the peak hour warrant (Warrant 3) was analyzed for the subject intersection under Opening Day (2020) With Project and Year 2035 With Project conditions. In addition, since this intersection is not yet constructed, and Warrant 12: Average Daily Traffic Volumes was also completed.

Tables 12–3 and ***12–4*** below illustrate the two categories for Warrant 3. Category A requires three (3) conditions to be met for the same one (1) hour of an average day: 1) minor street delay exceeding four (4) vehicles hours, 2) minor street volume exceeds 100 vehicles per hour, and 3) the total entering volume at the intersection exceeds 650 vehicles. Category B plots the AM and PM entering volumes on a linear graphic (Figure 4C-3 of the MUTCD) to determine if the volumes exceed the

allowable thresholds. For the signal warrant to be met at this location, either Category A or B must be satisfied.

As shown in these tables, Category A and B are satisfied under Year 2035 with Project conditions. However, warrants are not satisfied in Opening Day (2020) With Project conditions. Therefore, according to Warrant 3, a traffic signal at the intersection of Camino Del Sur at the Southerly Project driveway is warranted under long-term conditions.

Tables 12–5 and ***12–6*** show the results of Warrant 12: Average Daily Traffic Volume. The Average Daily Traffic Volume Warrant is intended for use at a location where traffic conditions are such that the traffic volumes on the intersecting roadways on a daily basis exceed a particular threshold. It is used only for new intersections or locations where it is not reasonable to count actual traffic volumes. The Minimum Vehicular Volume, Condition A, is intended for application at locations where a large volume of intersecting traffic is the principal reason for installing a traffic signal. The Interruption of Continuous Traffic, Condition B, is intended for application at locations where volume on a major street is so heavy that traffic on a minor intersecting street suffers excessive delay or conflict in entering or crossing the major street.

As shown in *Table 12–5*, Condition A is met under Opening Day with Project conditions. As shown in *Table 12–6*, both Conditions A and B are met under Year 2035 with Project conditions. Therefore, according to Warrant 12, a traffic signal at the intersection of Camino Del Sur at the Southerly Project driveway is warranted.

Appendix O also contains signal warrant excerpts from the MUTCD and the complete details of the warrant analysis including Figure 4C-3.

TABLE 12–3
WARRANT 3: PEAK HOUR – OPENING DAY WITH PROJECT

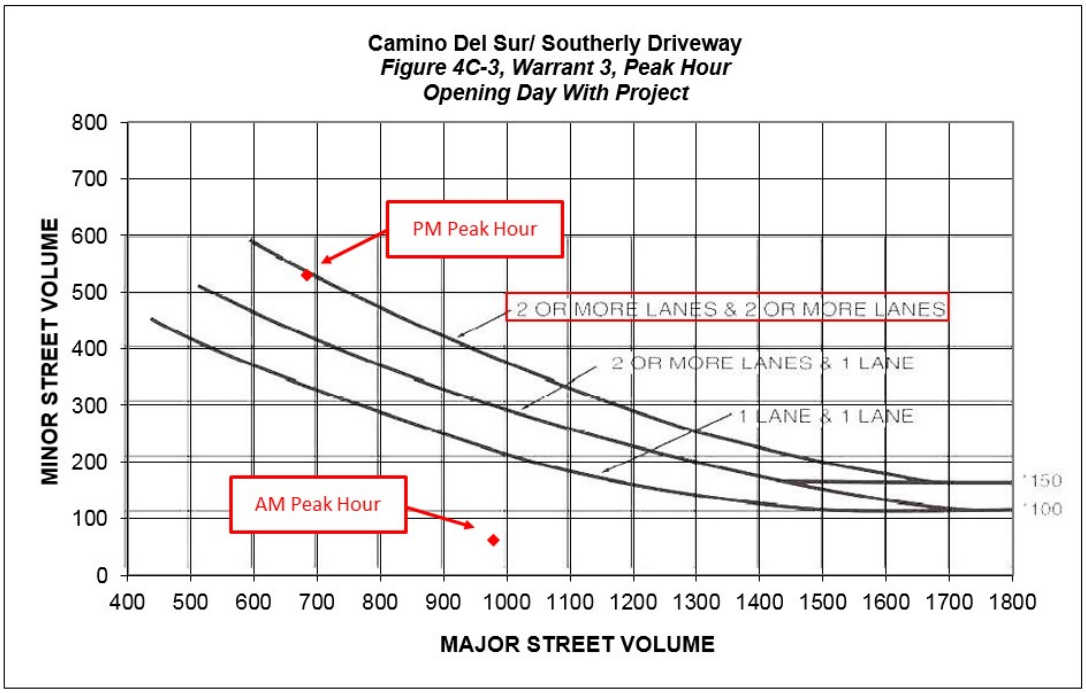
Warrant 3 – Peak Hour	Category A *or* Category B Satisfied *	**Yes** ☐	**No** ☑
Category A (All Parts 1, 2, and 3 below must be satisfied)	Satisfied *	**Yes** ☐	**No** ☑
1. The total delay experienced for traffic on one minor-street approach controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach and five vehicle-hours for a two-lane approach; AND		**Yes** ☐	**No** ☑
2. The volume on the same-minor street approach equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND		**Yes** ☑	**No** ☐
3. The entering volume serviced during the hour equals or exceeds 800 vph for the intersections with four or more approaches or 650 vehicles per hour for intersections with three approaches.		**Yes** ☑	**No** ☐
Category B	Satisfied *	**Yes** ☐	**No** ☑

Approach Lanes	**One**	**Two or More**	**Warrant Volume**	**AM**	**PM**
Both Approaches -Major Street		X	See Figure 4C-3 below	978	684
Highest Approach -Minor Street		X	See Figure 4C-3 below	62	530
The plotted points fall above the applicable curve on Figure 4C-3.				**Yes** ☐	**No** ☑

TABLE 12–4
WARRANT 3: PEAK HOUR – YEAR 2035 WITH PROJECT

Warrant 3 – Peak Hour	Category A *or* Category B Satisfied *	**Yes** ✓	**No**
Category A (All Parts 1, 2, and 3 below must be satisfied)	Satisfied *	**Yes** ✓	**No**
1. The total delay experienced for traffic on one minor-street approach controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach and five vehicle-hours for a two-lane approach; AND		**Yes** ✓	**No**
2. The volume on the same-minor street approach equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND		**Yes** ✓	**No**
3. The entering volume serviced during the hour equals or exceeds 800 vph for the intersections with four or more approaches or 650 vehicles per hour for intersections with three approaches.		**Yes** ✓	**No**
Category B	Satisfied *	**Yes** ✓	**No**

Approach Lanes	**One**	**Two or More**	**Warrant Volume**	**AM**	**PM**
Both Approaches -Major Street		X	See Figure 4C-3 below	1,117	980
Highest Approach -Minor Street		X	See Figure 4C-3 below	62	530
The plotted points fall above the applicable curve on Figure 4C-3.				**Yes** ✓	**No**


Camino Del Sur/ Southerly Driveway
Figure 4C-3, Warrant 3, Peak Hour
Opening Day With Project
MINOR STREET VOLUME
MAJOR STREET VOLUME
PM Peak Hour
AM Peak Hour
2 OR MORE LANES & 2 OR MORE LANES
2 OR MORE LANES & 1 LANE
1 LANE & 1 LANE
150
100
0
100
200
300
400
500
600
700
800
400
500
600
700
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1500
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1700
1800

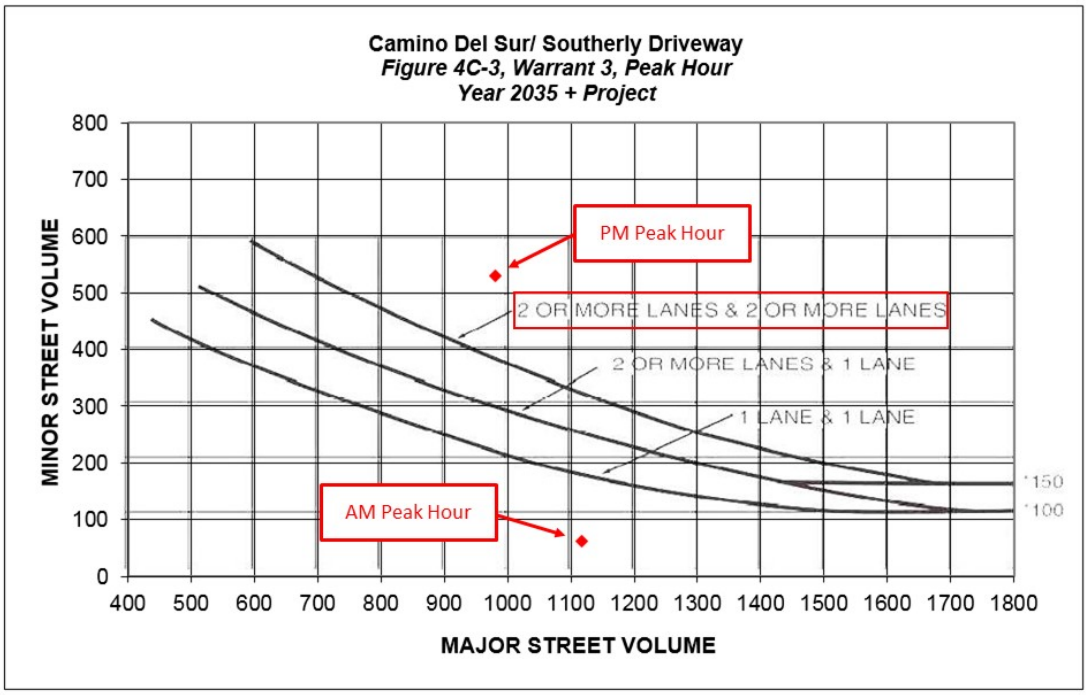
Camino Del Sur/ Southerly Driveway
Figure 4C-3, Warrant 3, Peak Hour
Year 2035 + Project
MINOR STREET VOLUME
MAJOR STREET VOLUME
PM Peak Hour
AM Peak Hour
2 OR MORE LANES & 2 OR MORE LANES
2 OR MORE LANES & 1 LANE
1 LANE & 1 LANE
150
100
0
100
200
300
400
500
600
700
800
400
500
600
700
800
900
1000
1100
1200
1300
1400
1500
1600
1700
1800

TABLE 12–5
WARRANT 12: AVERAGE DAILY TRAFFIC: OPENING DAY (2020) WITH PROJECT

Warrant 12 – Average Daily Traffic Condition A or Condition B Satisfied * **Yes** ✓ **No** ☐

Condition A Satisfied * **Yes** ✓ **No** ☐

	Approach Lanes	Warrant Volume	Daily Volume
Both Approaches -Major Street	2	6,720	7,490
Highest Approaches -Minor Street	2	2,240	4,740

Condition B Satisfied * **Yes** ☐ **No** ✓

Approach Lanes	Approach Lanes	Warrant Volume	Daily Volume
Both Approaches -Major Street	2	10,080	7,490
Highest Approaches -Minor Street	2	1,120	4,740

TABLE 12–6
WARRANT 12: AVERAGE DAILY TRAFFIC: YEAR 2035 WITH PROJECT

Warrant 12 – Average Daily Traffic Condition A or Condition B Satisfied * **Yes** ✓ **No** ☐

Condition A Satisfied * **Yes** ✓ **No** ☐

	Approach Lanes	Warrant Volume	Daily Volume
Both Approaches -Major Street	2	6,720	13,450
Highest Approaches -Minor Street	2	2,240	4,740

Condition B Satisfied * **Yes** ✓ **No** ☐

	Approach Lanes	Warrant Volume	Daily Volume
Both Approaches -Major Street	2	10,080	13,450
Highest Approaches -Minor Street	2	1,120	4,740

Based on the above tables and graphs, **warrants are met** under Opening Day With Project and Year 2035 With Project conditions.

It is therefore recommended that a traffic signal be installed at the Southerly Driveway intersection with Camino Del Sur to mitigate the Project's cumulative impacts, to the satisfaction of the City Engineer.

13.0 SITE CIRCULATION & OTHER MODES

Vehicular

Circulation within the Project site is provided between the northern portion of the site primarily serving visitor parking and the southern portion of the site providing access to the parking structure. A parallel roadway to Camino Del Sur is provided onsite to facilitate movements between the northern underground parking, surface parking, and southern parking garage. For vehicles located in the northern portion of the site desiring to reach the parking structure to the south, they also have the option to exit the site at the Northerly Driveway, travel southbound on Camino Del Sur via the southbound right-turn drop lane (thus avoiding through-flowing traffic on Camino Del Sur), and re-enter the site at the Southerly Driveway. See *Figure 12–1* which shows the partially one-way configuration of the on-site drive aisle parallel to Camino Del Sur.

Pedestrians

Off-site, contiguous or non-contiguous sidewalks are generally provided on all study area street segments. On-site, a network of pedestrian pathways provide internal connections between the office buildings and between the office buildings and the parking structure. Striped markings, raised crosswalks, and decorative pavers will be used to enhance and identify pedestrian pathways.

Off-site, the Merge 56 project proposes to construct and improve the trail system connecting the Del Mar Mesa Preserve in the northwest to Darkwood Canyon in the southeast. The northerly trail connection would run along the base of the western fill slope of Camino Del Sur across a finger of Deer Canyon where it would then transition into a five-foot decomposed granite (DG) trail running parallel to the sidewalk along the west side of Camino Del Sur and along the Project frontage. The Project proposes to carry trail access through the site via on-site pedestrian linkages.

In addition, pedestrian crossings will be provided at the Northerly Driveway connecting employees/visitors of the Project site to the amenities proposed by the Merge 56 project.

Transit

Based on the most recent information from the San Diego Metropolitan Transit System (MTS) website, Route 20 travels between the Del Lago Transit Station in Escondido and downtown San Diego. In the study area, Route 20 serves only the Carmel Mountain Road / Peñasquitos Drive intersection within the study area which is approximately three (3) miles from the Project site. No other public transit serves the 92129 zip code encompassing the study area.

The site is currently undeveloped, and there is no existing roadway infrastructure; therefore, there is currently no transit service in the vicinity. Upon development of all the network improvements, the local circulation system will be interconnected between the Torrey Highlands community to the north, the Park Village neighborhood to the south, and the Twin Trails neighborhood to the north and east. With this improved network connectivity, it is anticipated that transit routes could be realigned to utilize either or both of the Camino Del Sur and Carmel Mountain Road corridors. The Project is offering a Transportation Demand Management (TDM) plan which includes coordination with the Metropolitan Transit System (MTS) to investigate how to bring bus service to the

development once the proposed extension of Camino Del Sur is completed. Bus pads are proposed by the Merge 56 development adjacent to both sites to accommodate new potential routes. At this time, it should be assumed that transit will not be available to the Project.

Bicycles

Based on a review of the City of San Diego *Bicycle Master Plan* (July 2013) and field observations, there are existing Class II bike lanes provided on the entire length of most study area roadways including: Camino Del Sur, Black Mountain Road, and Park Village Road. There are no bike lanes provided on Sundance Avenue. On Carmel Mountain Road, Class II bike lanes are provided, with the exception of the segments of the roadway south of Sundance Avenue (western intersection) and from Paseo Montalban to Rancho Peñasquitos Boulevard, which is designated as a Class III bike route.

The SR 56 Bike Path is a Class I separated bikeway that runs between I-5 and I-15 adjacent to and south of SR 56.

The *Bicycle Master Plan* also proposes Class II or III bikeways on the portions of Carmel Mountain Road and Camino Del Sur in the Project vicinity that are not yet constructed. Additional details on planned bicycle improvements to the future sections of Camino Del Sur and Carmel Mountain Road are provided earlier in this report in *Section 7.2*.

On site, bicyclists would share the internal roadways and walkways. Bike racks will be located outside buildings and long-term bike storage will be provided inside these buildings.

14.0 PARKING DISCUSSION

14.1 Minimum Required Parking

According to the City of San Diego Municipal Code, commercial office buildings are required to provide a minimum of 3.3 parking spaces/KSF with a maximum of 4 spaces/KSF. Using City office rates, the 450,000-square foot Project would be required to provide a minimum of 1,485 parking spaces.

14.2 Proposed Parking

The Project proposes to provide 62 surface spaces, 241 subterranean spaces located below buildings, and 1,478 spaces within the parking structure for a total supply of 1,781 spaces. Therefore, the Project provides the appropriate amount of parking spaces in accordance with the City of San Diego Municipal Code. ***Table 14–1*** summarizes the required and provided parking space count.

TABLE 14–1
PARKING SUMMARY

450 KSF Commercial Land Use	**Minimum Required Ratio [b]**	**Minimum Required Parking**	**Proposed Ratio [b]**	**Proposed Parking**
Surface (vehicular)	3.3/KSF	1,485	4/KSF	62
Structure (vehicular) [a]				1,719
Total Vehicular Spaces	–	–	–	*1,781*
Carpool, Fuel Efficient Vehicle	10%	179	10%	179
Motorcycle	2%	36	2%	36
Bicycle Racks (short-term)	5%	90	5%	90
Bicycle Lockers (long-term)	5%	90	6.4%	115
Loading Spaces	0.1%/KSF	5	0.1%/KSF	5

Source: Gensler, Architects February 2016

Footnotes:

a. Of the 1,714 structure spaces, 241 spaces are provided below office buildings with 1,478 spaces in the main seven-story parking structure.

b. Percentage ratios represent a percent amount of the total parking supply.

General Notes:

1. KSF = Thousand square feet.

15.0 TRANSPORTATION DEMAND MANAGEMENT

Transportation Demand Management (TDM) plans are comprised of features, practices and incentives to encourage employees and visitors to use alternate forms of transportation other than single occupancy vehicles. The goal of these plans is to reduce and/or remove single-occupant vehicle trips out of the peak hours, thereby relieving congestion. The Project is offering the TDM plan as a benefit to both the future tenants and the community. TDM features required by City code, such as bicycle facilities (racks, lockers, etc.), have the most potential to be utilized by office workers when provided as an incentive by a TDM plan.

With the completion of the Merge 56 project including the construction of Camino Del Sur and Carmel Mountain Road, there is the possibility of new and expanded transit service in the area that the Project can expand upon. The Project's TDM program will include the following measures, and will be finalized prior to the approval of the Project:

1. The Project will coordinate with Merge 56 and the Metropolitan Transit System (MTS) to determine how and when routes could be implemented to serve the area.
2. The Project will encourage office tenants to offer partially subsidized monthly passes for employees, should service routes be implemented in the future.
3. The Project will encourage office tenants to offer partially subsidized vanpool/rideshare services.
4. Transportation information will be displayed in common areas accessible to office employees in each building and in the retail amenity space. Transportation Information Displays should include, at a minimum, the following materials:
    - Ridesharing promotional material
    - Bicycle route and parking including maps and bicycle safety information
    - Materials publicizing internet and telephone numbers for referrals on transportation information
    - Promotional materials supplied by NCTD, MTS, and/or other publicly supported transportation organizations
    - A listing of facilities at the site for carpoolers/vanpoolers, transit riders (if transit becomes available), bicyclist and pedestrians, including information on the availability of preferential carpool/vanpool parking spaces and the methods for obtaining these spaces
    - Information on "Guaranteed ride home" programs like those provided by SANDAG's iCommute to ensure that employees that share rides to work are provided with a ride to their home or location near their residence in the event that an emergency occurs during the work day.
5. Carpool/vanpool parking spaces will be provided in preferentially located areas (closest to building entrances) for use by qualified employees. These spaces will be signed and striped "Car/Vanpool Parking Only". Information about the availability of and the means

of accessing the car/vanpool parking spaces will be posted on Transportation Information Displays located in common areas or on intranets, as appropriate.

6. Office employees will be offered the opportunity to register for commuter ridematching provided through publicly sponsored services (e.g., SANDAG sponsored "iCommute Ridetracker")
7. Biannual events will be held to promote use of alternative transportation.
8. Bicycle racks, lockers and showers will be provided for office employee use.
9. Employers will be encouraged to provide flexible work schedules to stagger arrivals and departures.
10. An employee commute travel survey will be conducted within six months of occupancy to help evaluate the efficacy of the TDM plan as proposed, and to inform/validate any changes that may be proposed or needed. A copy of the results of this survey will be provided to the City Development Services Department.
11. Effectiveness of the TDM Program will be monitored by the Owner/Permittee, including traffic counts and parking occupancy counts, and results provided annually to the City Engineer for a period of five (5) years.

16.0 SUMMARY OF SIGNIFICANT IMPACTS & MITIGATION MEASURES

16.1 Significance of Impacts

16.1.1 *Direct Impacts*

Per City of San Diego significance thresholds and the analysis methodology presented in this report, Project-related traffic is calculated to result in zero (0) *direct* impacts. Therefore, mitigation measures are not required.

16.1.2 *Cumulative Impacts*

Per City of San Diego significance thresholds and the analysis methodology presented in this report, Project-related traffic is calculated to result in nine (9) *cumulative* significant impacts. The following section identifies the significance of impacts and recommended mitigation to address the identified cumulative impacts.

INTERSECTIONS

TRA-1. Intersection #6. Camino Del Sur / SR 56 WB Ramps (PM)

TRA-2. Intersection #7. Camino Del Sur / SR 56 EB Ramps (PM)

TRA-3. Intersection #17. Black Mountain Rd / SR 56 WB Ramps (AM)

TRA-4. Intersection #18. Black Mountain Rd / SR 56 EB Ramps (AM)

TRA-5. Intersection #19. Black Mountain Rd / Park Village Rd (AM/PM)

STREET SEGMENTS

TRA-6. Segment #19. Black Mountain Rd from SR 56 EB Ramps to Park Village Rd

RAMP METERS

None.

FREEWAY MAINLINE SEGMENTS

TRA-7. Mainline #1. SR 56 from Carmel Valley Rd to Camino Del Sur: Eastbound (AM/PM)

TRA-8. Mainline #2. SR 56 from Camino Del Sur to Black Mountain Rd: Eastbound (PM)

TRA-9. Mainline #2. SR 56 from Camino Del Sur to Black Mountain Rd: Westbound (AM)

16.2 Mitigation Measures

In order to mitigate a project's cumulative traffic impacts, the standard of practice in the City of San Diego is to collect fair share contributions toward future improvement projects identified in a public facilities financing plan or program.

The Project is located within the Torrey Highlands Facilities Benefit Assessment (FBA) Planning Area. The FBA provides full funding for public facilities projects that serve a designated area, also known as the area of benefit, which is comprised of lands that receive special benefits from the

construction, acquisition, and improvement of those public facilities projects. The dollar amount of the assessment is based upon the collective cost of each public facility, and is equitably distributed over the area of benefit in each planning area. Fees are collected from a variety of sources, placed into a City revenue account, and used within the area of benefit solely for those capital improvements and administrative costs identified in the planning area PFFP. An individual developer will pay an assessment to the FBA fund, based upon the number of units or acres developed in a particular year. The year of completion is identified to assure the collection of interest on inflated construction costs or to allow for reimbursements for overpayment.

Per the Torrey Highlands PFFP, last updated in Fiscal Year 2013, the FBA is determined to be "fully funded", meaning all funds necessary to implement the projects listed in the PFFP have been allocated to the remaining properties to be developed and the proportionate fees have been accounted for in the Torrey Highlands FBA. Therefore, any cumulative traffic mitigation measures identified in the Torrey Highlands PFFP would be fully funded and the applicant's payment of FBA fees would mitigate the Project's cumulative impacts.

For impacted locations not included in the Torrey Highlands FBA and PFFP, the City's formula used to determine the Project's fair share contribution toward cumulative traffic impacts is shown below. The standard formula calculates a development project's fair share contribution by dividing a project's total trips by the anticipated growth in traffic volumes in the future, i.e. future volumes minus existing volumes:

$$\text{Fair Share \%} = \frac{\text{Project Traffic Volumes}}{\text{Buildout (With Project) Traffic Volumes} - \text{Existing Traffic Volumes}}$$

*Calculation represents City of San Diego standard fair share formula for cumulative traffic impacts.

Table 16–1 at the end of this section provides a summary of the fair share calculations and ***Appendix P*** provides the manual fair share calculations.

Mitigation measures for the preceding listed impacts fall into the following two categories: (1) Payment of the FBA would satisfy the Project's CEQA requirements, except that the improvements are under Caltrans jurisdiction and neither the City nor the applicant can assure their timing of completion; and (2) Black Mountain Road. Using the categories listed above, the following mitigation measures are recommended.

INTERSECTIONS

TRA-1. **Intersection #6. Camino Del Sur / SR 56 WB Ramps – Category 1:** Prior to issuance of the first building permit, the owner/permittee shall pay FBA fees toward the construction of *Torrey Highlands PFFP Project No. T-1.3* (corresponding *Black Mountain Ranch PFFP Project No. T-15.1*) to complete a northbound to westbound loop on-ramp, to the satisfaction of the City Engineer.

TRA-2. **Intersection #7. Camino Del Sur / SR 56 EB Ramps – Category 1:** Prior to issuance of the first building permit, the owner/permittee shall pay FBA fees toward the construction of *Torrey Highlands PFFP Project No. T-1.3* (corresponding *Black Mountain Ranch PFFP Project No. T-15.1*) to construct a southbound to eastbound loop on-ramp, to the satisfaction of the City Engineer.

TRA-3. **Intersection #17. Black Mountain Rd / SR 56 WB Ramps – Category 2:** Prior to issuance of the first building permit, the owner/permittee shall provide a fair share contribution (12.0%, to the satisfaction of the City Engineer) toward the unfunded portion of *Rancho Peñasquitos PFFP Project No. T-2D* (corresponding *Black Mountain Ranch PFFP Project No. T-57, Pacific Highlands Ranch PFFP Project No. T-11.1*) to widen Black Mountain Road from Twin Trails Drive to the Community Plan boundary to its ultimate classification as a Six-Lane Primary Arterial to the satisfaction of the City Engineer. This would include the restriping of the temporary striping on Black Mountain Road overpass at SR 56 to provide three (3) thru lanes in the northbound direction, to the satisfaction of the City Engineer.

TRA-4. **Intersection #18. Black Mountain Rd / SR 56 EB Ramps – Category 2:** Prior to issuance of the first building permit, the owner/permittee shall provide a fair share contribution (15.6%, to the satisfaction of the City Engineer) toward the unfunded portion of *Rancho Peñasquitos PFFP Project No. T-2D* (corresponding *Black Mountain Ranch PFFP Project No. T-57, Pacific Highlands Ranch PFFP Project No. T-11.1*) to widen Black Mountain Road from Twin Trails Drive to the Community Plan boundary to its ultimate classification as a Six-Lane Primary Arterial to the satisfaction of the City Engineer. This would include the restriping of the temporary striping on Black Mountain Road overpass at SR 56 to provide three (3) thru lanes in the northbound direction and associated widening north of the interchange, to the satisfaction of the City Engineer.

TRA-5. **Intersection #19. Black Mountain Rd / Park Village Rd – Category 2:** Prior to issuance of the first building permit, the owner/permittee shall provide a fair share contribution (14.7%, to the satisfaction of the City Engineer) toward the unfunded portion of *Rancho Peñasquitos PFFP Project No. T-2D* (corresponding *Black Mountain Ranch PFFP Project No. T-57, Pacific Highlands Ranch PFFP Project No. T-11.1*) to widen Black Mountain Road from Twin Trails Drive to the Community Plan boundary to its ultimate classification as a Six-Lane Primary Arterial to the satisfaction of the City Engineer.

Table 16–2 provides the post-mitigation level of service analysis for intersections. ***Appendix Q*** provides the post-mitigation intersection analysis worksheets.

Certain factors contribute toward the uncertainty of the required intersection improvements cited in the above mitigation measures. Specifically, the timing in the SANDAG Regional Transportation Plan (RTP) does not contemplate completion of the SR 56 widening, including the ramp improvements and related intersection improvements, until Year 2040 (after the cumulative impact

would occur in Year 2035) and the Black Mountain and Camino Del Sur interchanges lie within Caltrans' jurisdiction. Because neither the City nor the owner/permittee can assure the timely completion of these improvements, the stated improvements outlined in TRA-1 and TRA-2 are not sufficiently certain. Thus, payment of fair share contributions would not fully mitigate the Project's cumulative impact to the SR 56 interchanges and the Project's cumulative impacts would remain significant and unmitigated.

With regard to the certainty of Mitigation Measures TRA-3, TRA-4, and TRA-5 which recommend improvements to intersections along Black Mountain Road, the Black Mountain Ranch applicant initiated a CPA to the Rancho Peñasquitos Community Plan to downgrade the roadway classification of Black Mountain Road from six lanes to four lanes. The reclassification is currently under review by the City. If the proposed CPA is approved, the planned road widening would not be implemented and the Project's cumulative impacts to the ramps at the Black Mountain Road/ SR 56 interchange, as well as the Black Mountain Road/Park Village intersection, would remain significant and unmitigated. If the CPA is not approved, the Project's cumulative impacts to the SR-56 interchange with Black Mountain Road would be partially mitigated by the fair share contribution in Mitigation Measures TRA-3 and TRA-4 (as discussed in the preceding paragraph regarding Caltrans facilities) and fully mitigated by the fair share contribution at the Black Mountain Road/Park Village Road intersection by Mitigation Measure TRA-5.

STREET SEGMENTS

TRA-6. **Segment #19. Black Mountain Rd from SR 56 EB Ramps to Park Village Rd – Category 2:** Prior to issuance of the first building permit, the owner/permittee shall provide a fair share contribution (8.7%, to the satisfaction of the City Engineer) toward the unfunded portion of *Rancho Peñasquitos PFFP Project No. T-2D* (corresponding *Black Mountain Ranch PFFP Project No. T-57, Pacific Highlands Ranch PFFP Project No. T-11.1*) to widen Black Mountain Road from Twin Trails Drive to the Community Plan boundary to its ultimate classification as a Six-Lane Primary Arterial to the satisfaction of the City Engineer.

Table 16–3 provides the post-mitigation level of service analysis for street segments.

Mitigation Measure TRA-6 would mitigate cumulatively significant impacts to street segments to below a level of significance if the widening of Black Mountain Road (outlined in the measures above) is fully funded by the time of need. However, if the proposed CPA to downgrade the classification of the road from a six-lane prime arterial to a four-lane major road and eliminate *Rancho Peñasquitos PFFP Project No. T-2D* (corresponding *Black Mountain Ranch PFFP Project No. T-75, Pacific Highlands Ranch PFFP Project No. T-11.1*) from the PFFPs were approved, cumulative impacts to the street segment would be considered significant and unmitigated.

FREEWAY MAINLINE SEGMENTS

TRA-7. **Mainline #1. SR 56 from Carmel Valley Rd to Camino Del Sur: Eastbound**

TRA-8. **Mainline #2. SR 56 from Camino Del Sur to Black Mountain Rd: Eastbound**

TRA-9. **Mainline #2. SR 56 from Camino Del Sur to Black Mountain Rd: Westbound**

TRA-7. **Mainline #1. SR 56 from Carmel Valley Road to Camino Del Sur (Eastbound) – Category 1:** Prior to issuance of the first building permit, the owner/permittee shall pay the Project's FBA fees toward the construction of the *Torrey Highlands PFFP Project No. T-1.2B* to expand SR 56 from I-5 to I-15 from a Four-Lane Freeway to a Six-Lane Freeway, to the satisfaction of the City Engineer.

TRA-8. **Mainline #2. SR 56 from Camino Del Sur to Black Mountain Road (Eastbound) – Category 1:** Prior to issuance of the first building permit, the owner/permittee shall pay the Project's FBA fees toward the construction of the *Torrey Highlands PFFP Project No. T-1.2B* to expand SR 56 from I-5 to I-15 from a Four-Lane Freeway to a Six-Lane Freeway, to the satisfaction of the City Engineer.

TRA-9. **Mainline #2. SR 56 from Camino Del Sur to Black Mountain Road (Westbound) – Category 1:** Prior to issuance of the first building permit, the owner/permittee shall pay the Project's FBA fees toward the construction of the *Torrey Highlands PFFP Project No. T-1.2B* to expand SR 56 from I-5 to I-15 from a Four-Lane Freeway to a Six-Lane Freeway, to the satisfaction of the City Engineer.

Table 16–4 provides the post-mitigation level of service analysis for freeway mainline segments.

The timing in the SANDAG RTP does not contemplate completion of the SR 56 widening outlined in Mitigation Measures TRA-7, TRA-8 and TRA-9 until Year 2040 (after the Project's cumulative impact would occur in Year 2035). In addition, FBA funding alone is not the only source needed to implement the $141 million freeway expansion project; additional funding sources include $119 million in TransNet funding via sales tax revenues earmarked for regional transportation improvements (SANDAG RTP 2015). Neither the City nor the owner/permittee can assure the timely completion of the required freeway improvements. Thus, payment into the FBA alone, as required in TRA-7, TRA-8 and TRA-9, would not fully mitigate the Project's cumulative impact to the SR 56 freeway mainline and the Project's cumulative impacts would remain significant and unmitigated.

TABLE 16–1
FAIR SHARE CALCULATIONS

ID	Cumulatively Impacted Location	Recommended Improvements	Project Traffic Contribution (Fair Share %) [2]			
			Existing	Year 2035 Project Only	Year 2035 w/ Project	Fair Share %
TRA-3	Black Mountain Road/ SR 56 Westbound Ramps [1]	Restripe the temporary striping on Black Mtn Rd overpass at SR 56 to provide three (3) thru lanes in the NB direction. (This would be included in the Black Mtn Rd widening to its ultimate classification of 6-lanes from Twin Trail Drive to the Community Plan boundary)	3,834	55	4,291	12.0%
TRA-4	Black Mountain Road/ SR 56 Eastbound Ramps [1]	Restripe the temporary striping on Black Mtn Rd overpass at SR 56 to provide three (3) thru lanes in the NB direction and associated widening north of the interchange. (This would be included in the Black Mtn Rd widening to its ultimate classification of 6 lanes from Twin Trail Drive to the Community Plan boundary)	3,444	66	3,920	15.6% [3]
TRA-5	Black Mountain Road/ Park Village Road [1]	Widen Black Mtn Rd from Twin Trails Drive to the Community Plan boundary to its ultimate classification of 6 lanes	3,983	103	4,682	14.7%
TRA-6	Black Mountain Road from SR-56 EB Ramps to Park Village Road [1]	Widen Black Mtn Rd from Twin Trails Drive to the Community Plan boundary to its ultimate classification of 6 lanes	35,440	474	40,867	8.7%

Footnotes:

1. A Community Plan Amendment (CPA) to the Rancho Peñasquitos Community Plan to downgrade the classification of Black Mountain Road from six lanes to four was initiated on February 27, 2014 by Black Mountain Ranch and is expected to go before City Council in 2016. Should the CPA be approved, the Project would not be required to make the fair share contribution and this cumulative impact would remain significant and unmitigated.
2. Complete fair share calculations are shown in *Appendix P*.
3. Payment of the highest 15.6% fair share of the unfunded portion of the most recent Fiscal Year 2014 Rancho Peñasquitos PFFP Project No. T-2D would mitigate all impacts TRA-3 through TRA-6. Currently, the unfunded portion of Rancho Peñasquitos PFFP Project No. T-2D is $6,398,439, and 15.6% would be $998,155.

References:

Rancho Peñasquitos Public Facilities Financing Plan FY 2014;
Black Mountain Ranch Public Facilities Financing Plan FY 2015;
Pacific Highlands Ranch Public Facilities Financing Plan FY 2013;

TABLE 16–2
PEAK HOUR INTERSECTIONS – POST-MITIGATION OPERATIONS

MM#	Intersection	Peak Hour	Year 2035 Pre-Mitigation Operations				Year 2035 Post Mitigation		Improved to Pre-Project Conditions?
			Without Project		With Project				
			Delay	LOS	Delay	LOS	Delay	LOS	
TRA-1	6. Camino Del Sur/ SR 56 WB Ramps	PM	44.2	D	71.4	E	22.2	C	Yes
TRA-2	7. Camino Del Sur/ SR 56 EB Ramps	PM	58.6	E	84.6	F	28.8	C	Yes
TRA-3	17. Black Mountain Rd/ SR 56 WB Ramps	AM	116.9	F	133.8	F	88.8	F	Yes
TRA-4	18. Black Mountain Rd/ SR 56 EB Ramps	AM	65.0	E	68.7	E	47.7	D	Yes
TRA-5	19. Black Mountain Road/ Park Village Rd	AM PM	79.1 98.9	E F	83.1 105.6	F F	46.8 43.8	D D	Yes

General Notes:

1. MM# = Mitigation measure number.
2. LOS = Level of service.
3. Mitigation provided for locations forecasted to operate at LOS E or F without the addition of Project traffic are required to improve operations to better than or equal to pre-Project conditions only.
4. Certain factors contribute toward the uncertainty of the required intersection improvements cited in the above mitigation measures. Specifically, the timing in the SANDAG Regional Transportation Plan (RTP) does not contemplate completion of the SR 56 widening, including the ramp improvements and related intersection improvements, until Year 2040 (after the cumulative impact would occur in Year 2035) and the Black Mountain and Camino Del Sur interchanges lie within Caltrans' jurisdiction. Because neither the City nor the owner/permittee can assure the timely completion of these improvements, the stated improvements outlined in TRA-1 and TRA-2 are not sufficiently certain. Thus, payment of fair share contributions would not fully mitigate the Project's cumulative impact to the SR 56 interchanges and the Project's cumulative impacts would remain significant and unmitigated.

   With regard to the certainty of Mitigation Measures TRA-3, TRA-4, and TRA-5 which recommend improvements to intersections along Black Mountain Road, the Black Mountain Ranch applicant initiated a CPA to the Rancho Peñasquitos Community Plan to downgrade the roadway classification of Black Mountain Road from six lanes to four lanes. The reclassification is currently under review by the City. If the proposed CPA is approved, the planned road widening would not be implemented and the Project's cumulative impacts to the ramps at the Black Mountain Road/ SR 56 interchange, as well as the Black Mountain Road/Park Village intersection, would remain significant and unmitigated. If the CPA is not approved, the Project's cumulative impacts to the SR-56 interchange with Black Mountain Road would be partially mitigated by the fair share contribution in Mitigation Measures TRA-3 and TRA-4 (as discussed in the preceding paragraph regarding Caltrans facilities) and fully mitigated by the fair share contribution at the Black Mountain Road/Park Village Road intersection by Mitigation Measure TRA-5.

TABLE 16–3
STREET SEGMENT – POST-MITIGATION OPERATIONS

MM#	Street Segment	Capacity	Year 2035 Pre-Mitigation Operations						Year 2035 Post Mitigation			Improved to Pre-Project Conditions?
			Without Project			With Project						
			ADT	LOS	V/C	ADT	LOS	V/C	Capacity	LOS	V/C	
TRA-6	19. Black Mountain Rd: SR 56 EB Ramps to Park Village Rd	40,000	40,393	F	1.010	40,867	F	1.022	60,000	C	0.681	Yes

General Notes:

1. MM# = Mitigation measure number.
2. ADT = Average daily traffic volumes.
3. LOS = Level of service.
4. V/C = Volume to capacity ratio.
5. Mitigation provided for locations forecasted to operate at LOS E or F without the addition of Project traffic are required to improve operations to better than or equal to pre-Project conditions only.
6. Mitigation Measure TRA-6 would mitigate cumulatively significant impacts to street segments to below a level of significance if the widening of Black Mountain Road (outlined in the measures above) is fully funded by the time of need. However, if the proposed CPA to downgrade the classification of the road from a six-lane prime arterial to a four-lane major road and eliminate Rancho Peñasquitos PFFP Project No. T-2D (corresponding Black Mountain Ranch PFFP Project No. T-75, Pacific Highlands Ranch PFFP Project No. T-11.1) from the PFFPs were approved, cumulative impacts to the street segment would be considered significant and unmitigated.

TABLE 16–4
FREEWAY MAINLINE SEGMENT – POST-MITIGATION OPERATIONS

MM#	State Route 56 Freeway Segment	Dir.	Year 2035 Pre-Mitigation														Year 2035 With Mitigation						Improved to Pre-Project Conditions?	
			# of Lanes	Hourly Capacity	Without Project						With Project						# Lanes	Hourly Capacity	V/C		LOS			
					Volume		V/C		LOS		Volume		V/C		LOS									
					AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM			AM	PM	AM	PM		
TRA-7	Carmel Valley Rd to Camino Del Sur	EB	2M	4,000	4,214	4,103	1.054	1.026	F(0)	F(0)	4,368	4,140	1.092	1.035	F(0)	F(0)	3M	6,000	0.728	0.690	C	C	Yes	Yes
TRA-8	Camino Del Sur to Black Mountain Rd	EB	2M	4,000	*N/A*	4,259	*N/A*	1.065	*N/A*	F(0)	*N/A*	4,460	*N/A*	1.115	*N/A*	F(0)	3M	6,000	*N/A*	0.609	*N/A*	C	*N/A*	Yes
TRA-9		WB	2M	4,000	3,645	*N/A*	0.911	*N/A*	D	*N/A*	3,854	*N/A*	0.964	*N/A*	E	*N/A*	3M	6,000	0.642	*N/A*	C	*N/A*	Yes	*N/A*

General Notes:

1. MM# = Mitigation measure number.
2. M = Mainlline.
3. Dir. = Direction of travel.
4. LOS = Level of service.
5. V/C = Volume to capacity ratio.
6. N/A = Not applicable. No impact was calculated along this freeway mainline segment.
7. The timing in the SANDAG RTP does not contemplate completion of the SR 56 widening outlined in Mitigation Measures TRA-7, TRA-8 and TRA-9 until Year 2040 (after the Project's cumulative impact would occur in Year 2035). In addition, FBA funding alone is not the only source needed to implement the $141 million freeway expansion project; additional funding sources include $119 million in TransNet funding via sales tax revenues earmarked for regional transportation improvements (SANDAG 2015). Neither the City nor the owner/permittee can assure the timely completion of the required freeway improvements. Thus, payment into the FBA alone, as required in TRA-7, TRA-8 and TRA-9, would not fully mitigate the Project's cumulative impact to the SR 56 freeway mainline and the Project's cumulative impacts would remain significant and unmitigated.

End of Report

LINSCOTT
LAW &
GREENSPAN
engineers

TECHNICAL APPENDICES

THE PRESERVE AT TORREY HIGHLANDS

San Diego, California
June 7, 2018

LLG Ref. 3-15-2478

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APPENDICES

APPENDIX	
A.	Public Facilities Financing Plan Project Information (Torrey Highlands PFFP and Rancho Peñasquitos PFFP)
B.	Existing Intersection and Segment Manual Count Sheets, Caltrans Volumes, 2017 Count Validation Memo
C.	City of San Diego Roadway Classification Table, Community Plan Circulation Element Excerpts
D.	Caltrans Ramp Meter Data
E.	Existing Peak Hour Intersection Analysis Worksheets
F.	Appendix Volume Figures
G.	Individual Cumulative Projects Traffic Volume Assignment
H.	SANDAG Series 12 Select Zone Assignment (SZA) –Year 2035 and Year 2050
I.	Opening Day Without Project Peak Hour Intersection Analysis Worksheets
J.	Opening Day With Project Peak Hour Intersection Analysis Worksheets
K.	Year 2035 Traffic Volume Forecast
L.	Year 2035 Without Project Peak Hour Intersection Analysis Worksheets
M.	Year 2035 With Project Peak Hour Intersection Analysis Worksheets
N.	Project Access Intersection and Queueing Analysis Worksheets
O.	Camino Del Sur/ Southerly Driveway Signal Warrant Analysis
P.	Fair Share Calculations
Q.	Post-Mitigation Intersection Analysis Worksheets

APPENDIX F FIGURES

FIGURE NUMBER	
1.	Rerouted Existing Traffic Volumes
2.	Existing + Rerouted Existing Traffic Volumes

APPENDIX A

PUBLIC FACILITIES FINANCING PLANS
PROJECT INFORMATION EXCERPTS
(TORREY HIGHLANDS & RANCHO PEÑASQUITOS PFFPS)

CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

TITLE: **CAMINO DEL SUR WIDENING (CARMEL VALLEY RD SOUTH TO SR-56)**

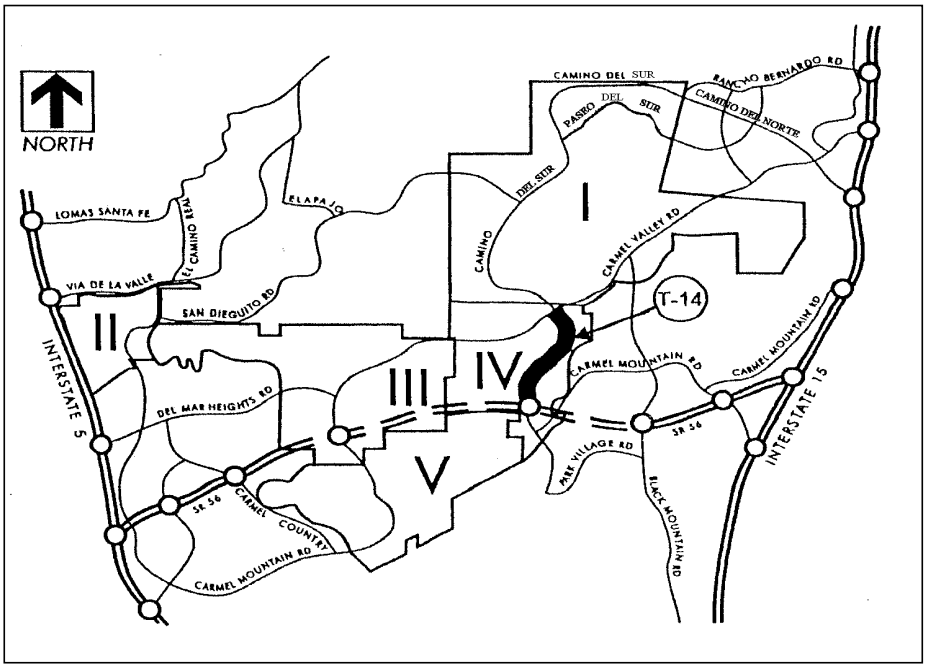
PROJECT: **T-14**

DEPARTMENT: TRANSPORTATION & STORM WATER — COUNCIL DISTRICT: 5

CIP or JO #: 52-725.0/S-00899 — COMMUNITY PLAN: BMR

SOURCE	**FUNDING:**	EXPEN/ENCUM	CONT APPROP	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019
FBA-BMR	**$3,388,000**				$543,000	$2,845,000		
FBA-PHR								
FBA-TH	**$2,400,000**	$2,400,000						
FBA-DMM								
COUNTY								
STATE								
DEV/SUBD								
PRIVATE								
MTDB								
OTHER								
UNIDENT								
TOTAL	**$5,788,000**	$2,400,000	$0	$0	$543,000	$2,845,000	$0	$0

SOURCE	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
FBA-BMR								
FBA-PHR								
FBA-TH								
FBA-DMM								
COUNTY								
STATE								
DEV/SUBD								
PRIVATE								
MTDB								
OTHER								
UNIDENT								
TOTAL	$0	$0	$0	$0	$0	$0	$0	$0



CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

TITLE: **CAMINO DEL SUR WIDENING (CARMEL VALLEY RD SOUTH TO SR-56)**

		PROJECT:	**T-14**
DEPARTMENT:	TRANSPORTATION & STORM WATER	COUNCIL DISTRICT:	5
CIP or JO #:	52-725.0/S-00899	COMMUNITY PLAN:	BMR

DESCRIPTION:

DESIGN AND CONSTRUCT ADDITIONAL TRAVEL LANES FOR CAMINO DEL SUR, COMPLETE WITH MEDIAN IMPROVEMENT, WITHIN A SIX-LANE RIGHT-OF-WAY. (SEE COMPANION PROJECT T-13) THIS PROJECT ADDRESSES THE INCREMENTAL WIDENING OF THIS SIX-LANE MAJOR ROADWAY. IT IS ANTICIPATED THAT THIS WIDENING WILL OCCUR IN TWO PHASES. THE FIRST PHASE, COMMENSURATE WITH PHASE III OF THE TORREY HIGHLANDS TRANSPORTATION PHASING PLAN, WILL COVER THE WIDENING TO FOUR TRAVEL LANES. AS PART OF THIS INITIAL PHASE, A TOTAL OF SIX TRAVEL LANES MAY BE REQUIRED IN THE IMMEDIATE VICINITY OF THE CAMINO DEL SUR INTERCHANGE. THE SECOND PHASE WILL COMPLETE THE SIX-LANE FACILITY FOR ITS ENTIRE LENGTH WHICH MAY NOT BE REQUIRED UNTIL BUILDOUT OF TORREY HIGHLANDS.

JUSTIFICATION:

THIS FACILITY IMPLEMENTS THE BLACK MOUNTAIN RANCH SUBAREA PLAN AND IS NEEDED TO SERVE THE COMMUNITY.

FUNDING:

PHASE 1 OF THIS PROJECT WAS FUNDED BY THE TORREY HIGHLANDS FBA. PHASE 2 WILL BE CONSTRUCTED BY DEVELOPER (BMR LLC) WITH REIMBURSEMENT FROM THE BLACK MOUNTAIN RANCH FBA PER THE TERMS OF A REIMBURSEMENT AGREEMENT.

NOTES:

TORREY HIGHLANDS PFFP PROJECT T-2.2.

SCHEDULE:

PHASE 1 OF THIS PROJECT IS COMPLETE. PHASE 2 IS CURRENTLY SCHEDULED TO START DESIGN AND CONSTRUCTION IN FY 2016.

CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

TITLE: **CAMINO DEL SUR (Widen to Six Lanes, Northerly of SR-56)**

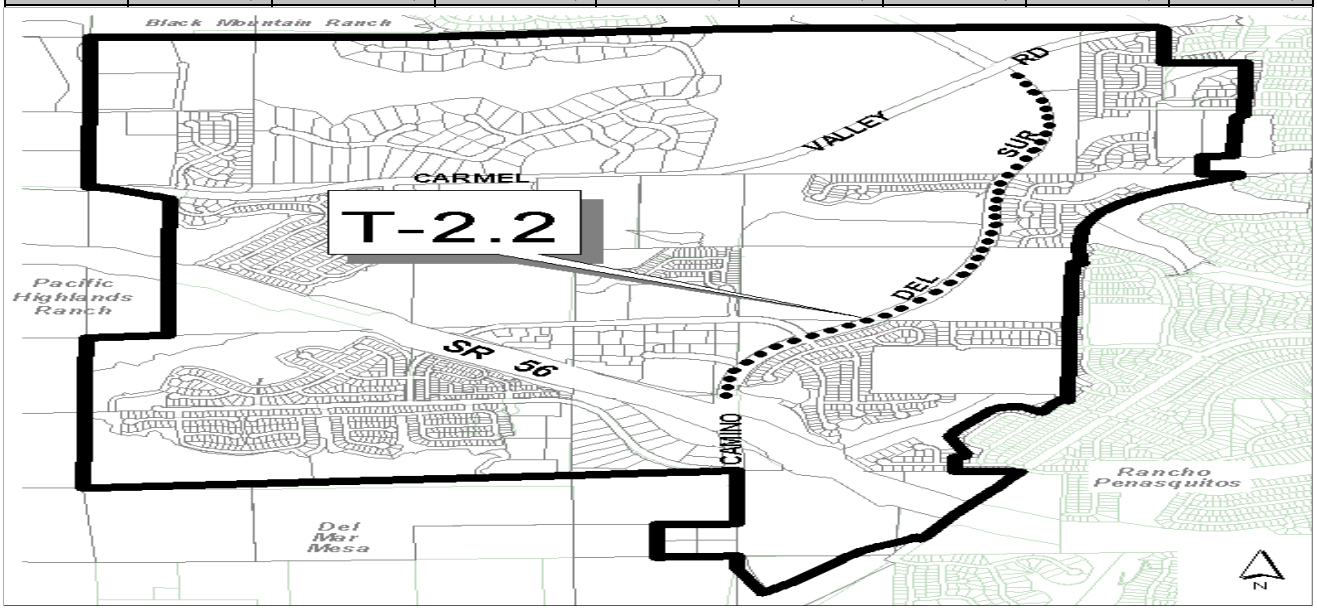
PROJECT: **T-2.2**

DEPARTMENT: ENGINEERING & CAPITAL PROJECTS — COUNCIL DISTRICT: 1

CIP or JO #: 52-725.0/S-00899 — COMMUNITY PLAN: TH

SOURCE	**FUNDING:**	EXPENDED	CONT APPROP	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
FBA-TH	**$2,400,000**	$2,400,000						
FBA-BMR	**$4,314,157**							
FBA-PHR								
FBA-DMM								
DEV. ADV								
CBI								
DEMO								
LTF								
STP								
OTHER								
UNIDEN								
TOTAL	**$6,714,157**	$2,400,000	$0	$0	$0	$0	$0	$0

SOURCE	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY2025-FY2035
FBA-TH								
FBA-BMR								
FBA-PHR								
FBA-DMM								
DEV. ADV								
CBI								
DEMO								
LTF								
STP								
OTHER								
UNIDEN								
TOTAL	$0	$0	$0	$0	$0	$0	$0	$0



CONTACT: DONALD PORNAN — TELEPHONE: (619) 533-3097 — EMAIL: DPornan@sandiego. gov

CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

TITLE: **CAMINO DEL SUR (Widen to Six Lanes, Northerly of SR-56)**

		PROJECT:	**T-2.2**
DEPARTMENT:	ENGINEERING & CAPITAL PROJECTS	COUNCIL DISTRICT:	1
CIP or JO #:	52-725.0/S-00899	COMMUNITY PLAN:	TH

DESCRIPTION:

DESIGN AND CONSTRUCT ADDITIONAL TRAVEL LANES FOR CAMINO DEL SUR, COMPLETE WITH MEDIAN IMPROVEMENTS, WITHIN A SIX-LANE RIGHT-OF-WAY. (SEE PROJECT T-2.1)

JUSTIFICATION:

THIS FACILITY IS REQUIRED TO ACCOMMODATE TRAFFIC GENERATED BY NEW DEVELOPMENT IN TORREY HIGHLANDS AND SURROUNDING COMMUNITIES AS WELL AS EXISTING SUB-REGIONAL TRAFFIC NEEDS.

FUNDING ISSUES:

NOTES:

THIS PROJECT ADDRESSES THE INCREMENTAL WIDENING OF THIS 6-LANE MAJOR ROADWAY. THE FIRST PHASE, COMMENSURATE WITH PHASE THREE OF THE TORREY HIGHLANDS TRANSPORTATION PHASING PLAN, COVERED THE ADDITION OF TWO TRAVEL LANES. AS PART OF THIS INITIAL PHASE, A TOTAL OF SIX TRAVEL LANES MAY BE REQUIRED IN THE IMMEDIATE VICINITY OF THE CAMINO DEL SUR INTERCHANGE. THE SECOND PHASE WILL COMPLETE THE SIX LANE FACILITY, WHICH MAY NOT BE REQUIRED UNTIL FULL COMMUNITY DEVELOPMENT. *REFERENCE:* BLACK MOUNTAIN RANCH PROJECT #T-14. FOR TIMING OF FUNDING FOR OTHER COMMUNITIES, REFER TO EACH COMMUNITIES PUBLIC FACILITIES FINANCING PLAN.

SCHEDULE:

PHASE I WAS COMPLETED IN FY 2003. PHASE II WILL OCCUR COMMENSURATE WITH THE REQUIREMENTS OF THE BLACK MOUNTAIN RANCH TRANSPORTATION PHASING PLAN.

CONTACT: FARAH MAHZARI TELEPHONE: (619) 533-3836 EMAIL: fmahzari@sandiego.gov

CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

TITLE: **SR-56/CAMINO DEL SUR INTERCHANGE**

PROJECT: T-1.3

DEPARTMENT: ENGINEERING & CAPITAL PROJECTS
CIP or JO #: 52-463.4

COUNCIL DISTRICT: 1
COMMUNITY PLAN: TH

SOURCE	**FUNDING:**	EXPENDED	CONT APPROP	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
FBA-TH	**$37,075,823**	$29,973,248	$2,575					
FBA-BMR								
FBA-PHR								
FBA-DMM								
FBA-RP								
DEV. ADV								
DEV/SUBD	**$457,140**	$457,140						
COUNTY								
STATE								
OTHER								
UNIDEN								
TOTAL	**$37,532,963**	$30,430,388	$2,575	$0	$0	$0	$0	$0

SOURCE	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY2025-FY2035
FBA-TH			$7,100,000					
FBA-BMR								
FBA-PHR								
FBA-DMM								
FBA-RP								
DEV. ADV								
DEV/SUBD								
COUNTY								
STATE								
OTHER								
UNIDEN								
TOTAL	$0	$0	$7,100,000	$0	$0	$0	$0	$0

CONTACT: BRAD JOHNSON TELEPHONE: (619) 533-5120 EMAIL: Bjohnson@sandiego.gov

CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

TITLE: **SR-56/CAMINO DEL SUR INTERCHANGE**

		PROJECT:	**T-1.3**
DEPARTMENT:	ENGINEERING & CAPITAL PROJECTS	COUNCIL DISTRICT:	1
CIP or JO #:	52-463.4	COMMUNITY PLAN:	TH

DESCRIPTION:

THIS PROJECT PROVIDES FOR THE DESIGN AND CONSTRUCTION OF A FULL SIX-LANE GRADE SEPARATED (WITH DUAL LEFT TURN LANES) FREEWAY INTERCHANGE AT THE INTERSECTION OF CAMINO DEL SUR AND SR-56. THIS INTERCHANGE WILL BE BUILT IN THREE PHASES: PHASE I -- WESTERLY TWO-LANE EXTENSION OF SR-56 FROM THE WESTERN LIMITS OF THE CITY'S PORTION OF THE SR-56 PROJECT TO THE TWO ON/OFF RAMPS ON THE EAST SIDE OF THE INTERCHANGE, AND PHASE II -- CONSTRUCTION OF THE FREEWAY OVERCROSSING AND WESTERLY ON RAMP AND THE EASTERLY OFF RAMP TO THE FREEWAY. PHASE III -- THE NORTH TO WESTBOUND CLOVERLEAF ON-RAMP AND THE SOUTH TO EASTBOUND CLOVERLEAF ON-RAMP.

JUSTIFICATION:

DUE TO THE REGIONAL SERVICING NATURE OF THIS INTERCHANGE, THE PROJECT WILL BE FUNDED AS PART OF THE FREEWAY IMPROVEMENTS (SEE COMPANION PROJECT T-1.1).

FUNDING ISSUES:

CALTRANS HAS BEEN ASSIGNED THE RESPONSIBILITY TO CONSTRUCT THE WESTERLY EXTENSION OF THE SR-56 AND THE FREEWAY OVERCROSSING OF CAMINO DEL SUR. NEW DEVELOPMENT IS RESPONSIBLE FOR FUNDING THE FREEWAY RAMPS, ACQUISITION OF THE RIGHT-OF-WAY FOR THE INTERCHANGE, AND MITIGATION COSTS FOR THE INTERCHANGE.

NOTES:

PHASE I WAS FUNDED BY DIRECT CONTRIBUTIONS BY DEVELOPERS INTO A SEPARATE FUND. THESE DEVELOPERS RECEIVED CREDITS FOR THESE CASH CONTRIBUTIONS AGAINST THEIR FBA OBLIGATIONS IN LIEU OF PAYING FBA. PHASES II AND III ARE BEING FUNDED DIRECTLY BY THE FBA.

SCHEDULE:

PHASE I - EAST IS COMPLETED; PHASE II - WEST IS COMPLETED; PHASE III - LOOP RAMP WILL BE SCHEDULED FOR DESIGN AND CONSTRUCTION AS FUNDING BECOMES AVAILABLE.

CONTACT: BRAD JOHNSON TELEPHONE: (619) 533-5120 EMAIL: Bjohnson@sandiego.gov

CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

TITLE: **CAMINO DEL SUR AND SR-56 INTERCHANGE**

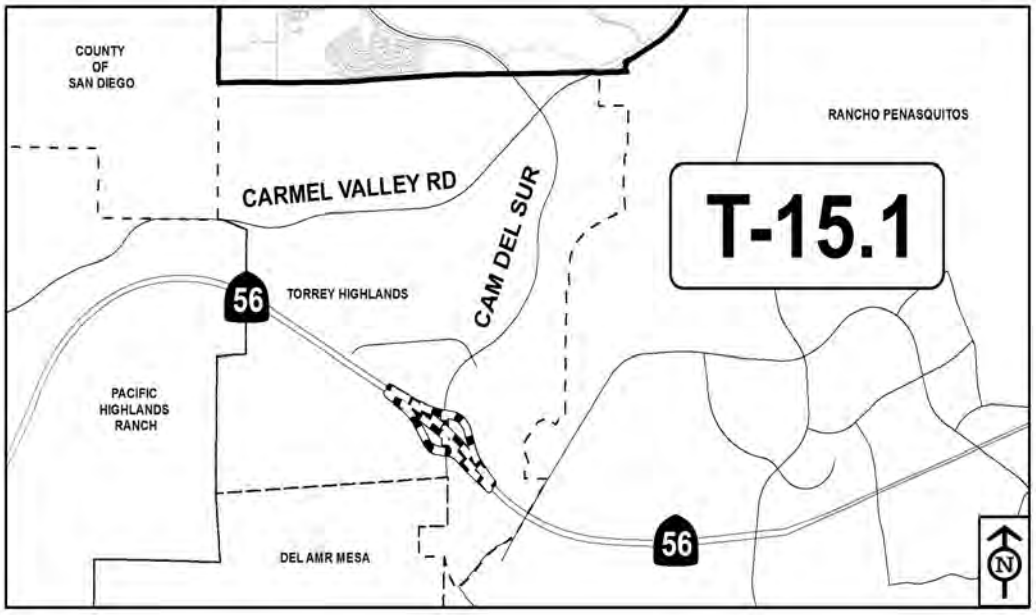
PROJECT: **T-15.1**

DEPARTMENT: TRANSPORTATION & STORM WATER — COUNCIL DISTRICT: 5

CIP or JO #: 52-463.0/S-00714 — COMMUNITY PLAN: BMR

SOURCE	**FUNDING:**	EXPEN/ENCUM	CONT APPROP	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019
FBA-BMR								
FBA-PHR								
FBA-TH	**$37,075,823**	$29,973,248	$2,575					
FBA-DMM								
COUNTY								
STATE								
DEV/SUBD	**$457,140**	$457,140						
PRIVATE								
MTDB								
OTHER								
UNIDENT								
TOTAL	**$37,532,963**	$30,430,388	$2,575	$0	$0	$0	$0	$0

SOURCE	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
FBA-BMR								
FBA-PHR								
FBA-TH	$7,100,000							
FBA-DMM								
COUNTY								
STATE								
DEV/SUBD								
PRIVATE								
MTDB								
OTHER								
UNIDENT								
TOTAL	$7,100,000	$0	$0	$0	$0	$0	$0	$0



CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

TITLE: **CAMINO DEL SUR AND SR-56 INTERCHANGE**

		PROJECT:	**T-15.1**
DEPARTMENT:	TRANSPORTATION & STORM WATER	COUNCIL DISTRICT:	5
CIP or JO #:	52-463.0/S-00714	COMMUNITY PLAN:	BMR

DESCRIPTION:

THIS PROJECT PROVIDES FOR THE DESIGN AND CONSTRUCTION OF A FULL, GRADE SEPARATED, SIX-LANE (WITH DUAL LEFT TURN LANES) FREEWAY INTERCHANGE AT THE INTERSECTION OF CAMINO DEL SUR AND SR-56. THIS INTERCHANGE WILL BE BUILT IN THREE PHASES. PHASE 1 CONSISTED OF THE WESTERLY TWO-LANE EXTENSION OF SR-56 FROM THE WESTERLY LIMITS OF THE CITY'S PORTION OF THE SR-56 PROJECT TO THE ON/OFF RAMPS ON THE EAST SIDE OF THE INTERCHANGE. THIS PHASE ALSO CONSISTED OF THE WESTERLY OFF-RAMP AND THE EASTERLY ON-RAMP TO THE FREEWAY. PHASE II CONSISTED OF THE CONSTRUCTION OF THE FREEWAY OVERCROSSING STRUCTURE AND THE WESTERLY ON-RAMP AND THE EASTERLY OFF-RAMP TO THE FREEWAY. PHASE III, WHEN REQUIRED, WILL PROVIDE FOR THE NORTH TO WESTBOUND CLOVERLEAF ON-RAMP AND THE SOUTH TO EASTBOUND CLOVERLEAF ON-RAMP.

JUSTIFICATION:

DUE TO THE REGIONAL SERVICING NATURE OF THIS INTERCHANGE, THE PROJECT WILL BE FUNDED AS PART OF THE SR-56 IMPROVEMENTS. IT IS NEEDED TO SERVE THE COMMUNITY.

FUNDING:

PHASE I WAS FUNDED BY DIRECT CONTRIBUTIONS BY TORREY HIGHLANDS SUBDIVIDERS. CALTRANS WILL CONSTRUCT THE WESTERLY EXTENSION OF SR-56 AND THE FREEWAY OVERCROSSING OF CAMINO DEL SUR. NEW DEVELOPMENT IS RESPONSIBLE FOR FUNDING THE FREEWAY RAMPS, ACQUISITION OF THE RIGHT-OF-WAY FOR THE INTERCHANGE, AND MITIGATION FOR THE INTERCHANGE. COST AND SCOPE INCLUDES PROJECT T-16.

NOTES:

TORREY HIGHLANDS PFFP PROJECT T-1.3.

SCHEDULE:

PHASES I AND II ARE COMPLETE. PHASE III HAS BEEN SCHEDULED FOR DESIGN AND CONSTRUCTION IN FY 2020, DEPENDENT ON AVAILABLE FUNDING.

CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

TITLE: **BLACK MOUNTAIN ROAD WIDENING**

PROJECT: **T-2D**

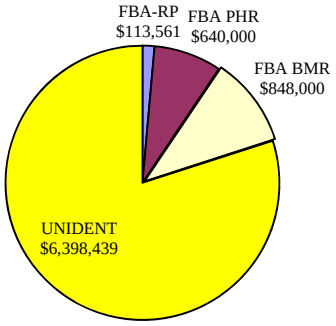
DEPARTMENT: ENGINEERING & CAPITAL PROJECTS
CIP or JO #: 52-393.0

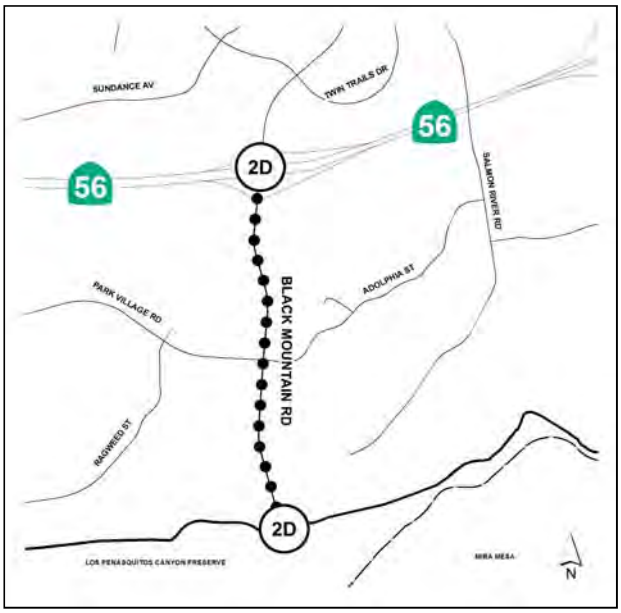
COUNCIL DISTRICT: 5&6
COMMUNITY PLAN: RP

SOURCE	**FUNDING:**	EXPENDED	CONT APPROP	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018
FBA-RP	**$113,561**	$113,561						
FBA PHR	**$640,000**							
FBA BMR	**$848,000**							
SPF								
PARKFEE								
STATE								
DEV/SUBD								
PRIVATE								
MTDB								
OTHER								
UNIDENT	**$6,398,439**							
TOTAL	**$8,000,000**	$113,561	$0	$0	$0	$0	$0	$0

SOURCE	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
FBA-RP								
RP COMM								
FBA-CVN								
SPF								
PARKFEE								
STATE								
DEV/SUBD								
PRIVATE								
MTDB								
OTHER								
UNIDENT								
TOTAL	$0	$0	$0	$0	$0	$0	$0	$0

FUNDING SOURCES





CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

TITLE: **BLACK MOUNTAIN ROAD WIDENING**

		PROJECT:	**T-2D**
DEPARTMENT:	ENGINEERING & CAPITAL PROJECTS	COUNCIL DISTRICT:	5&6
CIP or JO #:	52-393.0	COMMUNITY PLAN:	RP

DESCRIPTION:

THIS PROJECT PROVIDES FOR THE WIDENING OF BLACK MOUNTAIN ROAD FROM TWIN TRAILS ON THE NORTH, TO MERCY ROAD ON THE SOUTH. THIS PROJECT WILL MODIFY THE CURRENT STREET TO A SIX-LANE ARTERIAL STREET WITH CLASS II BICYCLE LANES.

JUSTIFICATION:

BLACK MOUNTAIN ROAD IS ONE OF THE MAJOR STREETS CONNECTING PEÑASQUITOS AND MIRA MESA. THIS PORTION OF BLACK MOUNTAIN ROAD IS NEEDED TO ACCOMMODATE THE INCREASE IN TRAFFIC GENERATED BY THE PEÑASQUITOS AND MIRA MESA COMMUNITIES AT FULL COMMUNITY DEVELOPMENT.

RELATIONSHIP TO GENERAL PLAN AND COMMUNITY PLAN(S):

THIS PROJECT IS CONSISTENT WITH THE CITY'S GENERAL PLAN AND THE RANCHO PEÑASQUITOS COMMUNITY PLAN.

SCHEDULE:

DESIGN AND CONSTRUCTION WILL BE SCHEDULED WHEN FUNDING IS IDENTIFIED. THE PROJECT CURRENTLY DOES NOT INCLUDE AN ESTIMATE FOR POTENTIAL R-O-W ACQUISITION. A R-O-W ASSESSMENT WOULD BE REQUIRED TO DETERMINE ANY FUTURE LAND ACQUISITION COST. THE ULTIMATE PROJECT WOULD INCLUDE 10.6% FUNDING FROM THE BMR FBA AND 8% FROM THE PHR FBA. FOR TIMING OF FUNDING FOR OTHER COMMUNITY'S, REFER TO EACH COMMUNITIES PUBLIC FACILITIES FINANCING PLAN.

REFERENCE: BLACK MOUNTAIN RANCH PUBLIC FACILITIES FINANCING PLAN PROJECT # T-75; PACIFIC HIGHLANDS RANCH PUBLIC FACILITIES FINANCING PLAN PROJECT #T-11.1

CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

TITLE: **BLACK MOUNTAIN ROAD WIDENING (SR-56 SOUTH TO MERCY RD)**

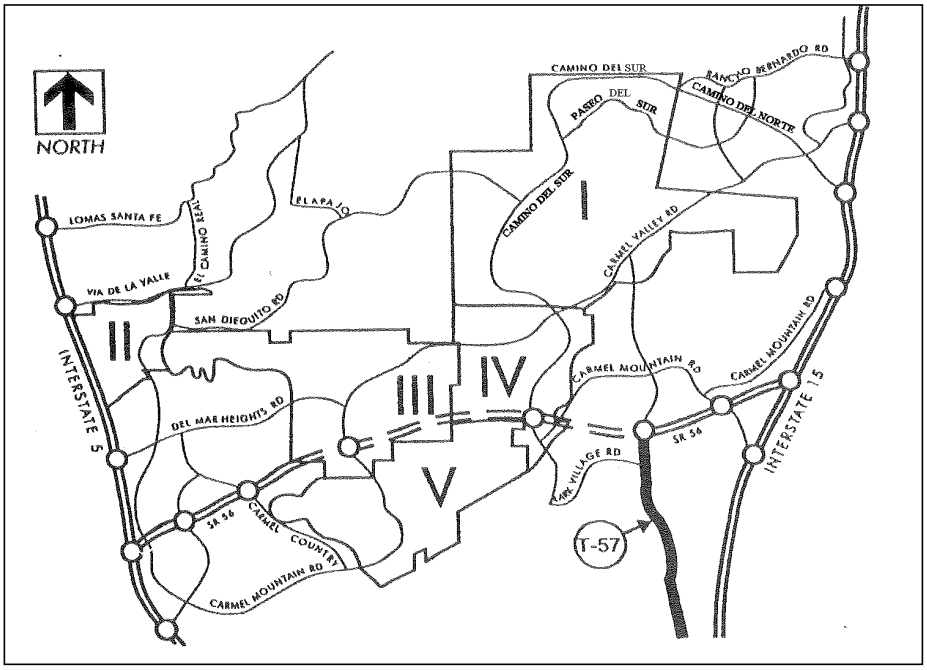
PROJECT: **T-57**

DEPARTMENT: TRANSPORTATION & STORM WATER — COUNCIL DISTRICT: 5

CIP or JO #: N/A — COMMUNITY PLAN: BMR

SOURCE	**FUNDING:**	EXPEN/ENCUM	CONT APPROP	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019
FBA-BMR	**$993,000**						$993,000	
FBA-PHR	**$750,000**							
FBA-TH								
FBA-DMM								
COUNTY								
STATE								
DEV/SUBD								
PRIVATE								
MTDB								
OTHER								
UNIDENT	**$7,626,000**							
TOTAL	**$9,369,000**	$0	$0	$0	$0	$0	$993,000	$0

SOURCE	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
FBA-BMR								
FBA-PHR								
FBA-TH								
FBA-DMM								
COUNTY								
STATE								
DEV/SUBD								
PRIVATE								
MTDB								
OTHER								
UNIDENT								
TOTAL	$0	$0	$0	$0	$0	$0	$0	$0



CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

TITLE: **BLACK MOUNTAIN ROAD WIDENING (SR-56 SOUTH TO MERCY RD)**

		PROJECT:	**T-57**
DEPARTMENT:	TRANSPORTATION & STORM WATER	COUNCIL DISTRICT:	5
CIP or JO #:	N/A	COMMUNITY PLAN:	BMR

DESCRIPTION:

WIDEN BLACK MOUNTAIN ROAD IN RANCHO PEÑASQUITOS, FROM SR-56 SOUTH TO MERCY ROAD, TO A MODIFIED SIX-LANE ARTERIAL WITH CLASS II BICYCLE LANES. THE INTERSECTION OF BLACK MOUNTAIN ROAD AND PARK VILLAGE ROAD WILL BE MODIFIED TO PROVIDE FOR THE CLASS II BICYCLE LANES.

JUSTIFICATION:

THIS FACILITY IMPLEMENTS THE BLACK MOUNTAIN RANCH SUBAREA PLAN AND IS NEEDED TO SERVE THE COMMUNITY.

FUNDING:

THE FUNDING ALLOCATION BETWEEN FBAS IS BASED ON THE SHARE OF TRAFFIC CONTRIBUTED BY EACH COMMUNITY. THE SHARE PERCENTAGES ARE:

BLACK MOUNTAIN RANCH (BMR) - 10.6%
PACIFIC HIGHLANDS RANCH (PHR) - 8%

NOTES:

PACIFIC HIGHLANDS RANCH PFFP PROJECT T-11.1
RANCHO PEÑASQUITOS PFFP PROJECTS 2C AND 2D

AS EACH PUBLIC FACILITIES FINANCING PLAN (PFFP) IS UPDATED SEPARATELY, THE TIMING OF THE CONTRIBUTION FROM FBAs OTHER THAN BMR MAY DIFFER FROM PFFP TO PFFP.

SCHEDULE:

ALTHOUGH THE BMR FBA SHARE OF THE PROJECT IS SCHEDULED FOR FY 2018, THE PROJECT CANNOT GO FORWARD UNTIL 100% OF THE NECESSARY FUNDING IS IDENTIFIED.

CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

TITLE: **BLACK MOUNTAIN ROAD**

PROJECT: **T-11.1**

DEPARTMENT: ENGINEERING & CAPITAL PROJECTS
CIP, JO, or WBS #: N/A

COUNCIL DISTRICT: 1
COMMUNITY PLAN: PHR

SOURCE	**FUNDING:**	EXPENDED	CONT APPROP	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
FBA-PHR	**$750,000**							
FBA-BMR	**$993,000**							$993,000
FBA-TH								
FBA-DMM								
FBA-RP								
DEV. ADV								
DEV/SUBD								
COUNTY								
STATE								
OTHER	**$7,626,000**							
UNIDEN								
TOTAL	**$9,369,000**	$0	$0	$0	$0	$0	$0	$993,000

SOURCE	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
FBA-PHR							$750,000	
FBA-BMR								
FBA-TH								
FBA-DMM								
FBA-RP								
DEV. ADV								
DEV/SUBD								
COUNTY								
STATE								
OTHER								
UNIDEN								
TOTAL	$0	$0	$0	$0	$0	$0	$750,000	$0

CONTACT: LINDA MARABIAN TELEPHONE: (619) 533-3082 EMAIL: LMarabian@sandiego.gov

CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

TITLE: **BLACK MOUNTAIN ROAD**

		PROJECT:	**T-11.1**
DEPARTMENT:	ENGINEERING & CAPITAL PROJECTS	COUNCIL DISTRICT:	1
CIP, JO, or WBS #:	N/A	COMMUNITY PLAN:	PHR

DESCRIPTION:

WIDEN BLACK MOUNTAIN ROAD IN RANCHO PENASQUITOS, FROM SR-56 SOUTHERLY TO MERCY ROAD TO A MODIFIED SIX-LANE ARTERIAL WITH CLASS II BICYCLE LANES. THE INTERSECTION AT BLACK MOUNTAIN ROAD AND PARK VILLAGE ROAD WILL BE MODIFIED TO PROVIDE FOR CLASS II BICYCLE LANES.

JUSTIFICATION:

THIS PROJECT IS REQUIRED TO ACCOMMODATE THE ADDITIONAL TRAFFIC GENERATED AS A RESULT OF DEVELOPMENT IN THE SURROUNDING COMMUNITIES, INCLUDING PACIFIC HIGHLANDS RANCH.

FUNDING ISSUES:

PACIFIC HIGHLANDS RANCH'S FAIR SHARE CONTRIBUTION TO THIS CURRENTLY UNFUNDED PROJECT IS 8%. BLACK MOUNTAIN RANCH'S FAIR SHARE CONTRIBUTION IS 10.6%.

THE ACTUAL TIMING FOR COMMUNITY CONTRIBUTIONS MAY DIFFER AS PUBLIC FACILITY FINANCING PLANS ARE UPDATED SEPARATELY.

NOTES:

REFERENCE :
RANCHO PENASQUITOS PUBLIC FACILITIES FINANCING PLAN PROJECT 29-2D
BLACK MOUNTAIN RANCH PUBLIC FACILITIES FINANCING PLAN PROJECT T-57

SCHEDULE:

PROJECT COMPLETION IS SCHEDULED WHEN FUNDING IS AVAILABLE.

CONTACT: LINDA MARABIAN TELEPHONE: (619) 533-3082 EMAIL: LMarabian@sandiego.gov

CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

TITLE: **STATE ROUTE 56 - EXPANSION TO 6 LANES (FROM I-5 TO I-15)**

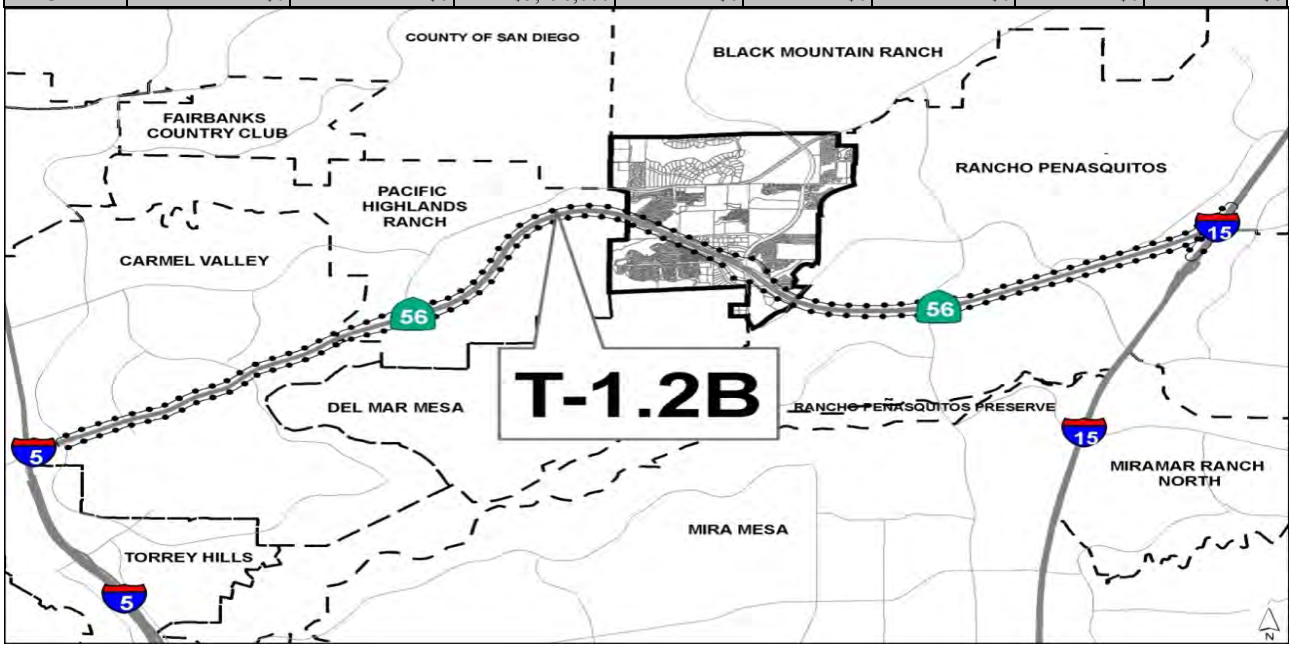
PROJECT: **T-1.2B**

DEPARTMENT: ENGINEERING & CAPITAL PROJECTS — COUNCIL DISTRICT: 1

CIP or JO #: N/A — COMMUNITY PLAN: TH

SOURCE	**FUNDING:**	EXPENDED	CONT APPROP	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
FBA-TH	**$8,796,000**				$500,000	$1,500,000	$1,500,000	
FBA-BMR	**$12,091,000**							
FBA-PHR	**$11,546,000**							
FBA-DMM	**$567,000**							
FBA-RP								
DEV. ADV								
DEV/SUBD								
COUNTY								
STATE								
OTHER								
UNIDEN	**$119,000,000**							
TOTAL	**$152,000,000**	$0	$0	$0	$500,000	$1,500,000	$1,500,000	$0

SOURCE	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY2025-FY2035
FBA-TH			$5,296,000					
FBA-BMR								
FBA-PHR								
FBA-DMM								
FBA-RP								
DEV. ADV								
DEV/SUBD								
COUNTY								
STATE								
OTHER								
UNIDEN								
TOTAL	$0	$0	$5,296,000	$0	$0	$0	$0	$0



CONTACT: BRAD JOHNSON — TELEPHONE: (619) 533-5120 — EMAIL: Bjohnson@sandiego.gov

CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

TITLE: **STATE ROUTE 56 - EXPANSION TO 6 LANES (FROM I-5 TO I-15)**

		PROJECT:	**T-1.2B**
DEPARTMENT:	ENGINEERING & CAPITAL PROJECTS	COUNCIL DISTRICT:	1
CIP or JO #:	N/A	COMMUNITY PLAN:	TH

DESCRIPTION:

CONVERSION OF THE FOUR-LANE FREEWAY INTO A SIX-LANE FACILITY. HIGH OCCUPANCY VEHICLE LANES CAN BE ACCOMODATED WITHIN THE CENTER MEDIAN AT SOME POINT IN THE FUTURE ONCE REGIONAL FUNDING IS IDENTIFIED. THIS PROJECT WILL BE COMPLETED IN MULTIPLE PHASES AS FUNDING BECOMES AVAILABLE.

JUSTIFICATION:

DUE TO THE REGIONAL SERVICING NATURE OF THIS FREEWAY, IT IS ANTICIPATED THAT FEDERAL, STATE, OR OTHER OUTSIDE FUNDING FOR THIS SEGMENT OF SR-56 WILL BE OBTAINED. IN THE ABSENCE OF THESE OTHER FUNDING SOURCES, DEVELOPMENT WITHIN THE INDIVIDUAL SUBAREAS OF THE NORTH CITY FUTURE URBANIZING AREA MAY BE REQUIRED TO ADVANCE THE COST OF THIS PROJECT. THE FBA PORTION OF THIS PROJECT HAS NOT BEEN INCREASED SINCE FY2007.

FUNDING ISSUES:

THE INDICATED ALLOCATION OF COST REPRESENTS EACH SUBAREA'S FAIR SHARE, ABSENT SUFFICIENT FUNDING FROM OTHER SOURCES. THESE ALLOCATIONS MAY BE REDUCED AS OTHER SOURCES ARE IDENTIFIED.

NOTES:

COST ALLOCATIONS ARE BASED UPON THE TOTAL COST OF PROJECT(S) T-1.2A AND COMPANION PROJECT T-1.2B. *REFERENCE:* BLACK MOUNTAIN RANCH PFFP PROJECT T-54.2; DEL MAR MESA PFFP PROJECT 43-5C; PACIFIC HIGHLANDS RANCH PFFP PROJECT T-1.2B. FOR TIMING OF FUNDING FOR OTHER COMMUNITIES, REFER TO EACH COMMUNITIES PUBLIC FACILITIES FINANCING PLAN.

SCHEDULE:

THIS PROJECT WILL BE COMPLETED WHEN FUNDING IS AVAILABLE.

CONTACT: BRAD JOHNSON TELEPHONE: (619) 533-5120 EMAIL: Bjohnson@sandiego.gov

CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

TITLE: **SR-56 WIDENING (INTERSTATE 5 TO INTERSTATE 15) - ADD 2 LANES**

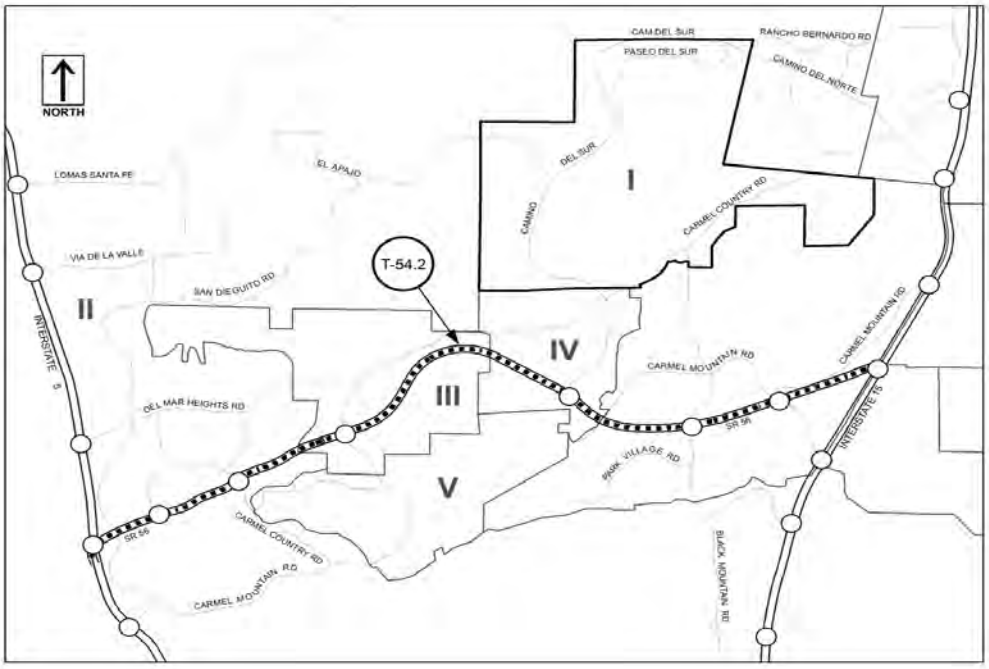
PROJECT: **T-54.2**

DEPARTMENT: TRANSPORTATION & STORM WATER — COUNCIL DISTRICT: 5

CIP or JO #: RD-14000 — COMMUNITY PLAN: BMR

SOURCE	**FUNDING:**	EXPEN/ENCUM	CONT APPROP	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019
FBA-BMR								
FBA-PHR	**$17,476,000**							
FBA-TH	**$8,796,000**		$500,000	$1,500,000	$1,500,000			
FBA-DMM	**$567,000**							
COUNTY								
STATE								
DEV/SUBD	**$12,091,000**							
PRIVATE								
MTDB								
OTHER								
UNIDENT	**$113,070,000**							
TOTAL	**$152,000,000**	$0	$500,000	$1,500,000	$1,500,000	$0	$0	$0

SOURCE	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027-2033
FBA-BMR								
FBA-PHR								
FBA-TH	$5,296,000							
FBA-DMM								
COUNTY								
STATE								
DEV/SUBD								
PRIVATE								
MTDB								
OTHER								
UNIDENT								
TOTAL	$5,296,000	$0	$0	$0	$0	$0	$0	$0



CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

TITLE: **SR-56 WIDENING (INTERSTATE 5 TO INTERSTATE 15) - ADD 2 LANES**

		PROJECT:	**T-54.2**
DEPARTMENT:	TRANSPORTATION & STORM WATER	COUNCIL DISTRICT:	5
CIP or JO #:	RD-14000	COMMUNITY PLAN:	BMR

DESCRIPTION:

CONVERSION OF THE FOUR-LANE FREEWAY TO A SIX-LANE FACILITY. HIGH OCCUPANCY VEHICLE LANES CAN BE ACCOMMODATED WITHIN THE CENTER MEDIAN AT SOME POINT IN THE FUTURE ONCE REGIONAL FUNDING IS IDENTIFIED. THIS PROJECT WILL BE COMPLETED IN MULTIPLE PHASES AS FUNDING BECOMES AVAILABLE.

JUSTIFICATION:

THIS PROJECT IS CONSISTENT WITH THE BLACK MOUNTAIN RANCH, DEL MAR MESA, PACIFIC HIGHLANDS RANCH, AND TORREY HIGHLANDS SUBAREA PLANS, IS IN CONFORMANCE WITH THE CITY'S GENERAL PLAN, AND IS NEEDED TO SERVE THE COMMUNITY.

FUNDING:

DEV/SUBD - REPRESENTS THE BMR SHARE OF THIS PROJECT THAT WILL BE PROVIDED BY THE BMR DEVELOPER, BMR LLC, AS A DIRECT CASH CONTRIBUTION PER THE REQUIREMENTS OF THE BLACK MOUNTAIN RANCH TRANSPORTATION PHASING PLAN THRESHOLDS.

DUE TO THE REGIONAL SERVING NATURE OF THIS FREEWAY, IT IS ANTICIPATED THAT FEDERAL, STATE, OR OTHER OUTSIDE FUNDING FOR THIS PROJECT WILL BE OBTAINED. IN THE ABSENCE OF THESE OTHER FUNDING SOURCES, DEVELOPMENT WITHIN THE INDIVIDUAL COMMUNITIES OF THE NORTH CITY AREA MAY BE REQUIRED TO ADVANCE A PARTIAL COST OF THIS PROJECT. HOWEVER, THESE SUBAREA SHARES ARE CAPPED AT THE CURRENT LEVELS.

NOTES:

PACIFIC HIGHLANDS RANCH PFFP PROJECT T-1.2B
TORREY HIGHLANDS PFFP PROJECT T-1.2B
DEL MAR MESA PFFP PROJECT 43-5C.

THE ACTUAL TIMING OF THE FBA CONTRIBUTIONS MAY DIFFER FROM FBA TO FBA, AS THE PFFPS ARE UPDATED SEPARATELY.

SCHEDULE:

A CO-OP AGREEMENT WITH CALTRANS WAS APPROVED IN LATE FY 2014 TO FUND A PROJECT STUDY TO EVALUATE EXISTING CONDITIONS AND DEVELOP DESIGN ALTERNATIVES FOR THE FUTURE PROJECT.

CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

TITLE: **STATE ROUTE 56 - EXPANSION TO 6 LANES**

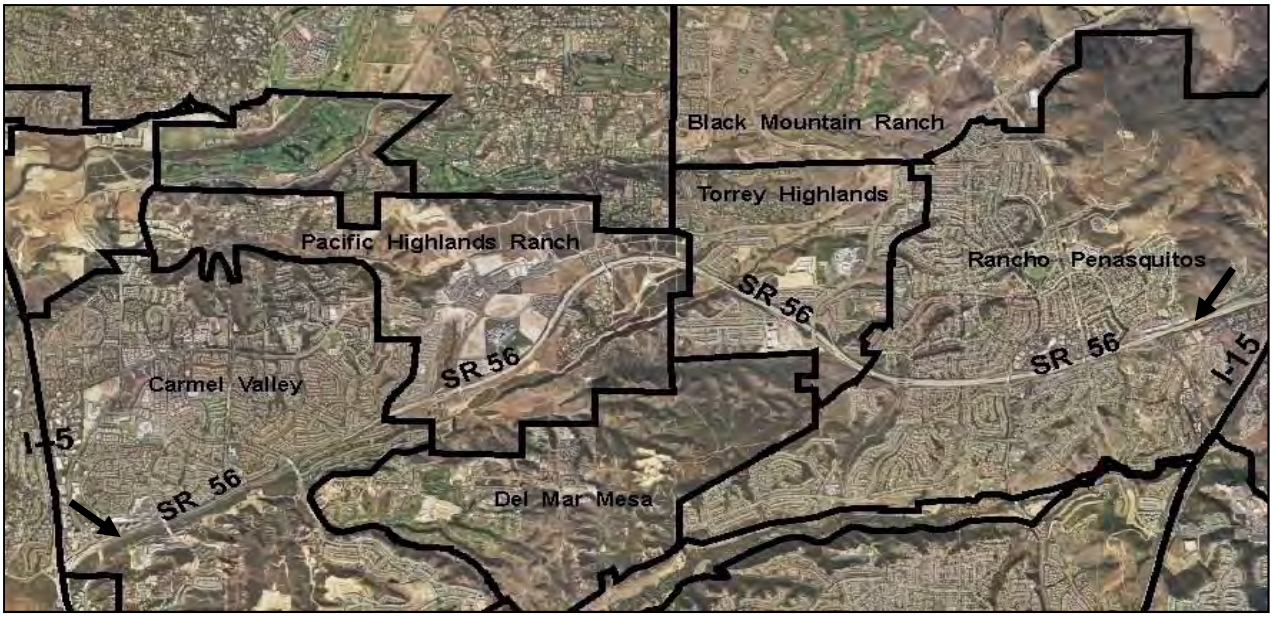
PROJECT: **T-1.2B**

DEPARTMENT: ENGINEERING & CAPITAL PROJECTS
CIP, JO, or WBS #: N/A

COUNCIL DISTRICT: 1
COMMUNITY PLAN: PHR

SOURCE	**FUNDING:**	EXPENDED	CONT APPROP	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
FBA-PHR	**$17,476,000**							
FBA-BMR	**$18,148,000**				$6,091,000	$6,000,000	$6,057,000	
FBA-TH	**$8,580,000**							$8,580,000
FBA-DMM	**$918,000**				$918,000			
FBA-RP								
DEV. ADV								
DEV/SUBD								
COUNTY								
STATE								
OTHER	**$101,795,000**							
UNIDEN								
TOTAL	**$146,917,000**	$0	$0	$0	$7,009,000	$6,000,000	$6,057,000	$8,580,000

SOURCE	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	FY 2034	FY 2035
FBA-PHR						$17,476,000		
FBA-BMR								
FBA-TH								
FBA-DMM								
FBA-RP								
DEV. ADV								
DEV/SUBD								
COUNTY								
STATE								
OTHER								
UNIDEN								
TOTAL	$0	$0	$0	$0	$0	$17,476,000	$0	$0



CONTACT: BRAD JOHNSON TELEPHONE: (619) 533-5120 EMAIL: Bjohnson@sandiego.gov

CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

TITLE: **STATE ROUTE 56 - EXPANSION TO 6 LANES**

		PROJECT:	**T-1.2B**
DEPARTMENT:	ENGINEERING & CAPITAL PROJECTS	COUNCIL DISTRICT:	1
CIP, JO, or WBS #:	N/A	COMMUNITY PLAN:	PHR

DESCRIPTION:

CONVERSION OF THE FOUR LANE FREEWAY INTO A SIX LANE FACILITY. HIGH OCCUPANCY VEHICLE LANES CAN BE ACCOMODATED WITHIN THE CENTER MEDIAN IN THE FUTURE ONCE REGIONAL FUNDING IS IDENTIFIED.

REFERENCE:
BLACK MOUNTAIN RANCH PUBLIC FACILITIES FINANCING PLAN PROJECT T-54.2
TORREY HIGHLANDS PUBLIC FACILITIES FINANCING PLAN PROJECT T-1.2B
DEL MAR MESA PUBLIC FACILITIES FINANCING PLAN PROJECT 43-5C.

JUSTIFICATION:

DUE TO THE REGIONAL SERVING NATURE OF THIS FREEWAY, IT IS ANTICIPATED THAT FEDERAL, STATE, OR OTHER OUTSIDE FUNDING FOR THIS SEGMENT OF SR-56 WILL BE OBTAINED. IN THE ABSENCE OF THESE OTHER FUNDING SOURCES, DEVELOPMENT WITHIN THE INDIVIDUAL SUBAREAS OF THE NORTH CITY AREA MAY BE REQUIRED TO FUND, OR AT LEAST ADVANCE PARTIAL FUNDING OF THIS PROJECT.

FUNDING ISSUES:

THE ABOVE ALLOCATION OF COST REPRESENTS EACH SUBAREA'S FAIR SHARE OF THE ORIGIANAL SCOPE OF THE PROJECT. THESE ALLOCATIONS MAY BE REDUCED AS OTHER SOURCES ARE IDENTIFIED. IF OUTSIDE FUNDING IS OBTAINED, THEN BLACK MOUNTIAN RANCH AND PACIFIC HIGHLANDS RANCH WILL BE REIMBURSED ON A PRIORITY BASIS UNTIL ADVANCES ARE REDUCED TO A PROPORTIONATE SHARE AS CALCULATED BY A TRAFFIC LINK ANALYSIS. THE PROPORTIONATE SHARE FOR PACIFIC HIGHLANDS RANCH WOULD BE REDUCED FROM 37.7% TO 26.4%; BLACK MOUNTAIN RANCH FROM 39.3% TO 22.6%. THEREAFTER, ANY REIMBURSEMENTS WOULD BE DISTRIBUTED TO ALL SUBAREAS ON A PRORATA BASIS.

THE ACTUAL TIMING FOR COMMUNITY CONTRIBUTIONS MAY DIFFER AS PUBLIC FACILITY FINANCING PLANS ARE UPDATED SEPARATELY.

NOTES:

THE FAIR SHARE ALLOCATION IS BASED UPON EACH COMMUNITY'S PRO RATA SHARE OF DWELLING UNITS. FUNDING ALLOCATIONS ARE BASED UPON THE COMBINED TOTAL COST OF PROJECT T-1.2A AND COMPANION PROJECT T-1.2B.

SCHEDULE:

THIS PROJECT WILL BE CONSTRUCTED WHEN FUNDING IS AVAILABLE.

CONTACT: BRAD JOHNSON TELEPHONE: (619) 533-3770 EMAIL: Bjohnson@sandiego.gov

CITY OF SAN DIEGO

FACILITIES FINANCING PROGRAM

TITLE: **STATE ROUTE 56 (EXPANSION TO A SIX-LANE FREEWAY)**

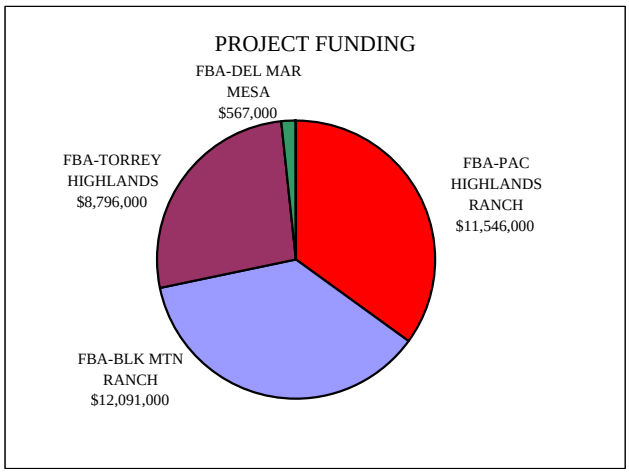
DEPARTMENT: ENGINEERING & CAPITAL PROJECTS

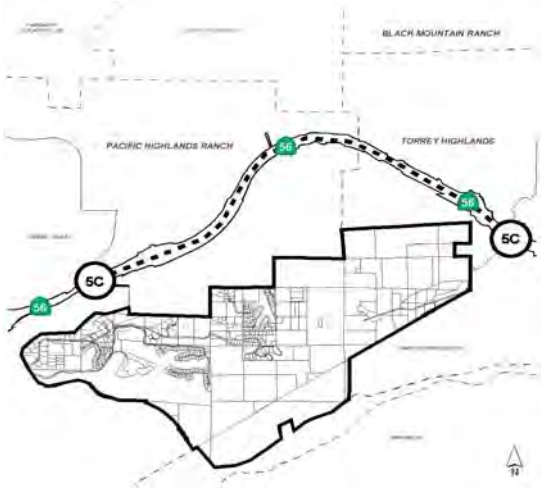
PROJECT: 43-5C
COUNCIL DISTRICT: 1
CIP NO.:
COMMUNITY PLAN: DEL MAR MESA

DESCRIPTION: CONVERSION OF THE FOUR-LANE FREEWAY INTO A SIX-LANE FACILITY. HIGH OCCUPANCY VEHICLE LANES CAN BE ACCOMMODATED WITHIN THE CENTER MEDIAN AT SOME POINT IN THE FUTURE ONCE REGIONAL FUNDING IS IDENTIFIED. THIS PROJECT WILL BE COMPLETED IN MULTIPLE PHASES AS FUNDING BECOMES AVAILABLE. THE FIRST PHASE WILL CONSIST OF THE WIDENING OF THE CONTINUOUS AUXILIARY LANE ON WESTBOUND SR-56 BETWEEN WESTBOUND OFF-RAMP AND WESTBOUND ON-RAMP AT CARMEL CREEK ROAD.

JUSTIFICATION: DUE TO THE REGIONAL SERVICING NATURE OF THIS FREEWAY, IT IS ANTICIPATED THAT FEDERAL, STATE OR OTHER OUTSIDE FUNDING FOR THIS SEGMENT OF SR-56 WILL BE OBTAINED. IN THE ABSENCE OF THESE OTHER FUNDING SOURCES, DEVELOPMENT WITHIN THE INDIVIDUAL SUBAREAS OF THE NORTH CITY FUTURE URBANIZING AREA (NCFUA) MAY BE REQUIRED TO FUND, OR AT LEAST ADVANCE, THE COST OF THIS PROJECT. THE ALLOCATION OF COSTS REPRESENTS EACH SUBAREA'S SHARE OF THE PROJECT, ABSENT SUFFICIENT FUNDING FROM OTHER SOURCES. THESE CONTRIBUTIONS MAY BE REDUCED AS OTHER FUNDS BECOME AVAILABLE. THE FUNDING FOR PHASE 1, THE AUXILIARY LANE EXTENSION, SHALL COME FROM TORREY HIGHLANDS.

SCHEDULE: THIS PROJECT WILL BE COMPLETED WHEN FUNDING IS AVAILABLE.





FUNDING:	SOURCE	EXPEN/ ENCUM	CONT APPR	FY 2006	FY 2007	FY 2008	FY 2009	2010-2017
$11,546,000	FBA-PAC HIGHLANDS RANCH							$11,546,000
$12,091,000	FBA-BLK MTN RANCH				$300,000			$11,791,000
$8,796,000	FBA-TORREY HIGHLANDS						$5,000,000	$3,796,000
$567,000	FBA-DEL MAR MESA							$567,000
$33,000,000	**TOTAL**	$0	$0	$0	$300,000	$0	$5,000,000	$27,700,000

REFERENCE: Pacific Highlands Ranch (T-1.2B)
Black Mtn Ranch (T-54.2)
Torrey Highlands (T-1.2B)

CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

TITLE: **CAMINO DEL SUR, CARMEL MOUNTAIN ROAD TO 1600 FT NORTH OF PARK VILLAGE ROAD**

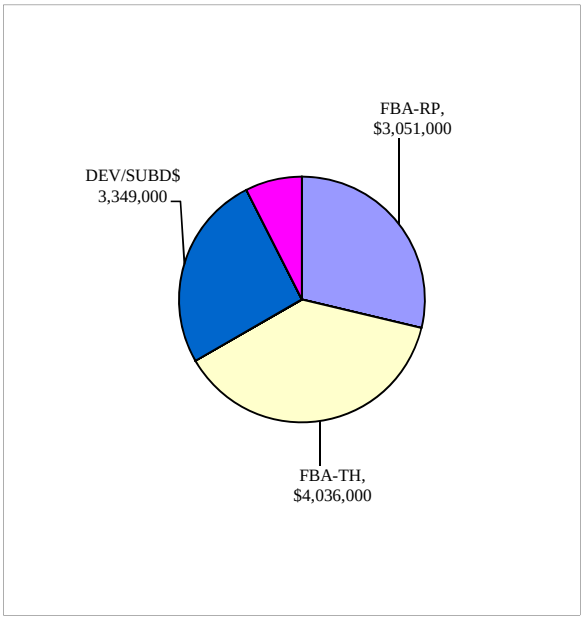
PROJECT: **T-4B**

DEPARTMENT: ENGINEERING & CAPITAL PROJECTS
CIP or JO #: 52-653.0/S00872

COUNCIL DISTRICT: 5&6
COMMUNITY PLAN: RP

SOURCE	**FUNDING:**	EXPENDED	CONT APPROP	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018
FBA-RP	**$3,051,000**	$1,204,894			$250,000	$798,053	$798,053	
RP COMM								
FBA-TH	**$4,036,000**							
SPF								
PARKFEE								
STATE								
DEV/SUBD 1	**$2,744,800**							
PRIVATE								
MTDB								
DEV/SUBD 2	**$793,200**							
UNIDENT								
TOTAL	$10,625,000	$1,204,894	$0	$0	$250,000	$798,053	$798,053	$0

SOURCE	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
FBA-RP								
RP COMM								
FBA-TH								
SPF								
PARKFEE								
STATE								
DEV/SUBD								
PRIVATE								
MTDB								
OTHER								
UNIDENT								
TOTAL	$0	$0	$0	$0	$0	$0	$0	$0



CONTACT: BRAD JOHNSON TELEPHONE: (619) 533-5120 EMAIL: bjohnson@sandiego.gov

CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

TITLE: **CAMINO DEL SUR, CARMEL MOUNTAIN ROAD TO 1600 FT NORTH OF PARK VILLAGE ROAD**

		PROJECT:	**T-4B**
DEPARTMENT:	ENGINEERING & CAPITAL PROJECTS	COUNCIL DISTRICT:	5&6
CIP or JO #:	52-653.0/S00872	COMMUNITY PLAN:	RP

DESCRIPTION:

THIS PROJECT PROVIDES FOR THE CONSTRUCTION OF CAMINO DEL SUR AS A FOUR-LANE MAJOR STREET WITH CLASS II BIKE LANES FROM CARMEL MOUNTAIN ROAD TO 1600 FEET NORTH OF PARK VILLAGE ROAD AND A TRAFFIC SIGNAL AT DORMOUSE. THIS PROJECT IS CONSISTENT WITH PROJECT NUMBERS T3.1A & T3.2A IN THE TORREY HIGHLANDS PLAN.

JUSTIFICATION:

CAMINO DEL SUR IS THE MAJOR STREET CONNECTING THE SOUTHWEST CORNER OF RANCHO PEÑASQUITOS TO THE FUTURE CARMEL MOUNTAIN ROAD EXTENSION AND TO STATE ROUTE 56. PROJECT IS REQUIRED IN ORDER TO MOVE FORWARD WITH DEVELOPMENT SOUTH OF THE SR-56/CAMINO DEL SUR INTERCHANGE.

NOTE:

$18,127 FROM THIS PROJECT WAS TRANSFERRED TO PROJECT RP-27 FOR THE COMMUNITY CONTRIBUTION TO THE EL CUERVO NORTE WETLAND MITIGATION PROJECT, REQUIRED DUE TO CONSTRUCTION OF SR-56. THIS PROJECT WILL BE FUNDED BY THE RANCHO PEÑASQUITOS & TORREY HIGHLANDS FBA AND DEVELOPER FUNDS, AS FUNDS BECOME AVAILABLE.

DEV/SUBD1: RHODES CROSSING
DEV/SUBD2: WESTERN PACIFIC HOUSING

RELATIONSHIP TO GENERAL PLAN AND COMMUNITY PLAN(S):

THIS PROJECT IS CONSISTENT WITH THE CITY'S GENERAL PLAN AND THE RANCHO PEÑASQUITOS COMMUNITY PLAN.

SCHEDULE:

DESIGN BEGAN IN FY 2000. IT IS ANTICIPATED THAT THE PROJECT WILL BE CONSTRUCTED BY DEVELOPERS PER THE TERMS OF A FUTURE REIMBURSEMENT AGREEMENT. FOR TIMING OF FUNDING FOR OTHER COMMUNITIES, REFER TO EACH COMMUNITY'S PUBLIC FACILITIES FINANCING PLAN.

CONTACT: BRAD JOHNSON TELEPHONE: (619) 533-5120 EMAIL: bjohnson@sandiego.gov

CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

TITLE:

CAMINO DEL SUR (Two Lanes, Carmel Mountain Road to 1,600 Feet North of Park Village Road)

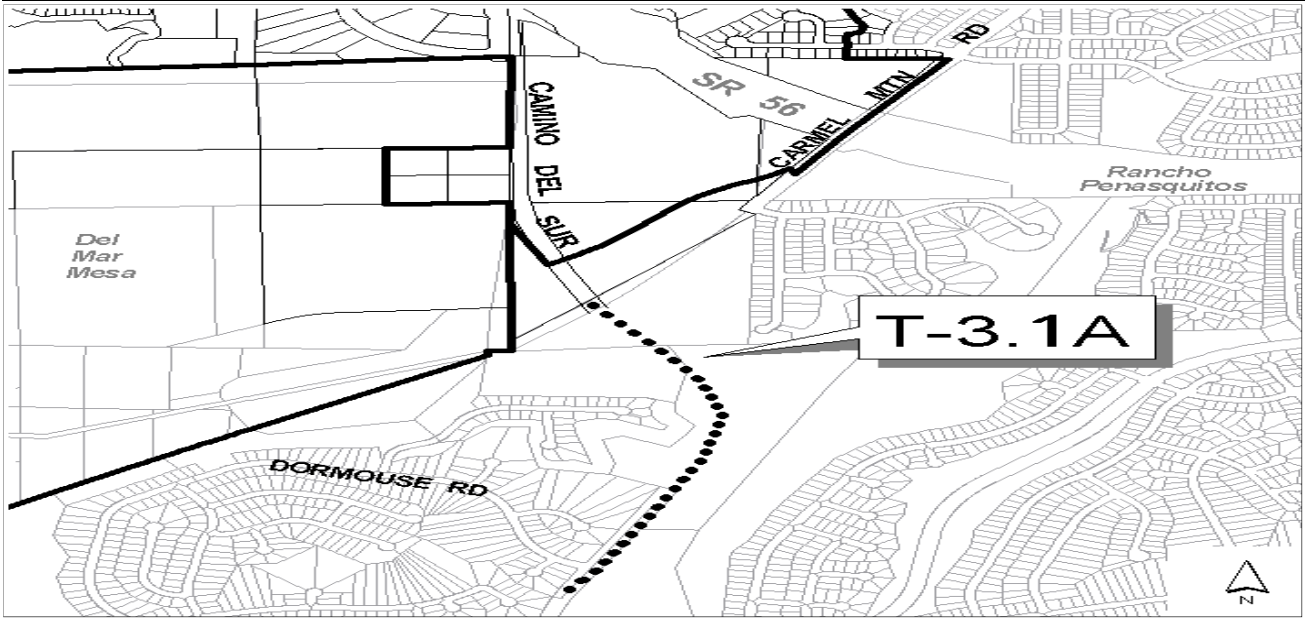
PROJECT: T-3.1A

DEPARTMENT: ENGINEERING & CAPITAL PROJECTS — COUNCIL DISTRICT: 1

CIP or JO #: 52-653.0/S-00872 — COMMUNITY PLAN: TH

SOURCE	**FUNDING:**	EXPENDED	CONT APPROP	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
FBA-TH	**$351,000**					$351,000		
FBA-BMR								
FBA-PHR								
FBA-DMM								
FBA-RP	**$3,051,000**	$1,204,894	$1,846,106					
DEV. ADV								
DEV/SUBD1	**$2,744,800**							
COUNTY								
STATE								
DEV/SUBD2	**$793,200**			$793,200				
UNIDEN								
TOTAL	**$6,940,000**	$1,204,894	$1,846,106	$793,200	$0	$351,000	$0	$0

SOURCE	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY2025-FY2035
FBA-TH								
FBA-BMR								
FBA-PHR								
FBA-DMM								
FBA-RP								
DEV. ADV								
DEV/SUBD1								
COUNTY								
STATE								
DEV/SUBD2								
UNIDEN								
TOTAL	$0	$0	$0	$0	$0	$0	$0	$0



CONTACT: BRAD JOHNSON — TELEPHONE: (619) 533-5120 — EMAIL: BJohnson@sandiego.gov

CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

TITLE:

CAMINO DEL SUR (Two Lanes, Carmel Mountain Road to 1,600 Feet North of Park Village Road)

		PROJECT:	**T-3.1A**
DEPARTMENT:	ENGINEERING & CAPITAL PROJECTS	COUNCIL DISTRICT:	1
CIP or JO #:	52-653.0/S-00872	COMMUNITY PLAN:	TH

DESCRIPTION:

CONSTRUCT CAMINO DEL SUR BETWEEN CARMEL MOUNTAIN ROAD AND THE EXISTING NORTHERLY TERMINUS IN RANCHO PENASQUITOS (NORTH OF DORMOUSE) AS A 2-LANE INTERIM ROADWAY WITHIN THE RIGHT-OF-WAY FOR A FUTURE FOUR LANE FACILITY. (SEE COMPANION PROJECT T-3.2A AND RANCHO PENASQUITOS PFFP PROJECT NO. 29-4B)

JUSTIFICATION:

THIS FACILITY IS REQUIRED TO ACCOMMODATE TRAFFIC GENERATED BY NEW DEVELOPMENT IN TORREY HIGHLANDS AND SURROUNDING COMMUNITIES AS WELL AS EXISTING SUB-REGIONAL TRAFFIC NEEDS.

FUNDING ISSUES:

THE PROJECT WILL BE FUNDED BY THE RANCHO PENASQUITOS & TORREY HIGHLANDS FBA AND DEVELOPER FUNDS, AS FUNDS BECOME AVAILABLE.

DEV/SUBD1: RHODES CROSSING
DEV/SUBD2: WESTERN PACIFIC HOUSING

NOTES:

PROJECT ENVIRONMENTAL IMPACT REPORT (EIR), CA STATE CLEARINGHOUSE SCH NUMBER: 2001121109, CAMINO DEL SUR; SITE DEVELOPMENT PERMIT NO. 41-0248.

SITE DEVELOPMENT PERMIT (PROCESS 4) AND EIR APPROVED AND CERTIFIED BY THE SAN DIEGO PLANNING COMMISSION ON FEBRUARY 2, 2006.

SCHEDULE:

DESIGN BEGAN IN FY 2000. PROJECT IS REQUIRED IN ORDER TO MOVE FORWARD WITH DEVEVLOPMENT SOUTH OF THE SR-56/CAMINO DEL SUR INTERCHANGE. IT IS ANTICIPATED THAT THE PROJECT WILL BE CONSTRUCTED BY DEVELOPERS PER THE TERMS OF A FUTURE REIMBURSEMENT AGREEMENT. FOR TIMING OF FUNDING FOR OTHER COMMUNITIES, REFER TO EACH COMMUNITIES PUBLIC FACILITIES FINANCING PLAN.

CONTACT: BRAD JOHNSON TELEPHONE: (619) 533-5120 EMAIL: BJohnson@sandiego.gov

CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

TITLE: **CAMINO DEL SUR (Two Lanes, Torrey Santa Fe to Carmel Mountain Road)**

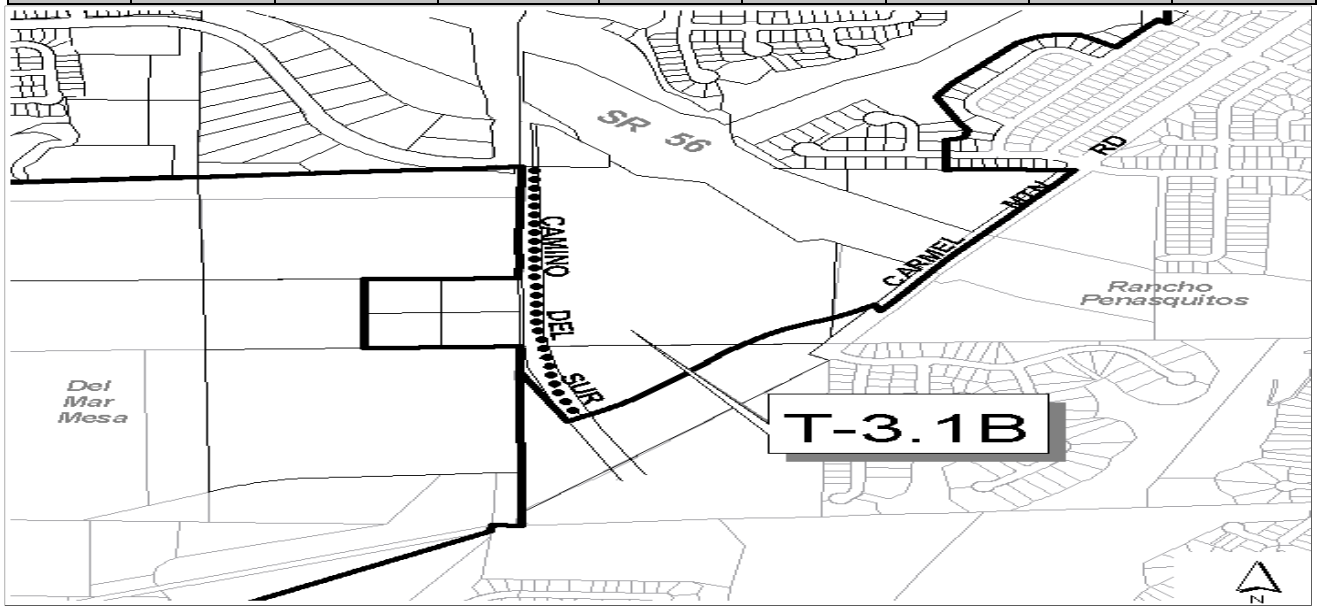
PROJECT: **T-3.1B**

DEPARTMENT: ENGINEERING & CAPITAL PROJECTS — COUNCIL DISTRICT: 1

CIP or JO #: N/A — COMMUNITY PLAN: TH

SOURCE	**FUNDING:**	EXPENDED	CONT APPROP	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
FBA-TH	**$5,170,000**			$500,000		$2,085,000	$2,585,000	
FBA-BMR								
FBA-PHR								
FBA-DMM								
FBA-RP								
DEV. ADV								
DEV/SUBD								
COUNTY								
STATE								
OTHER								
UNIDEN								
TOTAL	**$5,170,000**	$0	$0	$500,000	$0	$2,085,000	$2,585,000	$0

SOURCE	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY2025-FY2035
FBA-TH								
FBA-BMR								
FBA-PHR								
FBA-DMM								
FBA-RP								
DEV. ADV								
DEV/SUBD								
COUNTY								
STATE								
OTHER								
UNIDEN								
TOTAL	$0	$0	$0	$0	$0	$0	$0	$0



CONTACT: BRAD JOHNSON — TELEPHONE: (619) 533-5120 — EMAIL: BJohnson@sandiego.gov

CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

TITLE: **CAMINO DEL SUR (Two Lanes, Torrey Santa Fe to Carmel Mountain Road)**

		PROJECT:	**T-3.1B**
DEPARTMENT:	ENGINEERING & CAPITAL PROJECTS	COUNCIL DISTRICT:	1
CIP or JO #:	N/A	COMMUNITY PLAN:	TH

DESCRIPTION:

CONSTRUCT CAMINO DEL SUR BETWEEN TORREY SANTA FE AND CARMEL MOUNTAIN ROAD AS AN INTERIM 2-LANE ROADWAY WITHIN THE RIGHT-OF-WAY FOR A FUTURE FOUR LANE FACILITY (SEE COMPANION PROJECT T-3.2B)

JUSTIFICATION:

THIS FACILITIY IS REQUIRED TO ACCOMMODATE TRAFFIC GENERATED BY NEW DEVELOPMENT IN TORREY HIGHLANDS AND SURROUNDING COMMUNITIES AS WELL AS EXISTING SUB-REGIONAL TRAFFIC NEEDS.

FUNDING ISSUES:

THE PROJECT WILL BE FUNDED BY THE TORREY HIGHLANDS FBA AS FUNDS BECOME AVAILABLE.

NOTES:

PROJECT ENVIRONMENTAL IMPACT REPORT (EIR), CA STATE CLEARINGHOUSE SCH NUMBER: 2001121109, CAMINO DEL SUR; SITE DEVELOPMENT PERMIT NO. 41-0248.

SITE DEVELOPMENT PERMIT (PROCESS 4) AND EIR APPROVED AND CERTIFIED BY THE SAN DIEGO PLANNING COMMISSION ON FEBRUARY 2, 2006.

SCHEDULE:

INITIAL ENGINEERING HAS BEEN PERFORMED BY LATTITUDE 33. DESIGN BEGAN IN FY2000. PROJECT IS REQUIRED IN ORDER TO MOVE FORWARD WITH DEVELOPMENT SOUTH OF THE SR-56/CAMINO DEL SUR INTERCHANGE. IT IS ANTICIPATED THAT THE PROJET WILL BE CONSTRUCTED BY DEVELOPERS PER THE TERMS OF A FUTURE REIMBURSEMENT AGREEMENT.

CONTACT: BRAD JOHNSON TELEPHONE: (619) 533-5120 EMAIL: BJohnson@sandiego.gov

CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

TITLE: **CAMINO DEL SUR (Expand to Four Lanes, Torrey Santa Fe to Carmel Mountain Road)**

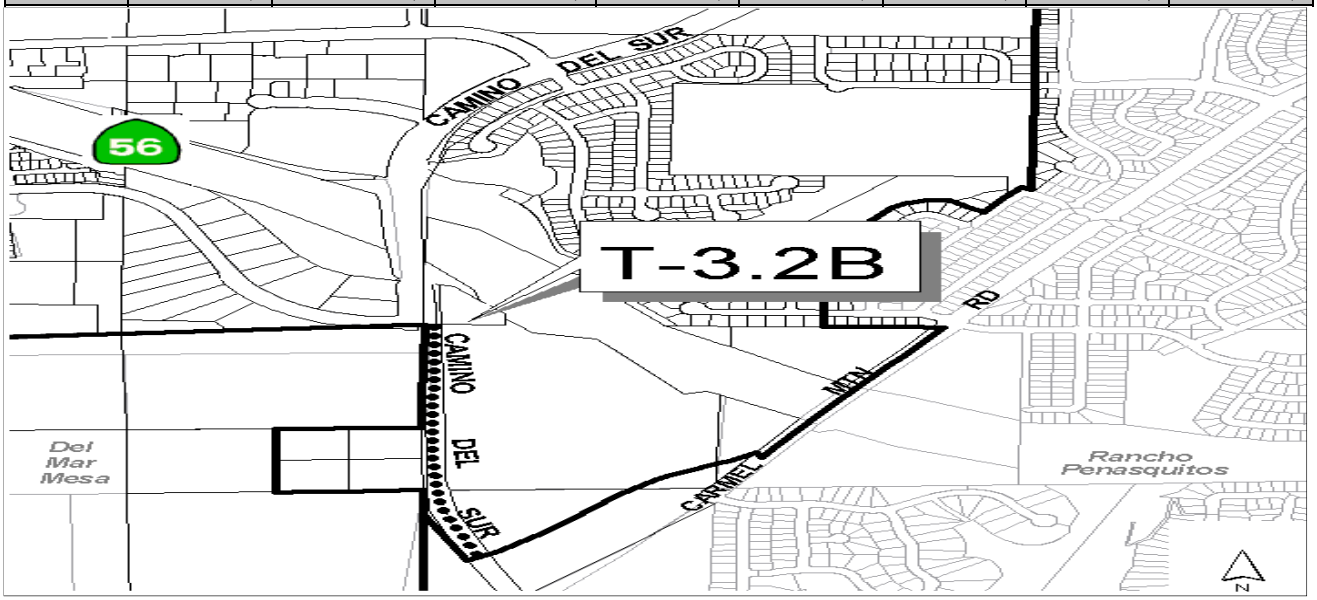
PROJECT: **T-3.2B**

DEPARTMENT: ENGINEERING & CAPITAL PROJECTS
CIP or JO #: N/A

COUNCIL DISTRICT: 1
COMMUNITY PLAN: TH

SOURCE	**FUNDING:**	EXPENDED	CONT APPROP	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
FBA-TH	**$1,090,000**					$545,000	$545,000	
FBA-BMR								
FBA-PHR								
FBA-DMM								
FBA-RP								
DEV. ADV								
DEV/SUBD								
COUNTY								
STATE								
OTHER								
UNIDEN								
TOTAL	**$1,090,000**	$0	$0	$0	$0	$545,000	$545,000	$0

SOURCE	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY2025-FY2035
FBA-TH								
FBA-BMR								
FBA-PHR								
FBA-DMM								
FBA-RP								
DEV. ADV								
DEV/SUBD								
COUNTY								
STATE								
OTHER								
UNIDEN								
TOTAL	$0	$0	$0	$0	$0	$0	$0	$0



CONTACT: BRAD JOHNSON TELEPHONE: (619) 533-5120 EMAIL: BJohnson@sandiego.gov

CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

TITLE: **CAMINO DEL SUR (Expand to Four Lanes, Torrey Santa Fe to Carmel Mountain Road)**

		PROJECT:	**T-3.2B**
DEPARTMENT:	ENGINEERING & CAPITAL PROJECTS	COUNCIL DISTRICT:	1
CIP or JO #:	N/A	COMMUNITY PLAN:	TH

DESCRIPTION:

WIDEN CAMINO DEL SUR WITH TWO ADDITIONAL TRAVEL LANES FROM TORREY SANTA FE TO CARMEL MOUNTAIN ROAD. A TOTAL OF SIX LANES WILL BE REQUIRED FROM THE FREEWAY OFFRAMPS TO BEYOND STREET A.

JUSTIFICATION:

THIS FACILITIY IS REQUIRED TO ACCOMMODATE TRAFFIC GENERATED BY NEW DEVELOPMENT IN TORREY HIGHLANDS AND SURROUNDING COMMUNITIES AS WELL AS EXISTING SUB-REGIONAL TRAFFIC NEEDS.

FUNDING ISSUES:

DESIGN BEGAN IN FY2000. PROJECT IS REQUIRED IN ORDER TO MOVE FORWARD WITH DEVELOPMENT SOUTH OF THE SR56/CAMINO DEL SUR INTERCHANGE. IT IS ANTICIPATED THAT THE PROJECT WILL BE CONSTRUCTED BY DEVELOPERS PER THE TERMS OF A FUTURE REIMBURSEMENT AGREEMENT.

NOTES:

PROJECT ENVIRONMENTAL IMPACT REPORT (EIR), CA STATE CLEARINGHOUSE SCH NUMBER: 2001121109, CAMINO DEL SUR; SITE DEVELOPMENT PERMIT NO. 41-0248.

SITE DEVELOPMENT PERMIT (PROCESS 4) AND EIR APPROVED AND CERTIFIED BY THE SAN DIEGO PLANNING COMMISSION ON FEBRUARY 2, 2006.

SCHEDULE:

DESIGN BEGAN IN FY2000. PROJECT IS REQUIRED IN ORDER TO MOVE FORWARD WITH DEVELOPMENT SOUTH OF SR56/CAMINO DEL SUR INTERCHANGE. IT IS ANTICIPATED THAT THE PROJECT WILL BE CONSTRUCTED BY DEVELOPERS PER THE TERMS OF A FUTURE REIMBURSEMENT AGREEMENT.

CONTACT: BRAD JOHNSON TELEPHONE: (619) 533-5120 EMAIL: BJohnson@sandiego.gov

CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

TITLE: **CAMINO DEL SUR (Expand to Four Lanes, Carmel Mountain Road to 1,600 Feet North of Park Village Road)**

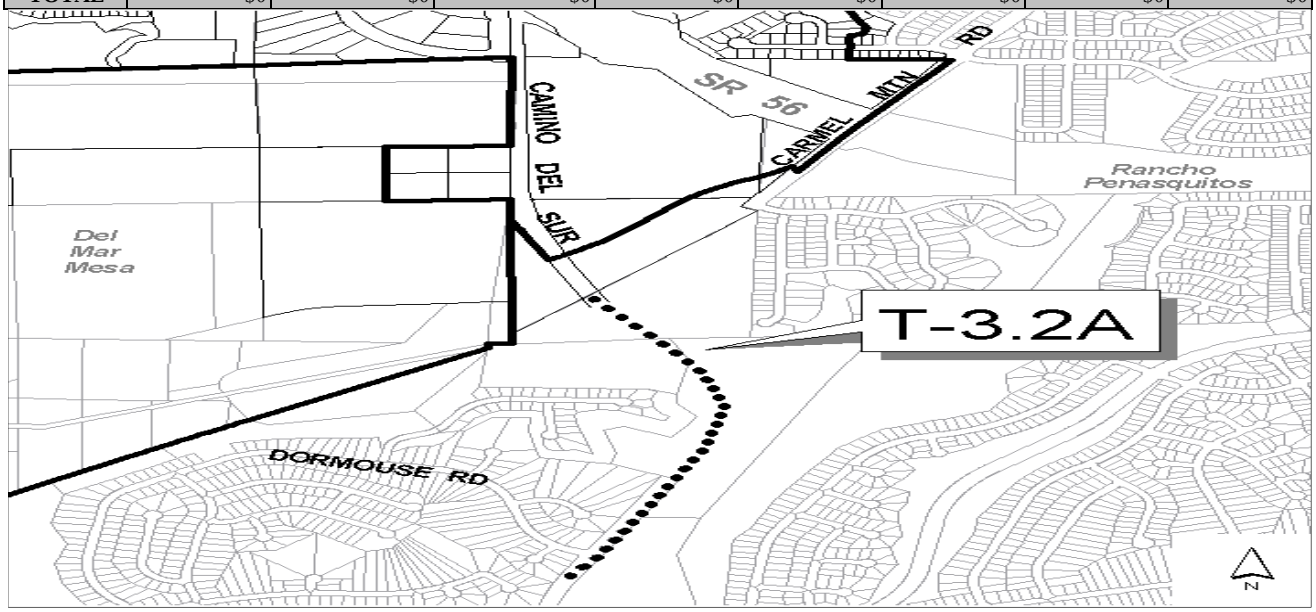
PROJECT: **T-3.2A**

DEPARTMENT: ENGINEERING & CAPITAL PROJECTS
CIP or JO #: 52-653.0/S-00872

COUNCIL DISTRICT: 1
COMMUNITY PLAN: TH

SOURCE	**FUNDING:**	EXPENDED	CONT APPROP	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
FBA-TH	**$3,685,000**					$1,842,500	$1,842,500	
FBA-BMR								
FBA-PHR								
FBA-DMM								
FBA-RP								
DEV. ADV								
DEV/SUBD								
COUNTY								
STATE								
OTHER								
UNIDEN								
TOTAL	**$3,685,000**	$0	$0	$0	$0	$1,842,500	$1,842,500	$0

SOURCE	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY2025-FY2035
FBA-TH								
FBA-BMR								
FBA-PHR								
FBA-DMM								
FBA-RP								
DEV. ADV								
DEV/SUBD								
COUNTY								
STATE								
OTHER								
UNIDEN								
TOTAL	$0	$0	$0	$0	$0	$0	$0	$0



CONTACT: BRAD JOHNSON TELEPHONE: (619) 533-5120 EMAIL: BJohnson@sandiego.gov

CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

TITLE: **CAMINO DEL SUR (Expand to Four Lanes, Carmel Mountain Road to 1,600 Feet North of Park Village Road)**

		PROJECT:	**T-3.2A**
DEPARTMENT:	ENGINEERING & CAPITAL PROJECTS	COUNCIL DISTRICT:	1
CIP or JO #:	52-653.0/S-00872	COMMUNITY PLAN:	TH

DESCRIPTION:

WIDEN CAMINO DEL SUR WITH TWO ADDITIONAL TRAVEL LANES FROM CARMEL MOUNTAIN ROAD SOUTHERLY TO DORMOUSE ROAD IN RANCHO PENASQUITOS.

A WILDLIFE CROSSING IS INCLUDED IN THE PROJECT.

JUSTIFICATION:

THIS FACILITIY IS REQUIRED TO ACCOMMODATE TRAFFIC GENERATED BY NEW DEVELOPMENT IN TORREY HIGHLANDS AND SURROUNDING COMMUNITIES AS WELL AS EXISTING SUB-REGIONAL TRAFFIC NEEDS.

FUNDING ISSUES:

THE TORREY HIGHLANDS FBA WILL PROVIDE THE FUNDING FOR THIS SECOND PHASE OF THIS PROJECT (SEE COMPANION PROJECT T-3.1A).

TOREY HIGHLANDS' OBLIGATION TO CONTRIBUTE FUNDS TO THE WILDLIFE UNDERCROSSING PORTION OF THIS PROJECT IS CAPPED AT $1,000,000.

NOTES:

PROJECT ENVIRONMENTAL IMPACT REPORT (EIR), CA STATE CLEARINGHOUSE SCH NUMBER: 2001121109, CAMINO DEL SUR; SITE DEVELOPMENT PERMIT NO. 41-0248.

SITE DEVELOPMENT PERMIT (PROCESS 4) AND EIR APPROVED AND CERTIFIED BY THE SAN DIEGO PLANNING COMMISSION ON FEBRUARY 2, 2006.

SCHEDULE:

DESIGN BEGAN IN FY2000. PROJECT IS REQUIRED IN ORDER TO MOVE FORWARD WITH DEVELOPMENT SOUTH OF SR56/CAMINO DEL SUR INTERCHANGE. IT IS ANTICIPATED THAT THE PROJECT WILL BE CONSTRUCTED BY DEVELOPERS PER THE TERMS OF A FUTURE REIMBURSEMENT AGREEMENT.

CONTACT: BRAD JOHNSON TELEPHONE: (619) 533-5120 EMAIL: BJohnson@sandiego.gov

CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

TITLE: **CARMEL MOUNTAIN ROAD, SUNDANCE AVENUE TO CAMINO DEL SUR**

PROJECT: **T-5B**

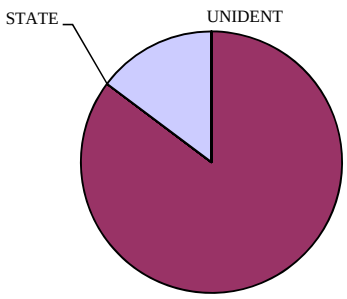
DEPARTMENT: ENGINEERING & CAPITAL PROJECTS
CIP or JO #: N/A

COUNCIL DISTRICT: 5&6
COMMUNITY PLAN: RP

SOURCE	**FUNDING:**	EXPENDED	CONT APPROP	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018
FBA-RP								
FBA-TH	**$10,400,000**							
RP COMM								
FBA-CVN								
SPF								
PARKFEE								
STATE								
DEV/SUBD	**$1,800,000**	$1,800,000						
PRIVATE								
MTDB								
OTHER								
UNIDENT								
TOTAL	**$12,200,000**	$1,800,000	$0	$0	$0	$0	$0	$0

SOURCE	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
FBA-RP								
RP COMM								
FBA-CVN								
SPF								
PARKFEE								
STATE								
DEV/SUBD								
PRIVATE								
MTDB								
OTHER								
UNIDENT								
TOTAL	$0	$0	$0	$0	$0	$0	$0	$0

FUNDING SOURCES



CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

TITLE: **CARMEL MOUNTAIN ROAD, SUNDANCE AVENUE TO CAMINO DEL SUR**

		PROJECT:	**T-5B**
DEPARTMENT:	ENGINEERING & CAPITAL PROJECTS	COUNCIL DISTRICT:	5&6
CIP or JO #:	N/A	COMMUNITY PLAN:	RP

DESCRIPTION:

THIS PROJECT PROVIDES FOR CONSTRUCTION OF CARMEL MOUNTAIN ROAD TO A FOUR-LANE MAJOR STREET WITH CLASS II BICYCLE LANES FROM SUNDANCE AVENUE TO CAMINO DEL SUR. THE PROJECT COST INCLUDES A BRIDGE. THIS PROJECT IS CONSISTENT WITH PROJECT NUMBERS T5.1&T5.2 IN THE TORREY HIGHLANDS PLAN.

JUSTIFICATION:

CARMEL MOUNTAIN ROAD WILL BE A MAJOR LINK WITH CAMINO DEL SUR. THIS PORTION OF CARMEL MOUNTAIN ROAD WILL BE CONSTRUCTED TO ACCOMMODATE THE INCREASE IN TRAFFIC GENERATED WITHIN THE RANCHO PEÑASQUITOS COMMUNITY AND IS CONSISTENT WITH THE RANCHO PEÑASQUITOS COMMUNITY PLAN.

RELATIONSHIP TO GENERAL PLAN AND COMMUNITY PLAN(S):

THIS PROJECT IS CONSISTENT WITH THE CITY'S GENERAL PLAN AND THE RANCHO PEÑASQUITOS COMMUNITY PLAN.

SCHEDULE:

THE NORTHERN PORTION OF THE PROJECT HAS BEEN COMPLETED (VIA PANACEA TO SUNDANCE AVENUE). THE SOUTHERN PORTION IS SCHEDULED TO BE COMPLETED IN FY 2015.

CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

TITLE: **CARMEL MOUNTAIN ROAD OVERCROSSING -- Two Additional Lanes**

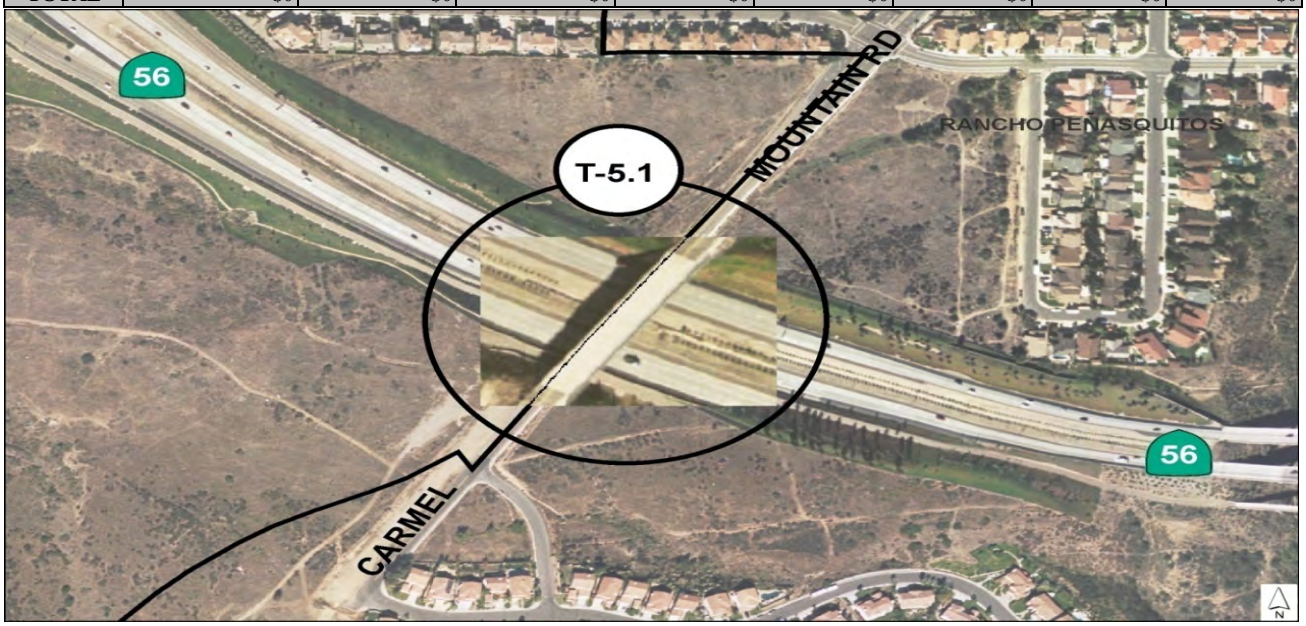
PROJECT: **T-5.1**

DEPARTMENT: ENGINEERING & CAPITAL PROJECTS — COUNCIL DISTRICT: 1

CIP or JO #: N/A — COMMUNITY PLAN: TH

SOURCE	**FUNDING:**	EXPENDED	CONT APPROP	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
FBA-TH	**$5,000,000**					$2,500,000	$2,500,000	
FBA-BMR								
FBA-PHR								
FBA-DMM								
FBA-RP								
DEV. ADV								
DEV/SUBD								
COUNTY								
STATE								
OTHER								
UNIDEN								
TOTAL	**$5,000,000**	$0	$0	$0	$0	$2,500,000	$2,500,000	$0

SOURCE	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY2025-FY2035
FBA-TH								
FBA-BMR								
FBA-PHR								
FBA-DMM								
FBA-RP								
DEV. ADV								
DEV/SUBD								
COUNTY								
STATE								
OTHER								
UNIDEN								
TOTAL	$0	$0	$0	$0	$0	$0	$0	$0



CONTACT: DONALD PORNAN — TELEPHONE: (619) 533-3097 — EMAIL: DPornan@sandiego. gov

CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

TITLE: **CARMEL MOUNTAIN ROAD OVERCROSSING -- Two Additional Lanes**

		PROJECT:	**T-5.1**
DEPARTMENT:	ENGINEERING & CAPITAL PROJECTS	COUNCIL DISTRICT:	1
CIP or JO #:	N/A	COMMUNITY PLAN:	TH

DESCRIPTION:

DESIGN AND CONSTRUCTION OF A 4-LANE OVERCROSSING OF CARMEL MOUNTAIN ROAD OVER SR-56. THE FIRST PHASE WILL BE A TWO-LANE BRIDGE PROVIDING DEVELOPMENT SOUTH OF SR-56 WITH BOTH INDIRECT ACCESS TO SR-56 AND DIRECT ACCESS TO THE COMMERCIAL AND EMPLOYMENT CENTER SITES IN TORREY HIGHLANDS. THE SECOND PHASE, WIDENING TO A 4-LANE BRIDGE, WILL OCCUR WHEN TRAFFIC FROM OUTSIDE THE COMMUNITY CREATES ADDITIONAL CAPACITY DEMANDS ON THE BRIDGE.

JUSTIFICATION:

THIS FACILITY IS REQUIRED TO ACCOMMODATE TRAFFIC GENERATED BY NEW DEVELOPMENT IN TORREY HIGHLANDS AND SURROUNDING COMMUNITIES AS WELL AS EXISTING SUB-REGIONAL TRAFFIC NEEDS.

FUNDING ISSUES:

THE FIRST PHASE WAS CONSTRUCTED AS PART OF THE CONSTRUCTION OF SR-56 AS A FOUR-LANE FREEWAY (PROJECT T-1.1). THE SECOND PHASE SHALL BE THE RESPONSIBILITY OF THE FBA WHEN TRAFFIC FROM OUTSIDE THE COMMUNITY CREATES ADDITIONAL DEMAND ON THE BRIDGE CAPACITY.

NOTES:

SCHEDULE:

THE TIMING FOR THE IMPROVEMENTS OF THIS INTERCHANGE SHALL BE PURSUANT TO THE TRANSPORTATION PHASING PLAN.

CONTACT: DONALD PORNAN TELEPHONE: (619) 533-3097 EMAIL: DPornan@sandiego. gov

CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

TITLE: **CARMEL MOUNTAIN ROAD (Four Lanes: Within Subarea Boundary)**

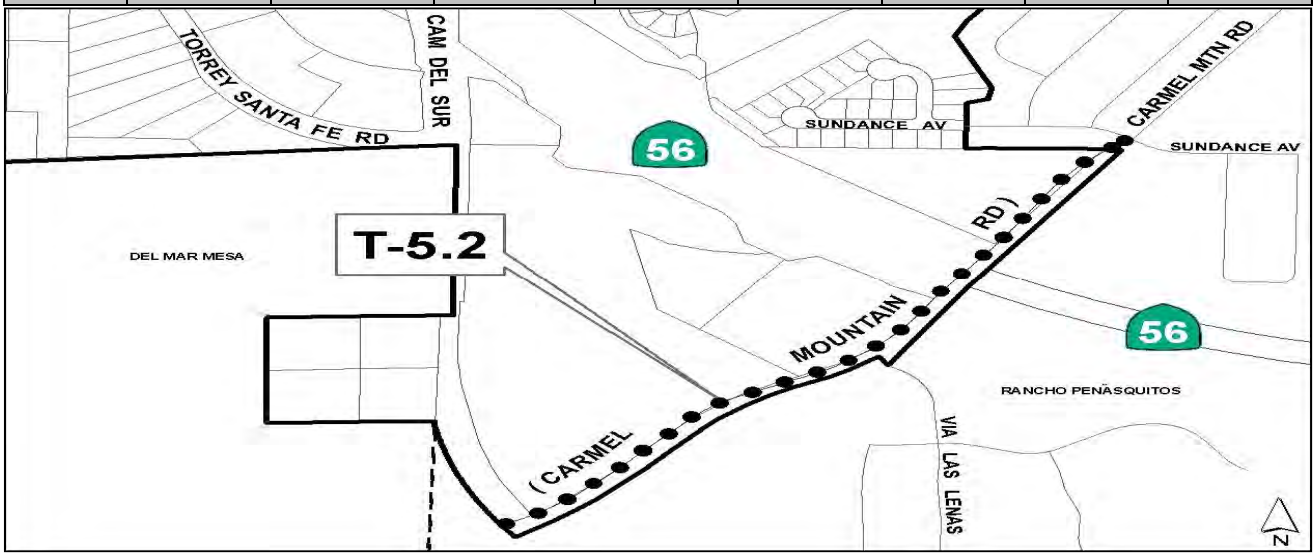
PROJECT: **T-5.2**

DEPARTMENT: ENGINEERING & CAPITAL PROJECTS — COUNCIL DISTRICT: 1

CIP or JO #: N/A — COMMUNITY PLAN: TH

SOURCE	**FUNDING:**	EXPENDED	CONT APPROP	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
FBA-TH	**$5,400,000**					$2,700,000	$2,700,000	
FBA-BMR								
FBA-PHR								
FBA-DMM								
FBA-RP								
DEV. ADV								
DEV/SUBD	**$1,800,000**	$1,800,000						
COUNTY								
STATE								
OTHER								
UNIDEN								
TOTAL	**$7,200,000**	$1,800,000	$0	$0	$0	$2,700,000	$2,700,000	$0

SOURCE	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY2025-FY2035
FBA-TH								
FBA-BMR								
FBA-PHR								
FBA-DMM								
FBA-RP								
DEV. ADV								
DEV/SUBD								
COUNTY								
STATE								
OTHER								
UNIDEN								
TOTAL	$0	$0	$0	$0	$0	$0	$0	$0



CONTACT: DONALD PORNAN TELEPHONE: (619) 533-3097 EMAIL: DPornan@sandiego. gov

CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

TITLE: **CARMEL MOUNTAIN ROAD (Four Lanes: Within Subarea Boundary)**

		PROJECT:	**T-5.2**
DEPARTMENT:	ENGINEERING & CAPITAL PROJECTS	COUNCIL DISTRICT:	1
CIP or JO #:	N/A	COMMUNITY PLAN:	TH

DESCRIPTION:

DESIGN AND CONSTRUCT CARMEL MOUNTAIN ROAD AS A FOUR-LANE MAJOR STREET, COMPLETE WITH MEDIAN IMPROVEMENTS FROM CAMINO DEL SUR TO THE EXISTING TERMINUS OF THIS ROADWAY IN RANCHO PENASQUITOS.

JUSTIFICATION:

FUNDING ISSUES:

THE FIRST PHASE WAS COMPLETED BY SUBDIVIDER. THE REMAINDER OF THE ROAD CONNECTING TO CAMINO DEL SUR WILL BE FUNDED BY THE TORREY HIGHLANDS FBA.

NOTES:

PROJECT WILL BE CONSTRUCTED IN TWO PHASES. THE FIRST PHASE WILL COVER CONSTRUCTION OF THE FIRST TWO TRAVEL LANES. THE SECOND PHASE, WHICH WILL COMPLETE THE FOUR-LANE FACILITY FOR ITS ENTIRE LENGTH, WILL BE REQUIRED IN PHASE FOUR OF THE TRANSPORTATION PHASING PLAN.

SCHEDULE:

COMPLETION IS SCHEDULED FOR FY 2015.

CONTACT: DONALD PORNAN TELEPHONE: (619) 533-3097 EMAIL: DPornan@sandiego. gov

CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

TITLE: **TRAFFIC SIGNALS**

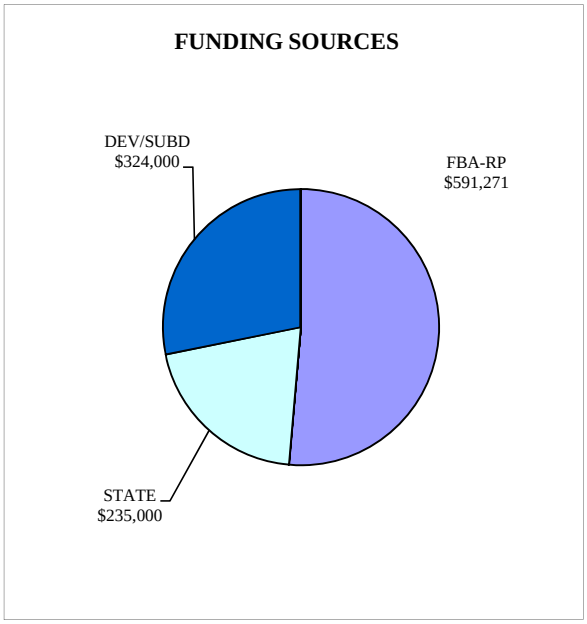
PROJECT: **T-15**

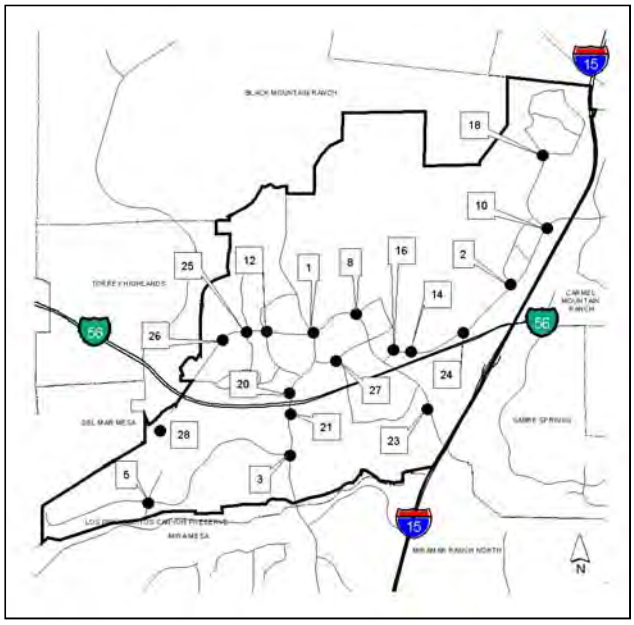
DEPARTMENT: ENGINEERING & CAPITAL PROJECTS
CIP or JO #: 62-275.0

COUNCIL DISTRICT: 5&6
COMMUNITY PLAN: RP

SOURCE	**FUNDING:**	EXPENDED	CONT APPROP	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018
FBA-RP	**$591,271**	$591,271						
RP COMM								
FBA-CVN								
SPF								
PARKFEE								
STATE	**$235,000**	$235,000						
DEV/SUBD	**$324,000**	$110,000			$214,000			
PRIVATE								
MTDB								
OTHER								
UNIDENT								
TOTAL	**$1,150,271**	$936,271	$0	$0	$214,000	$0	$0	$0

SOURCE	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
FBA-RP								
RP COMM								
FBA-CVN								
SPF								
PARKFEE								
STATE								
DEV/SUBD								
PRIVATE								
MTDB								
OTHER								
UNIDENT								
TOTAL	$0	$0	$0	$0	$0	$0	$0	$0





CONTACT: Ahmed Aburahmah TELEPHONE: (619) 533-3141 EMAIL: AAburahmah@sandiego.gov

CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

TITLE: **TRAFFIC SIGNALS**

		PROJECT:	**T-15**
DEPARTMENT:	ENGINEERING & CAPITAL PROJECTS	COUNCIL DISTRICT:	5&6
CIP or JO #:	62-275.0	COMMUNITY PLAN:	RP

DESCRIPTION:

THIS PROJECT PROVIDES FOR THE INSTALLATION OF TRAFFIC SIGNALS AT VARIOUS LOCATIONS WITHIN THE COMMUNITY. THIS PROJECT PROVIDES FOR TRAFFIC SIGNALS FUNDED BY FBA, SUBDIVIDERS AND STATE FUNDING.

JUSTIFICATION:

A NETWORK OF TRAFFIC SIGNALS IS NEEDED TO SUPPORT A SAFE FLOW OF TRAFFIC IN THE RANCHO PEÑASQUITOS COMMUNITY.

LOCATIONS:	**STATUS**
1. BLACK MOUNTAIN ROAD AND CARMEL MOUNTAIN ROAD	COMPLETED
2. CUCA STREET AND CARMEL MOUNTAIN ROAD	COMPLETED
3. BLACK MOUNTAIN ROAD AND PARK VILLAGE ROAD	COMPLETED
5. CAMINO DEL SUR AND PARK VILLAGE ROAD (SUBDIVIDER $110,000)	COMPLETED
8. PASEO VALDEAR AND CARMEL MOUNTAIN ROAD	COMPLETED
10. CARMEL MOUNTAIN ROAD AND PEÑASQUITOS DRIVE	COMPLETED
12. CARMEL MOUNTAIN ROAD AND TWIN TRAILS DRIVE	COMPLETED
14. CARMEL MOUNTAIN ROAD AND FREEPORT ROAD*	COMPLETED
16. CARMEL MOUNTAIN ROAD AND PASEO CARDIEL	COMPLETED
18. AVENIDA MARIA AND PEÑASQUITOS DRIVE	DELETED
20. BLACK MOUNTAIN ROAD AND HIGHWAY 56 OFF-RAMP (NORTH)	COMPLETED
21. BLACK MOUNTAIN ROAD AND HIGHWAY 56 OFF-RAMP (SOUTH)	COMPLETED
23. RANCHO PEÑASQUITOS BOULEVARD AND VIA DEL SUD	COMPLETED
24. CARMEL MOUNTAIN ROAD AND STONEY CREEK ROAD*	COMPLETED
25. CARMEL MOUNTAIN ROAD AND SPARREN AVENUE	COMPLETED
26. CARMEL MOUNTAIN ROAD AND ENTREKEN WAY	COMPLETED
27. PASEO MONTALBAN AND SALMON RIVER ROAD*	COMPLETED
28. CAMINO DEL SUR AND CARMEL MOUNTAIN ROAD (SUBDIVIDER)	2015

*DESIGN AND CONSTRUCTION BY NEWLAND FOR FBA REIMBURSEMENT

RELATIONSHIP TO GENERAL PLAN AND COMMUNITY PLAN(S):

THIS PROJECT IS CONSISTENT WITH THE CITY'S GENERAL PLAN AND THE RANCHO PEÑASQUITOS COMMUNITY PLAN.

SCHEDULE:

DESIGN AND CONSTRUCTION OF THE CAMINO DEL SUR AND CARMEL MOUNTAIN ROAD SIGNAL WILL BE SCHEDULED WITH THE RELATED ROAD SEGMENTS.

CONTACT: Ahmed Aburahmah TELEPHONE: (619) 533-3141 EMAIL: AAburahmah@sandiego.gov

CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

TITLE: **CAMINO DEL SUR S. WILDLIFE CROSSING (SAN DIEGUITO RD TO CARMEL VLY RD)**

		PROJECT:	**T-12**
DEPARTMENT:	TRANSPORTATION & STORM WATER	COUNCIL DISTRICT:	5
CIP or JO #:	S-10016	COMMUNITY PLAN:	BMR

DESCRIPTION:

CONSTRUCT THE ADDITIONAL WIDTH NECESSARY FOR THE WILDLIFE CROSSING UNDER CAMINO DEL SUR (SEE PROJECT T-11) TO ALLOW FOR THE WIDENING OF CAMINO DEL SUR (PROJECT T-10).

JUSTIFICATION:

THIS FACILITY IMPLEMENTS THE BLACK MOUNTAIN RANCH SUBAREA PLAN AND IS NEEDED TO SERVE THE COMMUNITY.

FUNDING:

DEVELOPER (BMR LLC) WILL ADVANCE THE FUNDING FOR THE DESIGN AND CONSTRUCTION OF THIS PROJECT UNDER THE TERMS OF A REIMBURSEMENT AGREEMENT, AND WILL BE REIMBURSED FROM THE BLACK MOUNTAIN RANCH FACILITIES BENEFIT ASSESSMENT (FBA) AS FUNDING BECOMES AVAILABLE.

NOTES:

SCHEDULE:

CONSTRUCTION OF THE PROJECT IS UNDERWAY AND IS EXPECTED TO BE COMPLETED IN FY 2015.

Cara Hilgesen

From: Nutter, Daniel <DNutter@sandiego.gov>
Sent: Friday, November 10, 2017 10:54 AM
To: Cara Hilgesen; Khilla, Joseph
Cc: Adelman, Joshua
Subject: Re: PTS 398888 Torrey Meadows Bridge

Hi Cara,

As Joseph mentioned, this project is developer/Caltrans driven and the City is not responsible for the schedule. I'm not quite sure why City staff isn't just directly contacting Public Works for this information, but the best we can give you at the moment is construction beginning in summer/fall 2018. This is subject to change and the best we can estimate at the moment.

Thanks,
Dan

Daniel S. Nutter, PE, LEED AP, Esq.
Senior Civil Engineer
City of San Diego
Public Works Department

T (619) 533-7492
C (619) 980-8605
DNutter@SanDiego.gov
sandiego.gov

From: Cara Hilgesen <hilgesen@llgengineers.com>
Sent: Friday, November 10, 2017 8:42:24 AM
To: Khilla, Joseph
Cc: Nutter, Daniel; Adelman, Joshua
Subject: RE: PTS 398888 Torrey Meadows Bridge

Hi Joseph,

Would appreciate you checking in with the developer.

We have been conducting traffic studies for development projects in the area and transportation staff at the City is asking us when it will be constructed.

Thanks!

Cara Hilgesen
Senior Transportation Planner
hilgesen@llgengineers.com

APPENDIX B

EXISTING INTERSECTION AND SEGMENT MANUAL COUNT SHEETS, CALTRANS VOLUMES, 2017 COUNT VALIDATION MEMO

Turn Count Summary

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

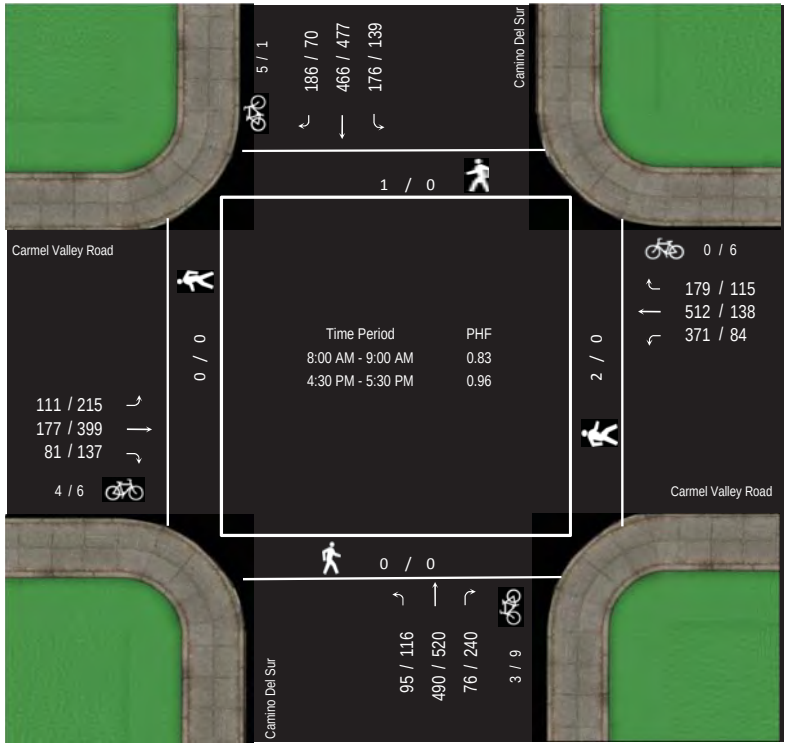
Location: Carmel Valley Road @ Camino Del Sur

Date of Count: *Wednesday, May 28, 2014*

Analysts: *LV/CD*

Weather: *Sunny*

AVC Proj No: *14-0210*



Vehicular Count

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

Location: Carmel Valley Road @ Camino Del Sur

AM Period (7:00 AM - 9:00 AM)

	Southbound			Westbound			Northbound			Eastbound			
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	TOTAL
7:00 AM	7	42	31	15	18	65	1	103	4	4	3	5	298
7:15 AM	8	48	35	5	27	107	6	120	15	9	11	3	394
7:30 AM	11	80	20	9	52	75	8	96	17	13	10	11	402
7:45 AM	18	89	35	21	73	35	6	93	20	22	13	21	446
8:00 AM	27	100	39	17	84	52	16	83	15	14	34	20	501
8:15 AM	51	146	70	35	124	54	25	86	42	19	52	19	723
8:30 AM	62	128	42	64	163	82	16	186	18	21	45	51	878
8:45 AM	46	92	25	63	141	183	19	135	20	27	46	21	818
Total	230	725	297	229	682	653	97	902	151	129	214	151	4,460

AM Intersection Peak Hour : **8:00 AM - 9:00 AM** Intersection PHF : **0.83**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	186	466	176	179	512	371	76	490	95	81	177	111	2,920
PHF	0.75	0.80	0.63	0.70	0.79	0.51	0.76	0.66	0.57	0.75	0.85	0.54	0.83
Movement PHF		0.78			0.69			0.75			0.79		0.83

PM Period (4:00 PM - 6:00 PM)

	Southbound			Westbound			Northbound			Eastbound			
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	TOTAL
4:00 PM	11	107	29	39	32	48	33	132	17	33	43	43	567
4:15 PM	18	129	29	39	33	37	85	60	27	36	45	58	596
4:30 PM	21	165	48	30	28	22	86	94	36	30	76	57	693
4:45 PM	19	119	33	29	39	16	46	129	26	34	106	51	647
5:00 PM	18	85	26	30	24	23	55	145	26	42	108	66	648
5:15 PM	12	108	32	26	47	23	53	152	28	31	109	41	662
5:30 PM	16	81	31	26	31	37	52	155	27	22	84	46	608
5:45 PM	14	91	31	35	21	27	50	127	33	43	130	45	647
Total	129	885	259	254	255	233	460	994	220	271	701	407	5,068

PM Intersection Peak Hour : **4:30 PM - 5:30 PM** Intersection PHF : **0.96**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	70	477	139	115	138	84	240	520	116	137	399	215	2650
PHF	0.83	0.723	0.724	0.958	0.734	0.913	0.698	0.855	0.806	0.815	0.915	0.814	0.96
Movement PHF		0.73			0.88			0.94			0.87		0.96

Turn Count Summary

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

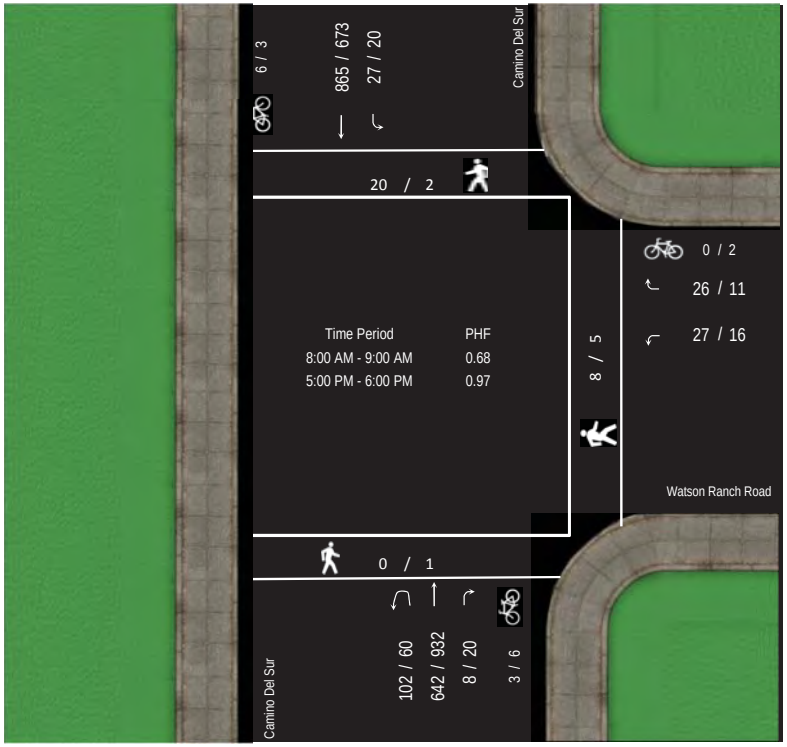
Location: Watson Ranch Road @ Camino Del Sur

Date of Count: *Wednesday, May 28, 2014*

Analysts: *LV/CD*

Weather: *Sunny*

AVC Proj No: *14-0210*



Vehicular Count

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

Location: Watson Ranch Road @ Camino Del Sur

AM Period (7:00 AM - 9:00 AM)	Southbound		Westbound		Northbound				
	Thru	Left	Right	Left	Right	Thru	U-Turn		TOTAL
7:00 AM	160	1	6	5	2	94	18		286
7:15 AM	206	8	3	7	1	131	18		374
7:30 AM	210	7	4	3	3	106	13		346
7:45 AM	166	5	2	7	0	118	7		305
8:00 AM	149	4	5	5	1	110	7		281
8:15 AM	174	5	6	10	2	145	5		347
8:30 AM	203	6	11	1	1	195	24		441
8:45 AM	339	12	4	11	4	192	66		628
Total	1,607	48	41	49	14	1,091	158		3,008

AM Intersection Peak Hour : **8:00 AM - 9:00 AM** Intersection PHF : **0.68**

	Southbound		Westbound		Northbound				TOTAL
	Thru	Left	Right	Left	Right	Thru	U-Turn		
Volume	865	27	26	27	8	642	102		1,697
PHF	0.64	0.56	0.59	0.61	0.50	0.82	0.39		0.68
Movement PHF	0.64		0.83			0.72			0.68

PM Period (4:00 PM - 6:00 PM)	Southbound		Westbound		Northbound				
	Thru	Left	Right	Left	Right	Thru	U-Turn		TOTAL
4:00 PM	144	7	2	3	12	182	5		355
4:15 PM	155	4	1	4	3	171	5		343
4:30 PM	135	4	0	2	3	214	4		362
4:45 PM	153	4	2	5	12	204	36		416
5:00 PM	153	3	1	4	7	225	17		410
5:15 PM	161	3	1	5	4	249	7		430
5:30 PM	167	9	6	5	2	240	19		448
5:45 PM	192	5	3	2	7	218	17		444
Total	1260	39	16	30	50	1,703	110		3,208

PM Intersection Peak Hour : **5:00 PM - 6:00 PM** Intersection PHF : **0.97**

	Southbound		Westbound		Northbound				TOTAL
	Thru	Left	Right	Left	Right	Thru	U-Turn		
Volume	673	20	11	16	20	932	60		1732
PHF	0.876	0.556	0.458	0.8	0.714	0.936	0.789		0.97
Movement PHF	0.88		0.61			0.97			0.97

Turn Count Summary

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

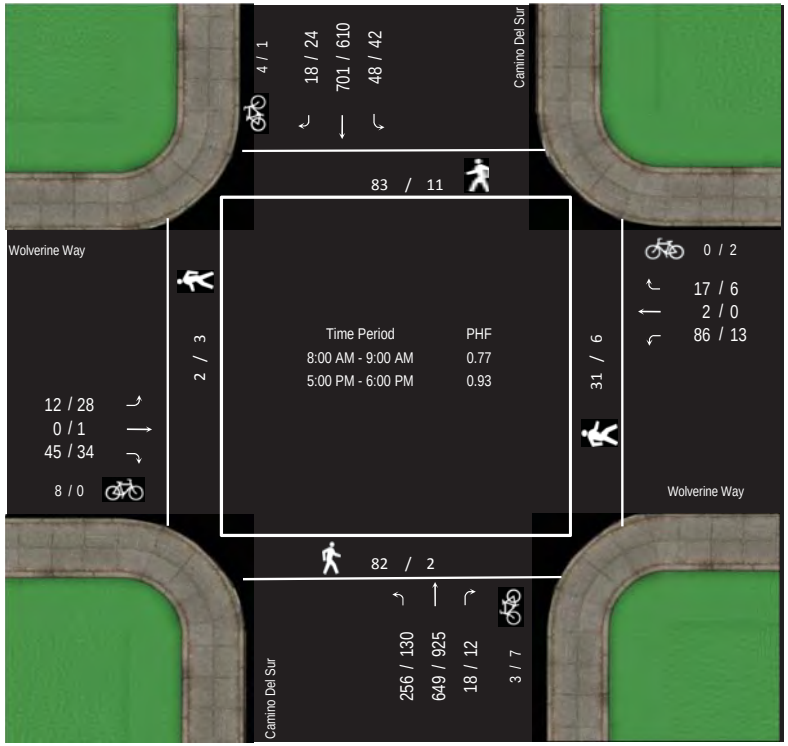
Location: Wolverine Way @ Camino Del Sur

Date of Count: *Wednesday, May 28, 2014*

Analysts: *LV/CD*

Weather: *Sunny*

AVC Proj No: *14-0210*



Vehicular Count

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

Location: Wolverine Way @ Camino Del Sur

AM Period (7:00 AM - 9:00 AM)

	Southbound			Westbound			Northbound			Eastbound			
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	TOTAL
7:00 AM	2	170	4	1	0	4	0	110	36	9	0	3	339
7:15 AM	17	194	0	1	0	6	0	149	32	14	0	0	413
7:30 AM	10	207	3	1	0	4	0	106	39	0	0	4	374
7:45 AM	16	129	3	2	0	15	2	111	54	22	0	3	357
8:00 AM	8	161	3	2	0	10	0	110	19	12	0	4	329
8:15 AM	4	174	5	4	1	8	1	136	38	11	0	5	387
8:30 AM	2	174	12	3	1	14	3	197	114	10	0	1	531
8:45 AM	4	192	28	8	0	54	14	206	85	12	0	2	605
Total	63	1,401	58	22	2	115	20	1,125	417	90	0	22	3,335

AM Intersection Peak Hour : **8:00 AM - 9:00 AM** Intersection PHF : **0.77**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	18	701	48	17	2	86	18	649	256	45	0	12	1,852
PHF	0.56	0.91	0.43	0.53	0.50	0.40	0.32	0.79	0.56	0.94	#####	0.60	0.77
Movement PHF		0.86			0.42			0.73			0.89		0.77

PM Period (4:00 PM - 6:00 PM)

	Southbound			Westbound			Northbound			Eastbound			
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	TOTAL
4:00 PM	3	131	7	1	1	4	3	174	18	10	1	18	371
4:15 PM	11	156	7	0	0	4	3	167	37	14	0	4	403
4:30 PM	7	128	3	0	0	1	3	208	29	26	1	13	419
4:45 PM	10	168	8	0	0	0	4	220	30	19	0	16	475
5:00 PM	3	150	5	1	0	3	3	230	19	16	0	10	440
5:15 PM	8	139	17	2	0	6	4	221	46	8	0	11	462
5:30 PM	2	160	10	2	0	1	2	243	8	4	0	3	435
5:45 PM	11	161	10	1	0	3	3	231	57	6	1	4	488
Total	55	1193	67	7	1	22	25	1,694	244	103	3	79	3,493

PM Intersection Peak Hour : **5:00 PM - 6:00 PM** Intersection PHF : **0.93**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	24	610	42	6	0	13	12	925	130	34	1	28	1825
PHF	0.55	0.947	0.618	0.75	#####	0.542	0.75	0.952	0.57	0.531	0.25	0.636	0.93
Movement PHF		0.93			0.59			0.92			0.61		0.93

Vehicular Count

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

Location: Wolverine Way Camino Del Sur

AM Period (7:00 AM - 9:00 AM)							
	Southbound			Northbound			
	Left + U-Turn =	Left	U-Turn	Left + U-Turn =	Left	U-Turn	TOTAL
7:00 AM	4	1	3	32	16	16	72
7:15 AM	0	0	0	32	23	9	64
7:30 AM	3	1	2	28	18	10	62
7:45 AM	3	0	3	41	31	10	88
8:00 AM	3	0	3	26	15	11	58
8:15 AM	5	0	5	34	23	11	78
8:30 AM	12	7	5	68	24	44	160
8:45 AM	28	12	16	80	29	51	216
Total	58	21	37	341	179	162	798

AM Intersection Peak Hour : **8:00 AM - 9:00 AM** **0.59**

	Southbound			Northbound			TOTAL
	Left+U	Left	U-Turn	Left+U	Left	U-Turn	
Volume	48	19	29	208	91	117	512
PHF	0.43	0.40	0.45	0.65	0.78	0.57	0.59
Movement PHF	0.43			0.65			0.59

PM Period (4:00 PM - 6:00 PM)							
	Southbound			Northbound			
	Left + U-Turn =	Left	U-Turn	Left + U-Turn =	Left	U-Turn	TOTAL
4:00 PM	7	3	4	21	12	9	56
4:15 PM	7	2	5	23	19	4	60
4:30 PM	3	1	2	42	31	11	90
4:45 PM	8	2	6	34	21	13	84
5:00 PM	5	3	2	31	18	13	72
5:15 PM	17	10	7	25	14	11	84
5:30 PM	10	3	7	25	9	16	70
5:45 PM	10	7	3	52	21	31	124
Total	67	31	36	253	145	108	640

PM Intersection Peak Hour : **5:00 PM - 6:00 PM** **0.71**

	Southbound			Northbound			TOTAL
	Left+U	Left	U-Turn	Left+U	Left	U-Turn	
Volume	42	23	19	133	62	71	350
PHF	0.62	0.58	0.68	0.64	0.74	0.57	0.71
Movement PHF	0.62			0.64			0.71

Turn Count Summary

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

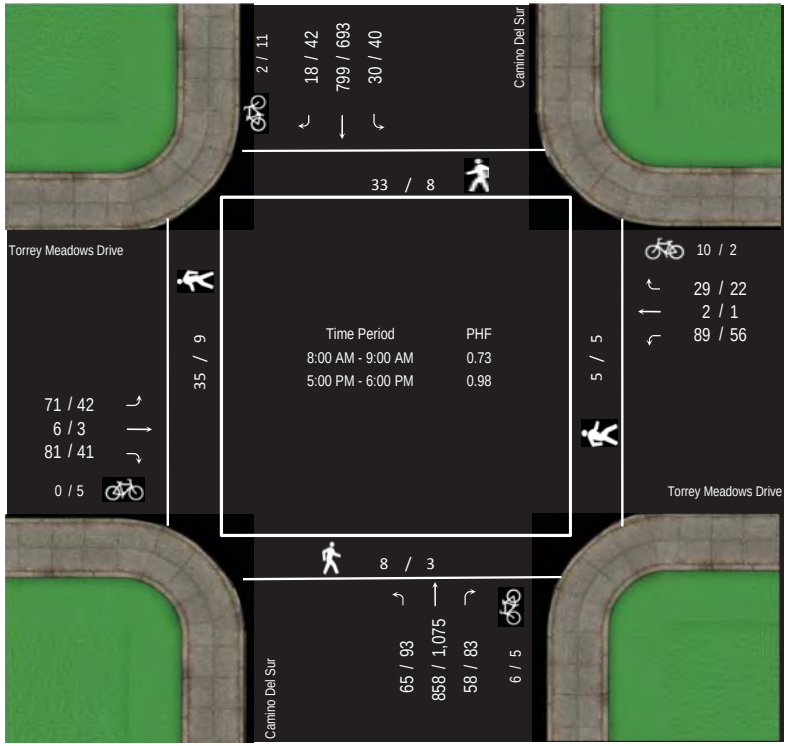
Location: Torrey Meadows Drive @ Camino Del Sur

Date of Count: *Wednesday, May 28, 2014*

Analysts: *LV/CD*

Weather: *Sunny*

AVC Proj No: *14-0210*



Vehicular Count

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

Location: Torrey Meadows Drive @ Camino Del Sur

AM Period (7:00 AM - 9:00 AM)

	Southbound			Westbound			Northbound			Eastbound			
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	TOTAL
7:00 AM	1	192	0	6	0	15	1	116	2	14	0	11	358
7:15 AM	4	206	1	1	0	16	5	151	2	16	0	23	425
7:30 AM	9	195	2	4	0	16	6	119	3	21	0	9	384
7:45 AM	2	167	6	8	0	29	10	146	9	19	1	9	406
8:00 AM	4	190	5	1	0	20	7	111	12	21	1	9	381
8:15 AM	5	190	2	4	0	16	9	150	6	17	1	7	407
8:30 AM	4	194	7	11	2	14	11	275	19	30	1	28	596
8:45 AM	5	225	16	13	0	39	31	322	28	13	3	27	722
Total	34	1,559	39	48	2	165	80	1,390	81	151	7	123	3,679

AM Intersection Peak Hour : **8:00 AM - 9:00 AM** Intersection PHF : **0.73**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	18	799	30	29	2	89	58	858	65	81	6	71	2,106
PHF	0.90	0.89	0.47	0.56	0.25	0.57	0.47	0.67	0.58	0.68	0.50	0.63	0.73
Movement PHF		0.86			0.58			0.64			0.67		0.73

PM Period (4:00 PM - 6:00 PM)

	Southbound			Westbound			Northbound			Eastbound			
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	TOTAL
4:00 PM	7	135	13	2	1	4	13	186	19	9	2	4	395
4:15 PM	6	175	10	2	0	12	11	184	26	3	0	15	444
4:30 PM	11	165	12	3	1	11	15	235	21	12	0	9	495
4:45 PM	11	199	8	7	1	8	17	256	12	16	0	8	543
5:00 PM	8	189	8	3	0	14	13	267	21	9	1	9	542
5:15 PM	16	172	11	3	1	15	21	259	18	12	0	9	537
5:30 PM	9	155	8	10	0	17	29	269	25	15	2	14	553
5:45 PM	9	177	13	6	0	10	20	280	29	5	0	10	559
Total	77	1367	83	36	4	91	139	1,936	171	81	5	78	4,068

PM Intersection Peak Hour : **5:00 PM - 6:00 PM** Intersection PHF : **0.98**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	42	693	40	22	1	56	83	1075	93	41	3	42	2191
PHF	0.66	0.917	0.769	0.55	0.25	0.824	0.716	0.96	0.802	0.683	0.375	0.75	0.98
Movement PHF		0.95			0.73			0.95			0.69		0.98

Turn Count Summary

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

Location: Highlands Village Place @ Camino Del Sur

Date of Count: *Wednesday, May 28, 2014*

Analysts: *LV/CD*

Weather: *Sunny*

AVC Proj No: *14-0210*

Vehicular Count

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

Location: Highlands Village Place @ Camino Del Sur

AM Period (7:00 AM - 9:00 AM)	Southbound			Northbound		Eastbound		
	Right	Thru		Thru	Left	Right	Left	TOTAL
7:00 AM	18	207		104	34	49	15	427
7:15 AM	22	212		145	26	75	13	493
7:30 AM	22	210		120	17	64	8	441
7:45 AM	17	212		148	46	57	17	497
8:00 AM	27	190		118	41	54	12	442
8:15 AM	19	204		142	55	58	23	501
8:30 AM	25	213		269	59	52	36	654
8:45 AM	29	248		352	81	56	29	795
Total	179	1,696		1,398	359	465	153	4,250

AM Intersection Peak Hour : **8:00 AM - 9:00 AM** Intersection PHF : **0.75**

	Southbound			Northbound		Eastbound		TOTAL
	Right	Thru		Thru	Left	Right	Left	
Volume	100	855		881	236	220	100	2,392
PHF	0.86	0.86		0.63	0.73	0.95	0.69	0.75
Movement PHF		0.86		0.64		0.91		0.75

PM Period (4:00 PM - 6:00 PM)	Southbound			Northbound		Eastbound		
	Right	Thru		Thru	Left	Right	Left	TOTAL
4:00 PM	13	133		198	49	44	20	457
4:15 PM	19	183		191	77	29	30	529
4:30 PM	22	152		245	74	35	26	554
4:45 PM	26	189		256	50	41	29	591
5:00 PM	26	182		263	66	52	38	627
5:15 PM	18	170		266	66	37	32	589
5:30 PM	27	166		292	49	50	31	615
5:45 PM	31	181		291	82	41	38	664
Total	182	1356		2,002	513	329	244	4,626

PM Intersection Peak Hour : **5:00 PM - 6:00 PM** Intersection PHF : **0.94**

	Southbound			Northbound		Eastbound		TOTAL
	Right	Thru		Thru	Left	Right	Left	
Volume	102	699		1112	263	180	139	2495
PHF	0.82	0.96		0.952	0.802	0.865	0.914	0.94
Movement PHF		0.94		0.92		0.89		0.94

Turn Count Summary

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

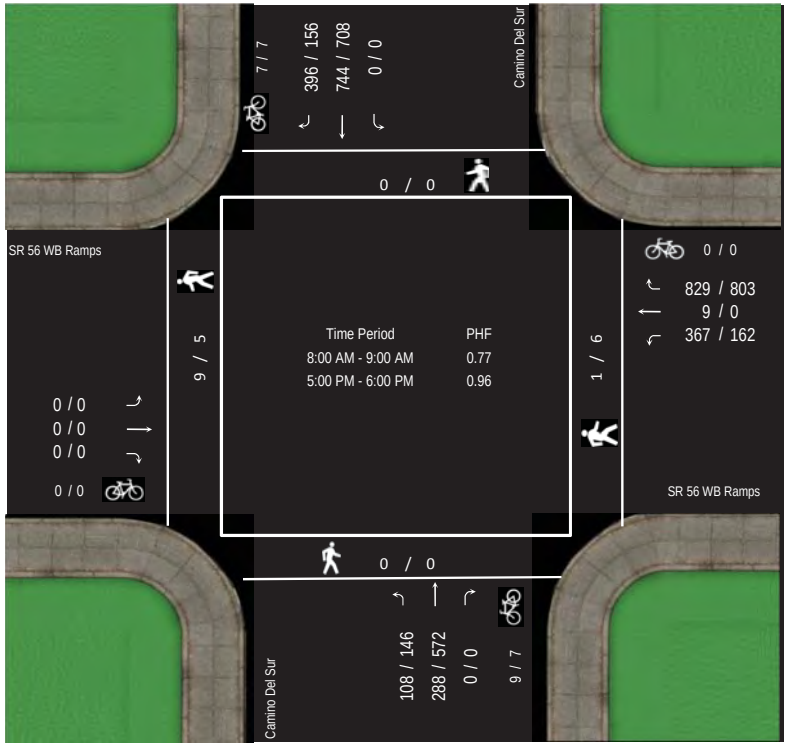
Location: SR 56 WB Ramps @ Camino Del Sur

Date of Count: *Wednesday, May 28, 2014*

Analysts: *LV/CD*

Weather: *Sunny*

AVC Proj No: *14-0210*



Vehicular Count

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

Location: SR 56 WB Ramps @ Camino Del Sur

AM Period (7:00 AM - 9:00 AM)

	Southbound			Westbound			Northbound			Eastbound			
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	TOTAL
7:00 AM	112	128	0	100	0	36	0	38	27	0	0	0	441
7:15 AM	153	157	0	117	4	29	0	54	21	0	0	0	535
7:30 AM	137	153	0	94	1	65	0	43	31	0	0	0	524
7:45 AM	115	167	0	126	9	68	0	68	25	0	0	0	578
8:00 AM	99	168	0	106	7	68	0	53	36	0	0	0	537
8:15 AM	116	172	0	153	0	62	0	44	25	0	0	0	572
8:30 AM	95	196	0	228	0	95	0	100	29	0	0	0	743
8:45 AM	86	208	0	342	2	142	0	91	18	0	0	0	889
Total	913	1,349	0	1,266	23	565	0	491	212	0	0	0	4,819

AM Intersection Peak Hour : **8:00 AM - 9:00 AM** Intersection PHF : **0.77**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	396	744	0	829	9	367	0	288	108	0	0	0	2,741
PHF	0.85	0.89	#####	0.61	0.32	0.65	#####	0.72	0.75	#####	#####	#####	0.77
Movement PHF		0.97			0.62			0.77			#DIV/0!		0.77

PM Period (4:00 PM - 6:00 PM)

	Southbound			Westbound			Northbound			Eastbound			
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	TOTAL
4:00 PM	31	159	0	130	2	21	0	117	15	0	0	0	475
4:15 PM	55	155	0	152	0	25	0	116	18	0	0	0	521
4:30 PM	41	175	0	176	0	43	0	143	17	0	0	0	595
4:45 PM	28	191	0	181	0	28	0	125	19	0	0	0	572
5:00 PM	38	193	0	185	0	28	0	144	21	0	0	0	609
5:15 PM	39	187	0	170	0	48	0	162	50	0	0	0	656
5:30 PM	37	157	0	203	0	39	0	138	43	0	0	0	617
5:45 PM	42	171	0	245	0	47	0	128	32	0	0	0	665
Total	311	1388	0	1,442	2	279	0	1,073	215	0	0	0	4,710

PM Intersection Peak Hour : **5:00 PM - 6:00 PM** Intersection PHF : **0.96**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	156	708	0	803	0	162	0	572	146	0	0	0	2547
PHF	0.93	0.917	#####	0.819	#####	0.844	#####	0.883	0.73	#####	#####	#####	0.96
Movement PHF		0.94			0.83			0.85			#DIV/0!		0.96

Turn Count Summary

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

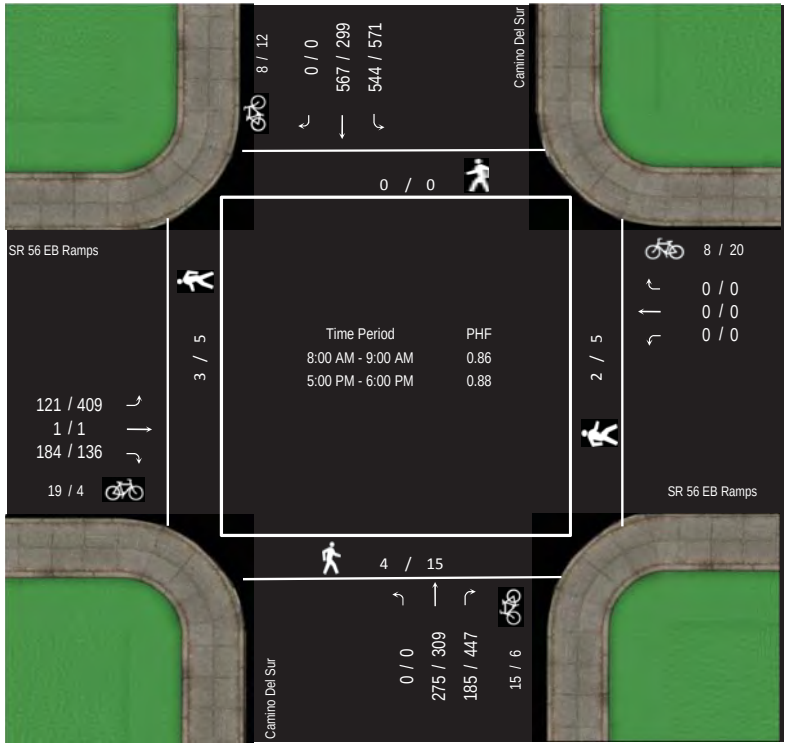
Location: SR 56 EB Ramps @ Camino Del Sur

Date of Count: *Wednesday, May 28, 2014*

Analysts: *LV/CD*

Weather: *Sunny*

AVC Proj No: *14-0210*



Vehicular Count

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

Location: SR 56 EB Ramps @ Camino Del Sur

AM Period (7:00 AM - 9:00 AM)

	Southbound			Westbound			Northbound			Eastbound			
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	TOTAL
7:00 AM	0	48	116	0	0	0	35	42	0	19	0	23	283
7:15 AM	0	59	127	0	0	0	43	36	0	16	0	39	320
7:30 AM	0	112	106	0	0	0	43	53	0	38	0	21	373
7:45 AM	0	102	133	0	0	0	35	60	0	33	0	33	396
8:00 AM	0	118	118	0	0	0	42	53	0	39	0	36	406
8:15 AM	0	109	125	0	0	0	45	45	0	40	0	24	388
8:30 AM	0	143	148	0	0	0	72	104	0	43	1	25	536
8:45 AM	0	197	153	0	0	0	26	73	0	62	0	36	547
Total	0	888	1,026	0	0	0	341	466	0	290	1	237	3,249

AM Intersection Peak Hour : **8:00 AM - 9:00 AM** Intersection PHF : **0.86**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	0	567	544	0	0	0	185	275	0	184	1	121	1,877
PHF	#####	0.72	0.89	#####	#####	#####	0.64	0.66	#####	0.74	0.25	0.84	0.86
Movement PHF		0.79			#DIV/0!			0.65			0.78		0.86

PM Period (4:00 PM - 6:00 PM)

	Southbound			Westbound			Northbound			Eastbound			
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	TOTAL
4:00 PM	0	52	128	0	0	0	54	40	0	22	0	92	388
4:15 PM	0	44	136	0	0	0	65	43	0	24	0	91	403
4:30 PM	0	94	124	0	0	0	77	58	0	26	0	102	481
4:45 PM	0	51	168	0	0	0	75	43	0	18	0	101	456
5:00 PM	0	85	136	0	0	0	107	63	0	25	0	102	518
5:15 PM	0	56	179	0	0	0	125	113	0	45	0	99	617
5:30 PM	0	73	123	0	0	0	137	71	0	38	1	110	553
5:45 PM	0	85	133	0	0	0	78	62	0	28	0	98	484
Total	0	540	1127	0	0	0	718	493	0	226	1	795	3,900

PM Intersection Peak Hour : **5:00 PM - 6:00 PM** Intersection PHF : **0.88**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	0	299	571	0	0	0	447	309	0	136	1	409	2172
PHF	#####	0.879	0.797	#####	#####	#####	0.816	0.684	#####	0.756	0.25	0.93	0.88
Movement PHF		0.93			#DIV/0!			0.79			0.92		0.88

Turn Count Summary

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

Location: Torrey Santa Fe Road @ Camino Del Sur

Date of Count: *Wednesday, May 28, 2014*

Analysts: *LV/CD*

Weather: *Sunny*

AVC Proj No: *14-0210*

Vehicular Count

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

Location: Torrey Santa Fe Road @ Camino Del Sur

AM Period (7:00 AM - 9:00 AM)

	Southbound		Westbound			Eastbound		
	Right	Left	Right	Thru		Thru	Left	TOTAL
7:00 AM	45	22	20	1		2	55	145
7:15 AM	59	16	22	3		2	57	159
7:30 AM	115	35	28	2		5	68	253
7:45 AM	111	24	31	2		0	64	232
8:00 AM	131	26	21	2		5	68	253
8:15 AM	129	20	23	2		2	67	243
8:30 AM	161	25	26	5		5	146	368
8:45 AM	226	33	29	4		3	70	365
Total	977	201	200	21		24	595	2,018

AM Intersection Peak Hour : **8:00 AM - 9:00 AM** Intersection PHF : **0.83**

	Southbound		Westbound			Eastbound		TOTAL
	Right	Left	Right	Thru		Thru	Left	
Volume	647	104	99	13		15	351	1,229
PHF	0.72	0.79	0.85	0.65		0.75	0.60	0.83
Movement PHF	0.72		0.85			0.61		0.83

PM Period (4:00 PM - 6:00 PM)

	Southbound		Westbound			Eastbound		
	Right	Left	Right	Thru		Thru	Left	TOTAL
4:00 PM	46	28	36	2		4	58	174
4:15 PM	41	27	23	5		6	73	175
4:30 PM	81	39	43	1		8	89	261
4:45 PM	40	29	27	4		4	91	195
5:00 PM	74	36	32	4		8	138	292
5:15 PM	51	50	47	7		17	191	363
5:30 PM	73	38	48	3		4	153	319
5:45 PM	81	32	40	3		6	100	262
Total	487	279	296	29		57	893	2,041

PM Intersection Peak Hour : **5:00 PM - 6:00 PM** Intersection PHF : **0.85**

	Southbound		Westbound			Eastbound		TOTAL
	Right	Left	Right	Thru		Thru	Left	
Volume	279	156	167	17		35	582	1236
PHF	0.86	0.78	0.87	0.607		0.515	0.762	0.85
Movement PHF	0.96		0.85			0.74		0.85

Turn Count Summary

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

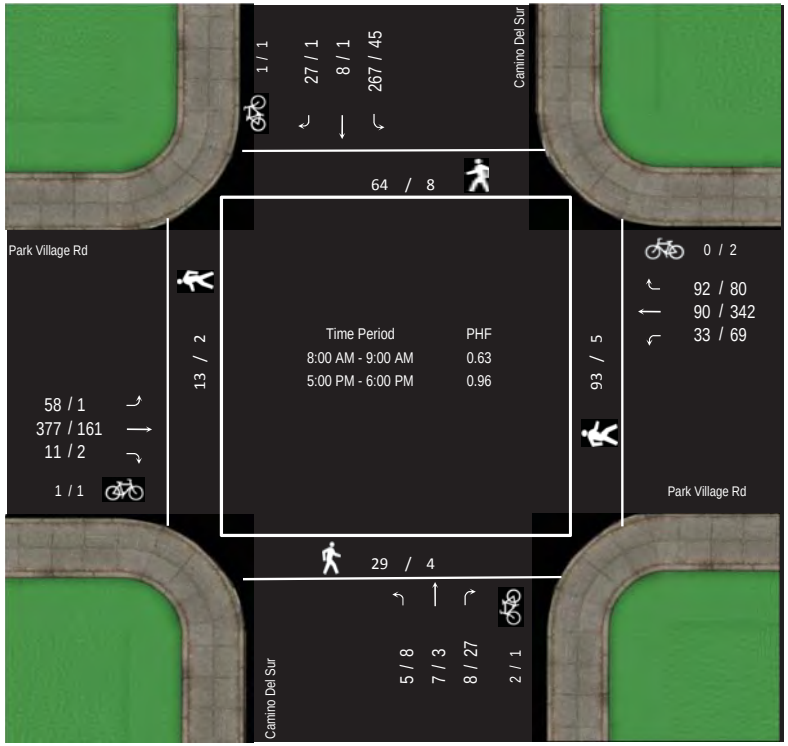
Location: Park Village Rd @ Camino Del Sur

Date of Count: *Wednesday, May 28, 2014*

Analysts: *LV/CD*

Weather: *Sunny*

AVC Proj No: *14-0210*



Vehicular Count

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

Location: Park Village Rd @ Camino Del Sur

AM Period (7:00 AM - 9:00 AM)

	Southbound			Westbound			Northbound			Eastbound			
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	TOTAL
7:00 AM	0	0	17	1	7	0	0	1	1	1	71	0	99
7:15 AM	0	0	16	2	8	1	2	0	0	1	66	0	96
7:30 AM	0	1	18	6	7	1	1	0	0	0	99	0	133
7:45 AM	0	0	21	3	17	4	0	0	0	0	84	0	129
8:00 AM	0	1	12	9	20	1	0	2	0	0	82	0	127
8:15 AM	3	2	19	8	24	1	1	0	0	1	85	4	148
8:30 AM	13	5	83	27	23	16	3	1	2	6	115	25	319
8:45 AM	11	0	153	48	23	15	4	4	3	4	95	29	389
Total	27	9	339	104	129	39	11	8	6	13	697	58	1,440

AM Intersection Peak Hour : **8:00 AM - 9:00 AM** Intersection PHF : **0.63**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	27	8	267	92	90	33	8	7	5	11	377	58	983
PHF	0.52	0.40	0.44	0.48	0.94	0.52	0.50	0.44	0.42	0.46	0.82	0.50	0.63
Movement PHF		0.46			0.63			0.45			0.76		0.63

PM Period (4:00 PM - 6:00 PM)

	Southbound			Westbound			Northbound			Eastbound			
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	TOTAL
4:00 PM	1	0	16	13	48	8	3	0	1	2	41	0	133
4:15 PM	0	0	14	11	64	6	3	0	1	0	34	0	133
4:30 PM	0	0	12	13	45	7	1	0	3	0	46	0	127
4:45 PM	0	1	9	14	62	27	5	0	2	0	39	0	159
5:00 PM	0	0	13	23	84	17	16	0	3	0	30	0	186
5:15 PM	1	0	8	19	95	5	3	0	1	0	48	0	180
5:30 PM	0	0	14	21	74	22	5	1	0	0	44	1	182
5:45 PM	0	1	10	17	89	25	3	2	4	2	39	0	192
Total	2	2	96	131	561	117	39	3	15	4	321	1	1,292

PM Intersection Peak Hour : **5:00 PM - 6:00 PM** Intersection PHF : **0.96**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	1	1	45	80	342	69	27	3	8	2	161	1	740
PHF	0.25	0.25	0.804	0.87	0.9	0.69	0.422	0.375	0.5	0.25	0.839	0.25	0.96
Movement PHF		0.84			0.94			0.50			0.85		0.96

Turn Count Summary

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

Location: Carmel Mountain Road @ Sundance Avenue

Date of Count: *Thursday, May 29, 2014*

Analysts: *LV/CD*

Weather: *Sunny*

AVC Proj No: *14-0210*

Vehicular Count

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

Location: Carmel Mountain Road @ Sundance Avenue

AM Period (7:00 AM - 9:00 AM)

		Westbound		Northbound		Eastbound		
		Thru	Left	Right	Left	Right	Thru	TOTAL
7:00 AM		28	6	20	0	0	73	127
7:15 AM		66	4	17	2	1	91	181
7:30 AM		96	7	21	4	5	150	283
7:45 AM		176	6	26	10	2	150	370
8:00 AM		136	3	11	13	11	243	417
8:15 AM		64	3	17	1	7	198	290
8:30 AM		36	2	3	1	0	75	117
8:45 AM		41	9	4	0	1	63	118
Total		643	40	119	31	27	1,043	1,903

AM Intersection Peak Hour : **7:30 AM - 8:30 AM** Intersection PHF : **0.82**

		Westbound		Northbound		Eastbound		TOTAL
		Thru	Left	Right	Left	Right	Thru	
Volume		472	19	75	28	25	741	1,360
PHF		0.67	0.68	0.72	0.54	0.57	0.76	0.82
Movement PHF		0.67		0.72			0.75	0.82

PM Period (4:00 PM - 6:00 PM)

		Westbound		Northbound		Eastbound		
		Thru	Left	Right	Left	Right	Thru	TOTAL
4:00 PM		66	7	6	0	1	54	134
4:15 PM		71	17	5	2	2	42	139
4:30 PM		93	7	5	1	1	64	171
4:45 PM		70	9	8	0	0	45	132
5:00 PM		89	11	10	2	3	58	173
5:15 PM		81	17	9	0	0	54	161
5:30 PM		94	20	10	0	1	49	174
5:45 PM		95	13	11	2	0	67	188
Total		659	101	64	7	8	433	1,272

PM Intersection Peak Hour : **5:00 PM - 6:00 PM** Intersection PHF : **0.93**

		Westbound		Northbound		Eastbound		TOTAL
		Thru	Left	Right	Left	Right	Thru	
Volume		359	61	40	4	4	228	696
PHF		0.945	0.763	0.909	0.5	0.333	0.851	0.93
Movement PHF		0.92		0.85			0.87	0.93

Turn Count Summary

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

Location: Carmel Mountain Road @ Sedorus Street

Date of Count: *Thursday, October 29, 2015*

Analysts: *LV/CD*

Weather: *Sunny*

AVC Proj No: *15-0432*

Vehicular Count

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

Location: Carmel Mountain Road @ Sedorus Street

AM Period (7:00 AM - 9:00 AM)													
	Southbound			Westbound			Northbound			Eastbound			
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	TOTAL
7:00 AM	0	0	8	1	5	1	3	0	0	0	12	2	32
7:15 AM	0	0	8	0	7	1	8	0	0	0	10	0	34
7:30 AM	1	3	9	2	11	4	7	3	0	0	10	5	55
7:45 AM	4	8	15	5	13	3	8	12	0	0	23	12	103
8:00 AM	1	4	15	2	8	5	9	2	0	1	10	1	58
8:15 AM	2	4	11	3	13	2	3	1	0	1	16	2	58
8:30 AM	1	0	11	4	7	1	7	3	0	0	17	2	53
8:45 AM	3	13	20	23	21	3	4	12	0	0	21	11	131
Total	12	32	97	40	85	20	49	33	0	2	119	35	524

AM Intersection Peak Hour : **8:00 AM - 9:00 AM** Intersection PHF : **0.57**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	7	21	57	32	49	11	23	18	0	2	64	16	300
PHF	0.58	0.40	0.71	0.35	0.58	0.55	0.64	0.38	#####	0.50	0.76	0.36	0.57
Movement PHF		0.59			0.49			0.64			0.64		0.57

PM Period (4:00 PM - 6:00 PM)													
	Southbound			Westbound			Northbound			Eastbound			
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	TOTAL
4:00 PM	0	0	9	9	5	2	1	0	0	0	8	0	34
4:15 PM	0	0	0	8	13	2	1	1	0	0	12	0	37
4:30 PM	0	1	7	11	9	5	3	0	0	0	8	0	44
4:45 PM	0	0	10	5	20	4	4	0	0	0	9	0	52
5:00 PM	0	0	9	18	19	4	2	1	0	0	11	0	64
5:15 PM	0	0	4	11	15	4	1	0	0	2	14	2	53
5:30 PM	0	0	6	9	18	3	3	0	0	0	8	0	47
5:45 PM	2	1	6	10	26	11	3	0	0	0	10	0	69
Total	2	2	51	81	125	35	18	2	0	2	80	2	400

PM Intersection Peak Hour : **5:00 PM - 6:00 PM** Intersection PHF : **0.84**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	2	1	25	48	78	22	9	1	0	2	43	2	233
PHF	0.25	0.25	0.694	0.667	0.75	0.5	0.75	0.25	#####	0.25	0.768	0.25	0.84
Movement PHF		0.78			0.79			0.83			0.65		0.84

Turn Count Summary

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

Location: Carmel Mountain Road @ Entreken Way

Date of Count: *Thursday, May 29, 2014*

Analysts: *LV/CD*

Weather: *Sunny*

AVC Proj No: *14-0210*

Vehicular Count

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

Location: Carmel Mountain Road @ Entreken Way

AM Period (7:00 AM - 9:00 AM)

	Southbound			Westbound			Northbound			Eastbound			
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	TOTAL
7:00 AM	0	0	34	19	5	2	3	2	0	0	17	0	82
7:15 AM	4	0	47	61	11	1	4	3	0	0	29	7	167
7:30 AM	8	0	84	110	13	0	2	7	1	0	30	8	263
7:45 AM	12	4	77	158	48	4	4	16	0	0	43	15	381
8:00 AM	12	7	111	108	69	1	3	2	1	0	69	1	384
8:15 AM	6	2	124	64	11	1	2	1	0	0	37	1	249
8:30 AM	0	2	39	18	12	3	6	0	0	0	25	2	107
8:45 AM	3	2	30	11	8	3	5	0	0	0	21	1	84
Total	45	17	546	549	177	15	29	31	2	0	271	35	1,717

AM Intersection Peak Hour : **7:30 AM - 8:30 AM** Intersection PHF : **0.83**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	38	13	396	440	141	6	11	26	2	0	179	25	1,277
PHF	0.79	0.46	0.80	0.70	0.51	0.38	0.69	0.41	0.50	#####	0.65	0.42	0.83
Movement PHF		0.85			0.70			0.49			0.73		0.83

PM Period (4:00 PM - 6:00 PM)

	Southbound			Westbound			Northbound			Eastbound			
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	TOTAL
4:00 PM	0	0	24	31	28	5	3	0	0	0	23	1	115
4:15 PM	4	2	21	33	27	7	3	1	0	0	12	1	111
4:30 PM	2	0	37	48	26	3	3	0	0	0	25	1	145
4:45 PM	1	3	41	41	21	2	2	1	0	0	13	2	127
5:00 PM	3	1	38	41	22	5	5	0	0	0	19	1	135
5:15 PM	0	1	29	41	31	0	1	0	0	0	17	2	122
5:30 PM	3	0	24	35	31	2	1	1	0	0	14	2	113
5:45 PM	1	3	37	43	22	7	5	3	0	0	16	5	142
Total	14	10	251	313	208	31	23	6	0	0	139	15	1,010

PM Intersection Peak Hour : **4:30 PM - 5:30 PM** Intersection PHF : **0.91**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	6	5	145	171	100	10	11	1	0	0	74	6	529
PHF	0.50	0.417	0.884	0.891	0.806	0.5	0.55	0.25	#####	#####	0.74	0.75	0.91
Movement PHF		0.87			0.91			0.60			0.77		0.91

Turn Count Summary

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

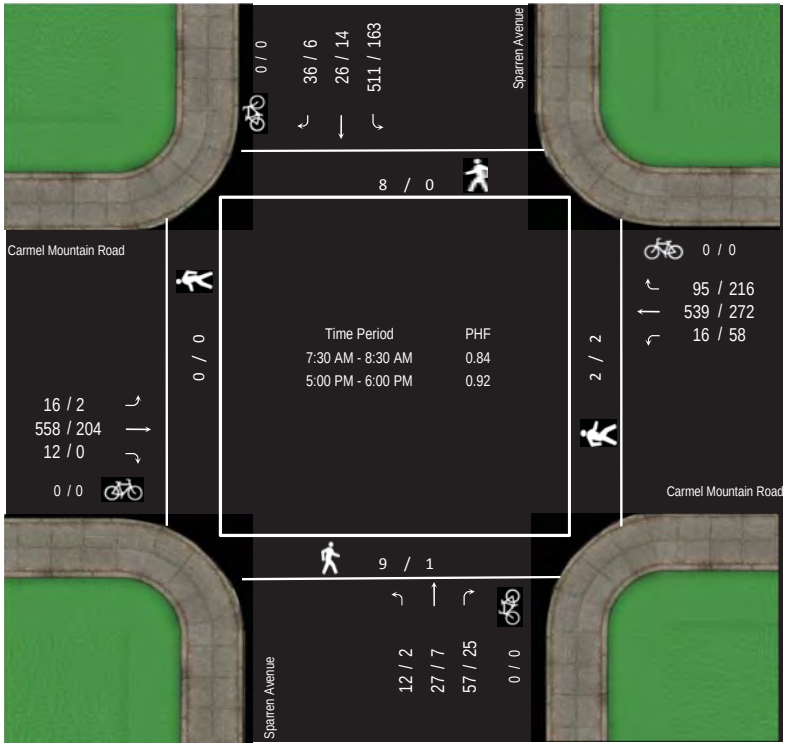
Location: Carmel Mountain Road @ Sparren Avenue

Date of Count: *Thursday, May 29, 2014*

Analysts: *LV/CD*

Weather: *Sunny*

AVC Proj No: *14-0210*



Vehicular Count

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

Location: Carmel Mountain Road @ Sparren Avenue

AM Period (7:00 AM - 9:00 AM)	Southbound			Westbound			Northbound			Eastbound			
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	TOTAL
7:00 AM	0	0	64	11	26	3	9	1	0	1	52	1	168
7:15 AM	1	1	81	28	69	9	11	1	3	1	78	1	284
7:30 AM	4	2	122	36	113	4	10	11	6	2	112	2	424
7:45 AM	19	10	143	19	188	3	18	12	3	4	111	9	539
8:00 AM	9	9	153	22	166	2	21	2	3	3	177	3	570
8:15 AM	4	5	93	18	72	7	8	2	0	3	158	2	372
8:30 AM	0	9	68	13	32	5	9	2	1	0	68	2	209
8:45 AM	2	1	54	17	20	3	9	3	0	0	53	3	165
Total	39	37	778	164	686	36	95	34	16	14	809	23	2,731

AM Intersection Peak Hour : **7:30 AM - 8:30 AM** Intersection PHF : **0.84**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	36	26	511	95	539	16	57	27	12	12	558	16	1,905
PHF	0.47	0.65	0.83	0.66	0.72	0.57	0.68	0.56	0.50	0.75	0.79	0.44	0.84
Movement PHF		0.83			0.77			0.73			0.80		0.84

PM Period (4:00 PM - 6:00 PM)	Southbound			Westbound			Northbound			Eastbound			
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	TOTAL
4:00 PM	1	2	40	44	62	15	9	1	1	1	47	2	225
4:15 PM	2	2	42	61	64	17	13	0	1	0	33	3	238
4:30 PM	4	2	33	53	73	8	10	0	0	1	61	3	248
4:45 PM	2	2	52	57	62	9	6	1	0	0	53	3	247
5:00 PM	1	2	32	49	66	12	9	1	1	0	61	1	235
5:15 PM	2	1	39	49	69	16	7	2	1	0	47	0	233
5:30 PM	0	2	45	57	68	18	5	4	0	0	38	1	238
5:45 PM	3	9	47	61	69	12	4	0	0	0	58	0	263
Total	15	22	330	431	533	107	63	9	4	2	398	13	1,927

PM Intersection Peak Hour : **5:00 PM - 6:00 PM** Intersection PHF : **0.92**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	6	14	163	216	272	58	25	7	2	0	204	2	969
PHF	0.50	0.389	0.867	0.885	0.986	0.806	0.694	0.438	0.5	#####	0.836	0.5	0.92
Movement PHF		0.78			0.95			0.77			0.83		0.92

Turn Count Summary

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

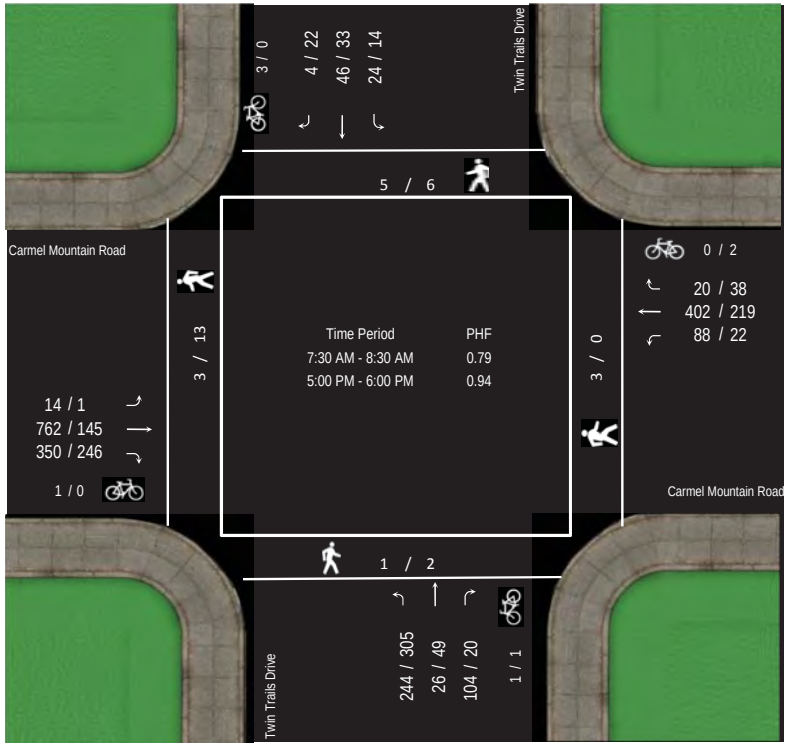
Location: Carmel Mountain Road @ Twin Trails Drive

Date of Count: *Thursday, May 29, 2014*

Analysts: *LV/CD*

Weather: *Sunny*

AVC Proj No: *14-0210*



Vehicular Count

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

Location: Carmel Mountain Road @ Twin Trails Drive

AM Period (7:00 AM - 9:00 AM)

	Southbound			Westbound			Northbound			Eastbound			
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	TOTAL
7:00 AM	1	19	15	0	21	2	0	1	18	54	70	1	202
7:15 AM	3	12	11	6	60	4	2	2	43	75	94	1	313
7:30 AM	0	16	3	9	91	10	18	5	62	89	153	2	458
7:45 AM	1	11	6	2	144	45	16	3	65	85	186	1	565
8:00 AM	3	12	10	8	103	30	47	12	84	94	248	9	660
8:15 AM	0	7	5	1	64	3	23	6	33	82	175	2	401
8:30 AM	2	11	3	1	35	5	2	3	13	69	76	0	220
8:45 AM	0	10	5	1	31	2	2	5	9	54	62	0	181
Total	10	98	58	28	549	101	110	37	327	602	1,064	16	3,000

AM Intersection Peak Hour : **7:30 AM - 8:30 AM** Intersection PHF : **0.79**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	4	46	24	20	402	88	104	26	244	350	762	14	2,084
PHF	0.33	0.72	0.60	0.56	0.70	0.49	0.55	0.54	0.73	0.93	0.77	0.39	0.79
Movement PHF		0.74			0.67			0.65			0.80		0.79

PM Period (4:00 PM - 6:00 PM)

	Southbound			Westbound			Northbound			Eastbound			
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	TOTAL
4:00 PM	2	4	0	3	61	1	2	12	58	40	54	2	239
4:15 PM	0	9	3	9	83	2	3	9	59	38	50	0	265
4:30 PM	0	10	2	9	69	7	1	14	65	52	52	0	281
4:45 PM	0	7	7	2	72	7	2	11	56	55	55	1	275
5:00 PM	1	6	3	10	67	5	5	14	59	61	41	0	272
5:15 PM	6	8	3	11	39	6	6	13	89	61	32	0	274
5:30 PM	7	10	2	9	55	5	4	12	81	68	20	0	273
5:45 PM	8	9	6	8	58	6	5	10	76	56	52	1	295
Total	24	63	26	61	504	39	28	95	543	431	356	4	2,174

PM Intersection Peak Hour : **5:00 PM - 6:00 PM** Intersection PHF : **0.94**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	22	33	14	38	219	22	20	49	305	246	145	1	1114
PHF	0.69	0.825	0.583	0.864	0.817	0.917	0.833	0.875	0.857	0.904	0.697	0.25	0.94
Movement PHF		0.75			0.85			0.87			0.90		0.94

Turn Count Summary

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

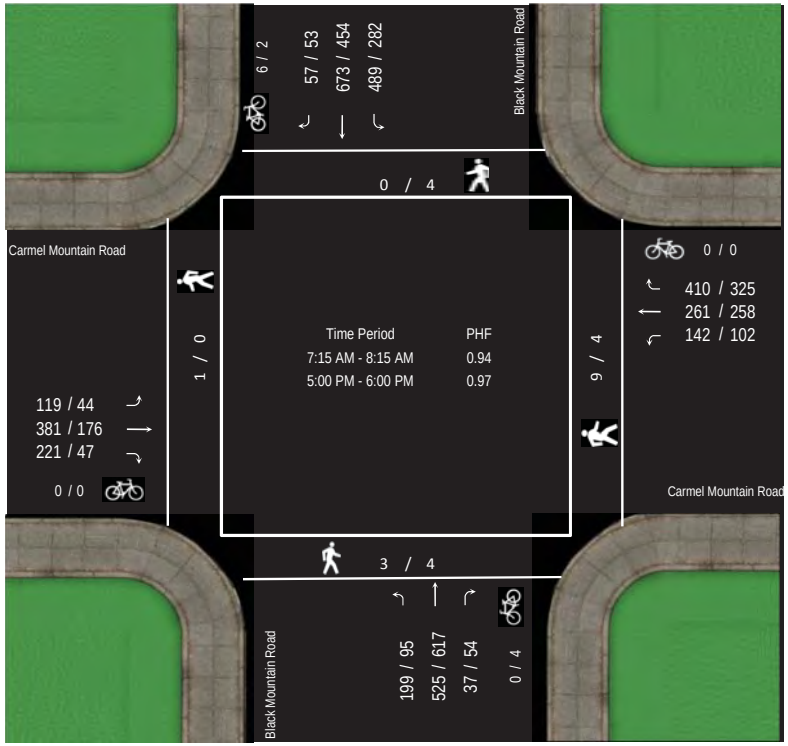
Location: Carmel Mountain Road @ Black Mountain Road

Date of Count: *Thursday, May 29, 2014*

Analysts: *LV/CD*

Weather: *Sunny*

AVC Proj No: *14-0210*



Vehicular Count

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

Location: Carmel Mountain Road @ Black Mountain Road

AM Period (7:00 AM - 9:00 AM)

	Southbound			Westbound			Northbound			Eastbound			
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	TOTAL
7:00 AM	11	120	120	88	17	35	22	104	6	11	84	9	627
7:15 AM	10	171	149	142	30	69	15	198	34	23	71	14	926
7:30 AM	13	223	158	97	64	38	7	132	31	46	92	33	934
7:45 AM	21	135	94	78	102	18	5	110	64	52	88	38	805
8:00 AM	13	144	88	93	65	17	10	85	70	100	130	34	849
8:15 AM	9	185	83	91	28	20	8	92	16	71	89	33	725
8:30 AM	8	120	99	43	27	29	8	59	10	12	47	16	478
8:45 AM	5	99	53	35	27	12	5	53	10	12	38	12	361
Total	90	1,197	844	667	360	238	80	833	241	327	639	189	5,705

AM Intersection Peak Hour : **7:15 AM - 8:15 AM** Intersection PHF : **0.94**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	57	673	489	410	261	142	37	525	199	221	381	119	3,514
PHF	0.68	0.75	0.77	0.72	0.64	0.51	0.62	0.66	0.71	0.55	0.73	0.78	0.94
Movement PHF		0.77			0.84			0.77			0.68		0.94

PM Period (4:00 PM - 6:00 PM)

	Southbound			Westbound			Northbound			Eastbound			
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	TOTAL
4:00 PM	6	98	62	60	53	20	7	105	21	12	37	13	494
4:15 PM	11	103	61	98	60	19	11	140	17	13	32	8	573
4:30 PM	11	83	61	89	47	20	15	133	30	14	45	8	556
4:45 PM	9	85	68	106	58	26	9	123	15	12	30	9	550
5:00 PM	12	103	52	84	59	23	18	162	22	13	46	10	604
5:15 PM	11	122	86	71	68	26	11	157	20	10	39	14	635
5:30 PM	12	97	71	95	68	23	15	141	36	8	40	13	619
5:45 PM	18	132	73	75	63	30	10	157	17	16	51	7	649
Total	90	823	534	678	476	187	96	1,118	178	98	320	82	4,680

PM Intersection Peak Hour : **5:00 PM - 6:00 PM** Intersection PHF : **0.97**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	53	454	282	325	258	102	54	617	95	47	176	44	2507
PHF	0.74	0.86	0.82	0.855	0.949	0.85	0.75	0.952	0.66	0.734	0.863	0.786	0.97
Movement PHF		0.88			0.92			0.95			0.90		0.97

Turn Count Summary

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

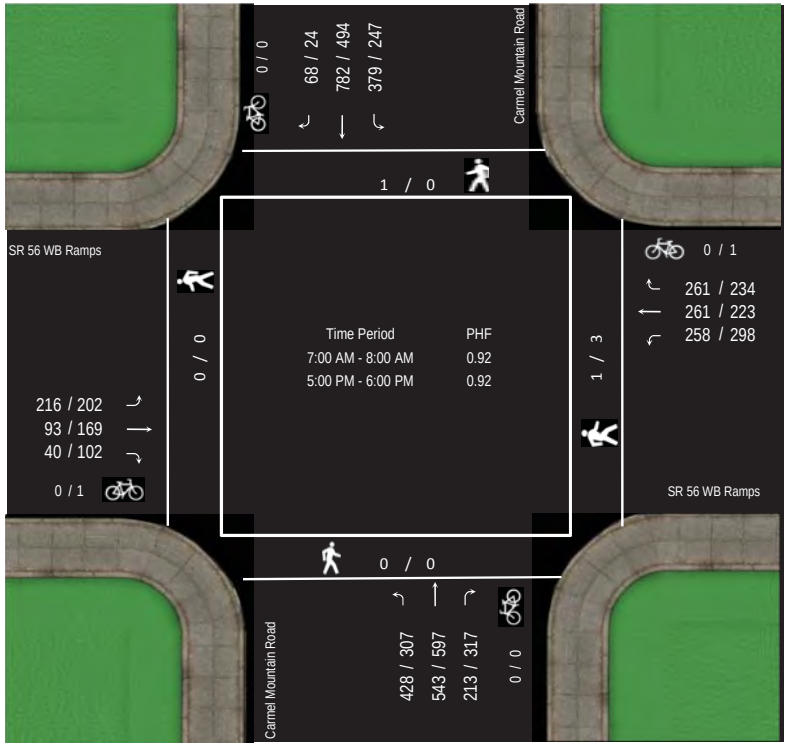
Location: SR 56 WB Ramps @ Carmel Mountain Road

Date of Count: *Thursday, May 29, 2014*

Analysts: *LV/CD*

Weather: *Sunny*

AVC Proj No: *14-0210*



Vehicular Count

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

Location: SR 56 WB Ramps @ Carmel Mountain Road

AM Period (7:00 AM - 9:00 AM)

	Southbound			Westbound			Northbound			Eastbound			
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	TOTAL
7:00 AM	12	177	68	71	60	67	59	195	122	10	36	90	967
7:15 AM	28	217	79	90	73	59	38	146	92	6	17	54	899
7:30 AM	17	190	114	47	66	68	38	98	115	6	13	32	804
7:45 AM	11	198	118	53	62	64	78	104	99	18	27	40	872
8:00 AM	13	221	50	64	47	65	57	155	82	9	25	71	859
8:15 AM	19	197	114	51	73	96	38	111	115	6	17	47	884
8:30 AM	12	138	53	60	63	57	43	165	104	11	32	67	805
8:45 AM	3	132	40	40	58	64	39	75	68	8	18	22	567
Total	115	1,470	636	476	502	540	390	1,049	797	74	185	423	6,657

AM Intersection Peak Hour : **7:00 AM - 8:00 AM** Intersection PHF : **0.92**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	68	782	379	261	261	258	213	543	428	40	93	216	3,542
PHF	0.61	0.90	0.80	0.73	0.89	0.95	0.68	0.70	0.88	0.56	0.65	0.60	0.92
Movement PHF		0.94			0.88			0.79			0.64		0.92

PM Period (4:00 PM - 6:00 PM)

	Southbound			Westbound			Northbound			Eastbound			
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	TOTAL
4:00 PM	6	113	56	53	37	44	76	130	68	22	31	39	675
4:15 PM	2	108	48	52	38	53	71	145	58	27	23	38	663
4:30 PM	4	91	62	47	44	50	88	120	71	26	37	46	686
4:45 PM	4	78	58	48	39	74	68	146	70	24	41	53	703
5:00 PM	8	125	60	61	41	56	85	143	75	28	39	49	770
5:15 PM	3	148	59	61	75	83	58	117	78	9	38	35	764
5:30 PM	8	117	54	67	49	72	79	150	74	28	46	61	805
5:45 PM	5	104	74	45	58	87	95	187	80	37	46	57	875
Total	40	884	471	434	381	519	620	1,138	574	201	301	378	5,941

PM Intersection Peak Hour : **5:00 PM - 6:00 PM** Intersection PHF : **0.92**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	24	494	247	234	223	298	317	597	307	102	169	202	3214
PHF	0.75	0.834	0.834	0.873	0.743	0.856	0.834	0.798	0.959	0.689	0.918	0.828	0.92
Movement PHF		0.91			0.86			0.84			0.84		0.92

Turn Count Summary

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

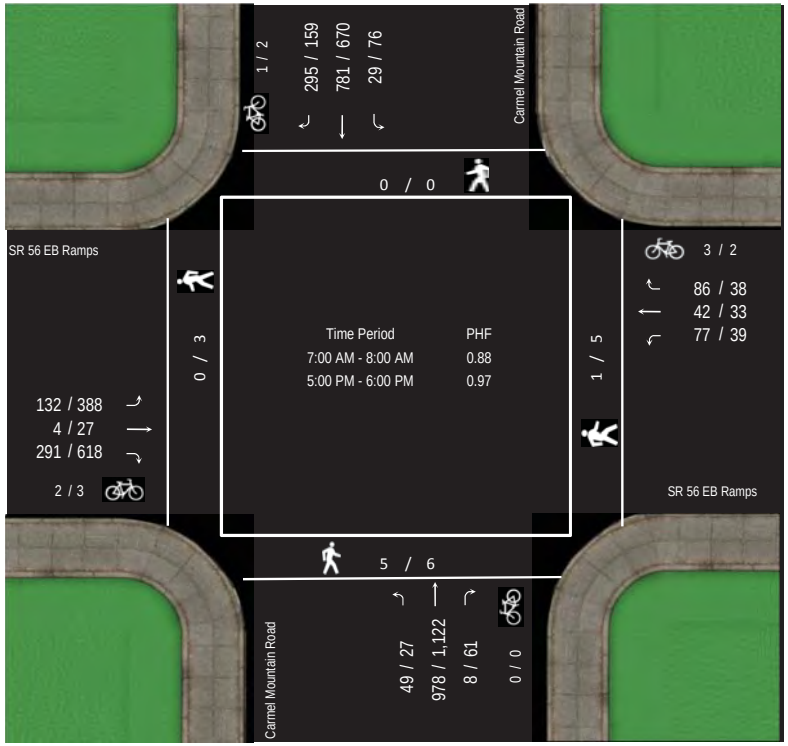
Location: SR 56 EB Ramps @ Carmel Mountain Road

Date of Count: *Thursday, May 29, 2014*

Analysts: *LV/CD*

Weather: *Sunny*

AVC Proj No: *14-0210*



Vehicular Count

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

Location: SR 56 EB Ramps @ Carmel Mountain Road

AM Period (7:00 AM - 9:00 AM)

	Southbound			Westbound			Northbound			Eastbound			
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	TOTAL
7:00 AM	70	196	11	24	8	21	5	313	9	59	0	31	747
7:15 AM	77	217	5	25	9	23	1	308	9	82	1	27	784
7:30 AM	72	215	7	26	12	22	2	229	12	93	2	39	731
7:45 AM	76	153	6	11	13	11	0	128	19	57	1	35	510
8:00 AM	71	145	4	8	6	12	3	154	18	51	4	28	504
8:15 AM	64	165	5	12	8	10	2	132	14	45	3	35	495
8:30 AM	69	145	3	14	4	8	1	111	18	24	4	15	416
8:45 AM	57	134	5	12	6	9	2	95	16	36	4	25	401
Total	556	1,370	46	132	66	116	16	1,470	115	447	19	235	4,588

AM Intersection Peak Hour : **7:00 AM - 8:00 AM** Intersection PHF : **0.88**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	295	781	29	86	42	77	8	978	49	291	4	132	2,772
PHF	0.96	0.90	0.66	0.83	0.81	0.84	0.40	0.78	0.64	0.78	0.50	0.85	0.88
Movement PHF		0.92			0.85			0.79			0.80		0.88

PM Period (4:00 PM - 6:00 PM)

	Southbound			Westbound			Northbound			Eastbound			
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	TOTAL
4:00 PM	46	140	17	11	5	5	7	235	5	169	2	89	731
4:15 PM	39	140	16	4	1	5	15	255	7	146	5	87	720
4:30 PM	23	135	7	9	7	10	11	229	9	171	2	99	712
4:45 PM	35	176	18	8	1	8	10	305	9	155	4	89	818
5:00 PM	27	165	15	8	9	11	14	295	4	143	6	84	781
5:15 PM	36	179	17	8	5	4	16	284	7	164	7	98	825
5:30 PM	41	157	19	10	11	12	16	267	11	153	6	113	816
5:45 PM	55	169	25	12	8	12	15	276	5	158	8	93	836
Total	302	1261	134	70	47	67	104	2,146	57	1,259	40	752	6,239

PM Intersection Peak Hour : **5:00 PM - 6:00 PM** Intersection PHF : **0.97**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	159	670	76	38	33	39	61	1122	27	618	27	388	3258
PHF	0.72	0.936	0.76	0.792	0.75	0.813	0.953	0.951	0.614	0.942	0.844	0.858	0.97
Movement PHF		0.91			0.83			0.97			0.95		0.97

Turn Count Summary

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

Location: Twin Trails Drive @ Sundance Avenue

Date of Count: *Thursday, May 29, 2014*

Analysts: *LV/CD*

Weather: *Sunny*

AVC Proj No: *14-0210*

Vehicular Count

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

Location: Twin Trails Drive @ Sundance Avenue

AM Period (7:00 AM - 9:00 AM)

	Southbound			Westbound			Northbound			Eastbound			
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	TOTAL
7:00 AM	2	2	18	4	30	13	54	4	0	0	106	1	234
7:15 AM	3	1	23	3	63	12	63	3	2	0	98	2	273
7:30 AM	2	1	18	4	76	7	37	7	7	1	114	2	276
7:45 AM	10	0	9	6	120	20	40	3	18	1	110	3	340
8:00 AM	6	1	15	6	104	28	60	3	14	3	132	7	379
8:15 AM	1	3	13	7	58	17	55	2	1	2	136	5	300
8:30 AM	0	0	14	8	26	16	39	1	0	1	90	1	196
8:45 AM	1	1	23	6	30	9	48	0	1	1	84	0	204
Total	25	9	133	44	507	122	396	23	43	9	870	21	2,202

AM Intersection Peak Hour : **7:30 AM - 8:30 AM** Intersection PHF : **0.85**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	19	5	55	23	358	72	192	15	40	7	492	17	1,295
PHF	0.48	0.42	0.76	0.82	0.75	0.64	0.80	0.54	0.56	0.58	0.90	0.61	0.85
Movement PHF		0.90			0.78			0.80			0.90		0.85

PM Period (4:00 PM - 6:00 PM)

	Southbound			Westbound			Northbound			Eastbound			
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	TOTAL
4:00 PM	1	3	13	17	82	40	26	3	3	2	51	0	241
4:15 PM	5	1	14	16	99	46	25	1	1	2	65	2	277
4:30 PM	2	1	15	16	83	41	36	3	0	0	67	1	265
4:45 PM	0	1	11	18	119	51	30	2	1	2	65	1	301
5:00 PM	1	1	21	32	123	54	23	3	0	0	82	1	341
5:15 PM	1	6	5	21	111	70	27	1	5	0	61	1	309
5:30 PM	3	2	11	24	155	50	37	1	8	2	62	1	356
5:45 PM	0	4	17	18	126	55	24	1	2	0	68	1	316
Total	13	19	107	162	898	407	228	15	20	8	521	8	2,406

PM Intersection Peak Hour : **5:00 PM - 6:00 PM** Intersection PHF : **0.93**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	5	13	54	95	515	229	111	6	15	2	273	4	1322
PHF	0.42	0.542	0.643	0.742	0.831	0.818	0.75	0.5	0.469	0.25	0.832	1	0.93
Movement PHF		0.78			0.92			0.72			0.84		0.93

Turn Count Summary

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

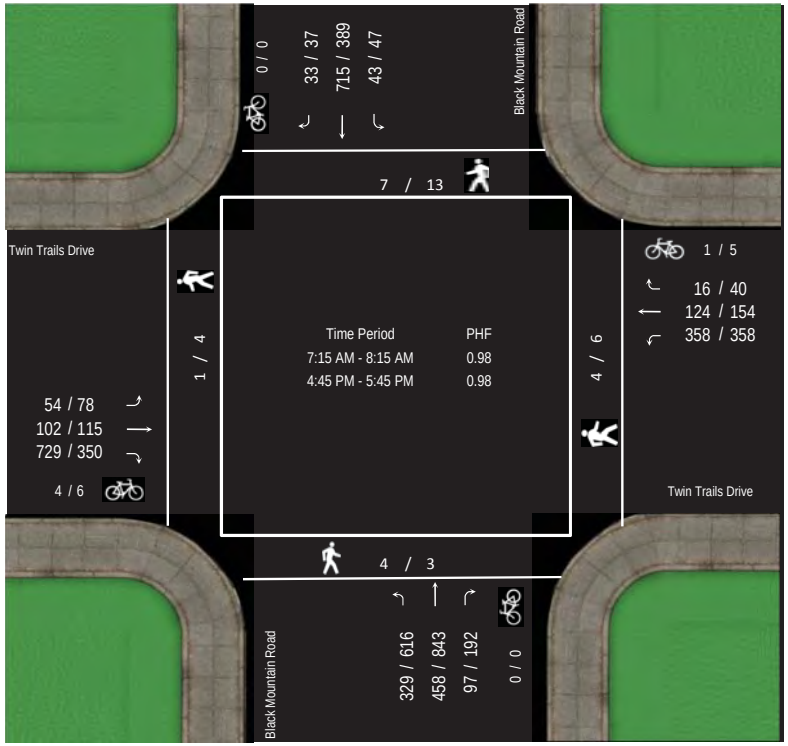
Location: Twin Trails Drive @ Black Mountain Road

Date of Count: *Thursday, May 29, 2014*

Analysts: *LV/CD*

Weather: *Sunny*

AVC Proj No: *14-0210*



Vehicular Count

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

Location: Twin Trails Drive @ Black Mountain Road

AM Period (7:00 AM - 9:00 AM)

	Southbound			Westbound			Northbound			Eastbound			
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	TOTAL
7:00 AM	4	152	1	3	10	85	7	122	36	162	16	10	608
7:15 AM	7	146	8	6	29	86	17	155	61	196	22	8	741
7:30 AM	6	232	14	3	19	103	20	86	80	187	18	14	782
7:45 AM	11	198	8	4	41	73	25	121	97	164	24	10	776
8:00 AM	9	139	13	3	35	96	35	96	91	182	38	22	759
8:15 AM	5	213	12	3	16	79	20	100	58	157	37	23	723
8:30 AM	5	184	12	9	14	84	14	87	40	122	30	14	615
8:45 AM	5	66	8	6	13	90	17	101	45	145	33	13	542
Total	52	1,330	76	37	177	696	155	868	508	1,315	218	114	5,546

AM Intersection Peak Hour : **7:15 AM - 8:15 AM** Intersection PHF : **0.98**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	33	715	43	16	124	358	97	458	329	729	102	54	3,058
PHF	0.75	0.77	0.77	0.67	0.76	0.87	0.69	0.74	0.85	0.93	0.67	0.61	0.98
Movement PHF		0.78			0.93			0.91			0.91		0.98

PM Period (4:00 PM - 6:00 PM)

	Southbound			Westbound			Northbound			Eastbound			
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	TOTAL
4:00 PM	10	70	8	10	44	100	34	176	123	63	30	19	687
4:15 PM	5	97	15	11	52	90	38	191	102	67	18	18	704
4:30 PM	5	51	13	15	52	94	40	218	132	104	29	13	766
4:45 PM	13	84	15	11	42	99	51	209	142	87	29	14	796
5:00 PM	11	78	8	13	41	94	46	214	147	98	29	19	798
5:15 PM	7	105	12	6	39	80	55	221	149	75	30	23	802
5:30 PM	6	122	12	10	32	85	40	199	178	90	27	22	823
5:45 PM	7	81	19	6	51	112	39	193	151	95	22	14	790
Total	64	688	102	82	353	754	343	1,621	1,124	679	214	142	6,166

PM Intersection Peak Hour : **4:45 PM - 5:45 PM** Intersection PHF : **0.98**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	37	389	47	40	154	358	192	843	616	350	115	78	3219
PHF	0.71	0.797	0.783	0.769	0.917	0.904	0.873	0.954	0.865	0.893	0.958	0.848	0.98
Movement PHF		0.84			0.91			0.97			0.93		0.98

Turn Count Summary

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

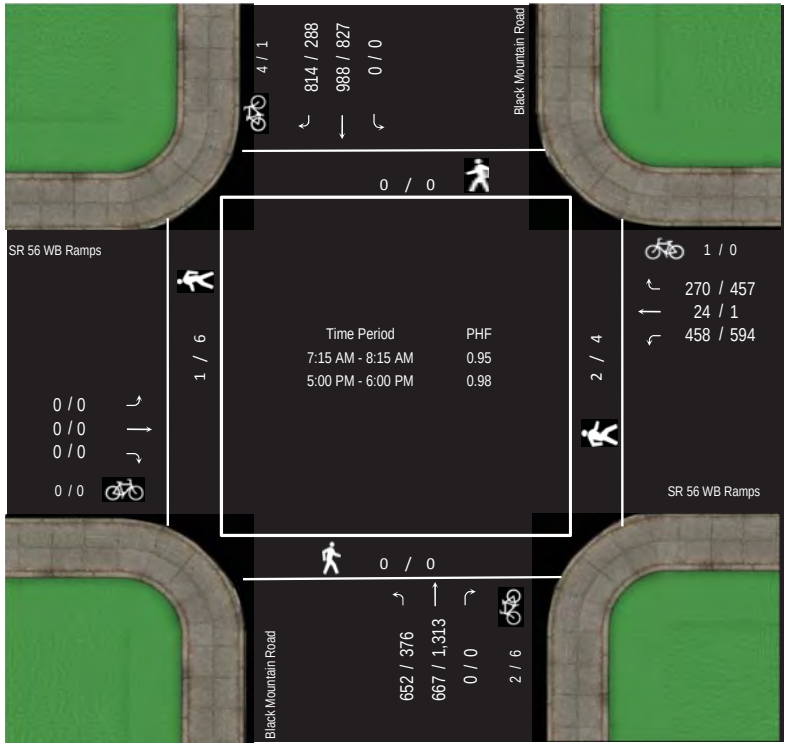
Location: SR 56 WB Ramps @ Black Mountain Road

Date of Count: *Thursday, May 29, 2014*

Analysts: *LV/CD*

Weather: *Sunny*

AVC Proj No: *14-0210*



Vehicular Count

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

Location: SR 56 WB Ramps @ Black Mountain Road

AM Period (7:00 AM - 9:00 AM)													
	Southbound			Westbound			Northbound			Eastbound			
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	TOTAL
7:00 AM	189	210	0	90	0	80	0	130	146	0	0	0	845
7:15 AM	227	201	0	93	0	104	0	182	176	0	0	0	983
7:30 AM	246	276	0	57	10	113	0	129	186	0	0	0	1,017
7:45 AM	163	272	0	63	11	101	0	191	174	0	0	0	975
8:00 AM	178	239	0	57	3	140	0	165	116	0	0	0	898
8:15 AM	127	322	0	47	0	71	0	131	188	0	0	0	886
8:30 AM	110	280	0	49	0	38	0	100	234	0	0	0	811
8:45 AM	111	190	0	60	0	116	0	116	122	0	0	0	715
Total	1,351	1,990	0	516	24	763	0	1,144	1,342	0	0	0	7,130

AM Intersection Peak Hour : **7:15 AM - 8:15 AM** Intersection PHF : **0.95**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	814	988	0	270	24	458	0	667	652	0	0	0	3,873
PHF	0.83	0.89	#####	0.73	0.55	0.82	#####	0.87	0.88	#####	#####	#####	0.95
Movement PHF		0.86			0.94			0.90			#DIV/0!		0.95

PM Period (4:00 PM - 6:00 PM)													
	Southbound			Westbound			Northbound			Eastbound			
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	TOTAL
4:00 PM	38	195	0	98	0	85	0	239	77	0	0	0	732
4:15 PM	60	194	0	113	1	62	0	253	85	0	0	0	768
4:30 PM	60	189	0	134	0	90	0	260	79	0	0	0	812
4:45 PM	65	205	0	102	0	152	0	313	70	0	0	0	907
5:00 PM	75	195	0	113	0	204	0	296	92	0	0	0	975
5:15 PM	54	206	0	111	0	145	0	355	85	0	0	0	956
5:30 PM	83	214	0	117	1	134	0	344	89	0	0	0	982
5:45 PM	76	212	0	116	0	111	0	318	110	0	0	0	943
Total	511	1610	0	904	2	983	0	2,378	687	0	0	0	7,075

PM Intersection Peak Hour : **5:00 PM - 6:00 PM** Intersection PHF : **0.98**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	288	827	0	457	1	594	0	1313	376	0	0	0	3856
PHF	0.87	0.966	#####	0.976	0.25	0.728	#####	0.925	0.855	#####	#####	#####	0.98
Movement PHF		0.94			0.83			0.96			#DIV/0!		0.98

Turn Count Summary

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

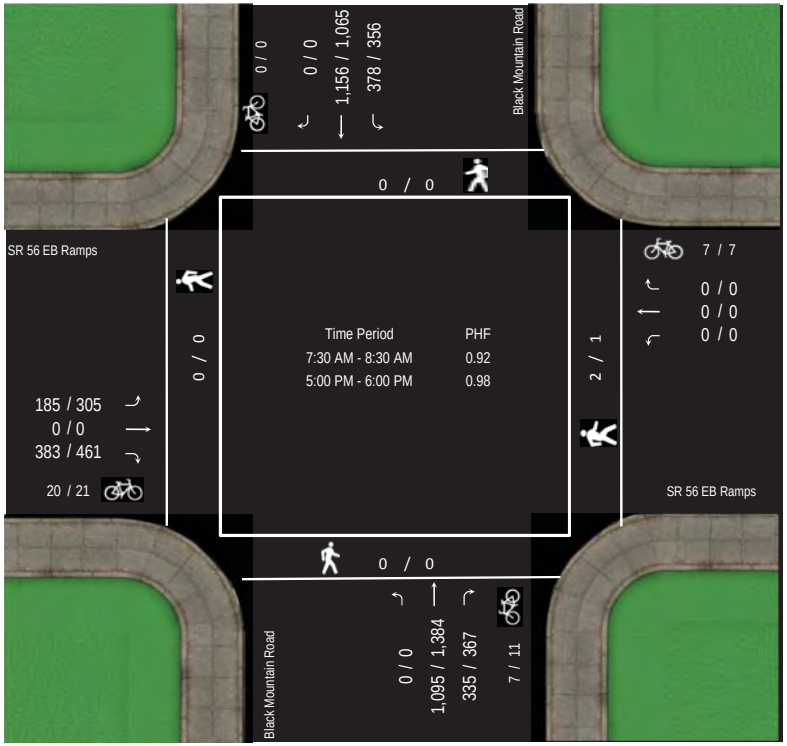
Location: SR 56 EB Ramps @ Black Mountain Road

Date of Count: *Thursday, May 29, 2014*

Analysts: *LV/CD*

Weather: *Sunny*

AVC Proj No: *14-0210*



Vehicular Count

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

Location: SR 56 EB Ramps @ Black Mountain Road

AM Period (7:00 AM - 9:00 AM)

	Southbound			Westbound			Northbound			Eastbound			
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	TOTAL
7:00 AM	0	195	95	0	0	0	92	232	0	55	0	44	713
7:15 AM	0	216	89	0	0	0	73	299	0	82	0	59	818
7:30 AM	0	291	98	0	0	0	63	271	0	79	0	44	846
7:45 AM	0	295	78	0	0	0	110	320	0	107	0	45	955
8:00 AM	0	278	101	0	0	0	100	224	0	119	0	57	879
8:15 AM	0	292	101	0	0	0	62	280	0	78	0	39	852
8:30 AM	0	222	96	0	0	0	69	261	0	88	0	73	809
8:45 AM	0	229	77	0	0	0	99	196	0	97	0	42	740
Total	0	2,018	735	0	0	0	668	2,083	0	705	0	403	6,612

AM Intersection Peak Hour : **7:30 AM - 8:30 AM** Intersection PHF : **0.92**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	0	1,156	378	0	0	0	335	1,095	0	383	0	185	3,532
PHF	#####	0.98	0.94	#####	#####	#####	0.76	0.86	#####	0.80	#####	0.81	0.92
Movement PHF		0.98			#DIV/0!			0.83			0.81		0.92

PM Period (4:00 PM - 6:00 PM)

	Southbound			Westbound			Northbound			Eastbound			
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	TOTAL
4:00 PM	0	192	88	0	0	0	92	202	0	126	0	114	814
4:15 PM	0	203	53	0	0	0	104	248	0	116	0	90	814
4:30 PM	0	196	83	0	0	0	79	209	0	139	0	130	836
4:45 PM	0	266	91	0	0	0	100	316	0	117	0	67	957
5:00 PM	0	290	109	0	0	0	79	327	0	92	0	61	958
5:15 PM	0	259	92	0	0	0	77	369	0	108	0	71	976
5:30 PM	0	257	91	0	0	0	99	374	0	126	0	59	1,006
5:45 PM	0	259	64	0	0	0	112	314	0	135	0	114	998
Total	0	1922	671	0	0	0	742	2,359	0	959	0	706	7,359

PM Intersection Peak Hour : **5:00 PM - 6:00 PM** Intersection PHF : **0.98**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	0	1065	356	0	0	0	367	1384	0	461	0	305	3938
PHF	#####	0.918	0.817	#####	#####	#####	0.819	0.925	#####	0.854	#####	0.669	0.98
Movement PHF		0.89			#DIV/0!			0.93			0.77		0.98

Turn Count Summary

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

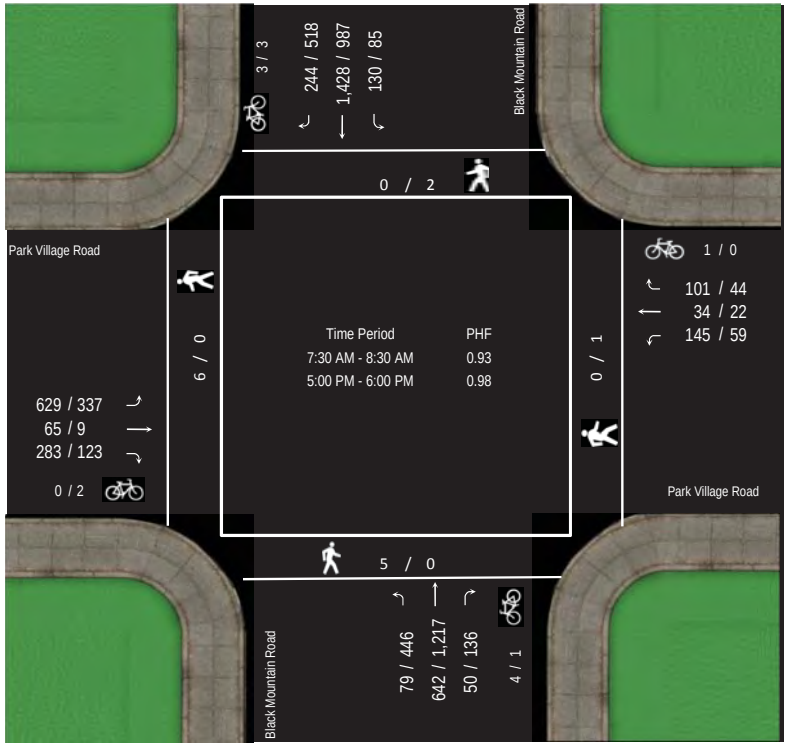
Location: Park Village Road @ Black Mountain Road

Date of Count: *Thursday, May 29, 2014*

Analysts: *LV/CD*

Weather: *Sunny*

AVC Proj No: *14-0210*



Vehicular Count

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

Location: Park Village Road @ Black Mountain Road

AM Period (7:00 AM - 9:00 AM)

	Southbound			Westbound			Northbound			Eastbound			
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	TOTAL
7:00 AM	36	224	13	14	1	19	1	162	8	82	1	123	684
7:15 AM	34	248	29	18	0	24	3	213	18	83	6	168	844
7:30 AM	35	342	34	27	4	29	17	189	8	69	21	211	986
7:45 AM	51	352	52	27	8	39	14	200	15	82	35	158	1,033
8:00 AM	67	343	29	34	16	41	14	121	27	64	7	155	918
8:15 AM	91	391	15	13	6	36	5	132	29	68	2	105	893
8:30 AM	102	362	12	10	9	19	9	148	33	90	1	118	913
8:45 AM	62	251	14	13	7	34	6	134	29	82	6	150	788
Total	478	2,513	198	156	51	241	69	1,299	167	620	79	1,188	7,059

AM Intersection Peak Hour : **7:30 AM - 8:30 AM** Intersection PHF : **0.93**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	244	1,428	130	101	34	145	50	642	79	283	65	629	3,830
PHF	0.67	0.91	0.63	0.74	0.53	0.88	0.74	0.80	0.68	0.86	0.46	0.75	0.93
Movement PHF		0.91			0.77			0.84			0.81		0.93

PM Period (4:00 PM - 6:00 PM)

	Southbound			Westbound			Northbound			Eastbound			
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	TOTAL
4:00 PM	103	205	15	4	6	17	22	212	61	33	6	87	771
4:15 PM	98	214	19	9	7	17	24	219	91	42	2	84	826
4:30 PM	109	205	16	2	4	13	18	260	75	39	2	84	827
4:45 PM	121	292	14	8	0	17	34	281	81	25	4	79	956
5:00 PM	139	227	23	9	5	19	30	309	103	29	0	80	973
5:15 PM	129	240	21	15	6	12	40	307	118	29	3	80	1,000
5:30 PM	117	267	21	12	6	14	37	305	106	34	5	94	1,018
5:45 PM	133	253	20	8	5	14	29	296	119	31	1	83	992
Total	949	1903	149	67	39	123	234	2,189	754	262	23	671	7,363

PM Intersection Peak Hour : **5:00 PM - 6:00 PM** Intersection PHF : **0.98**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	518	987	85	44	22	59	136	1217	446	123	9	337	3983
PHF	0.93	0.924	0.924	0.733	0.917	0.776	0.85	0.985	0.937	0.904	0.45	0.896	0.98
Movement PHF		0.98			0.95			0.97			0.88		0.98

Turn Count Summary

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

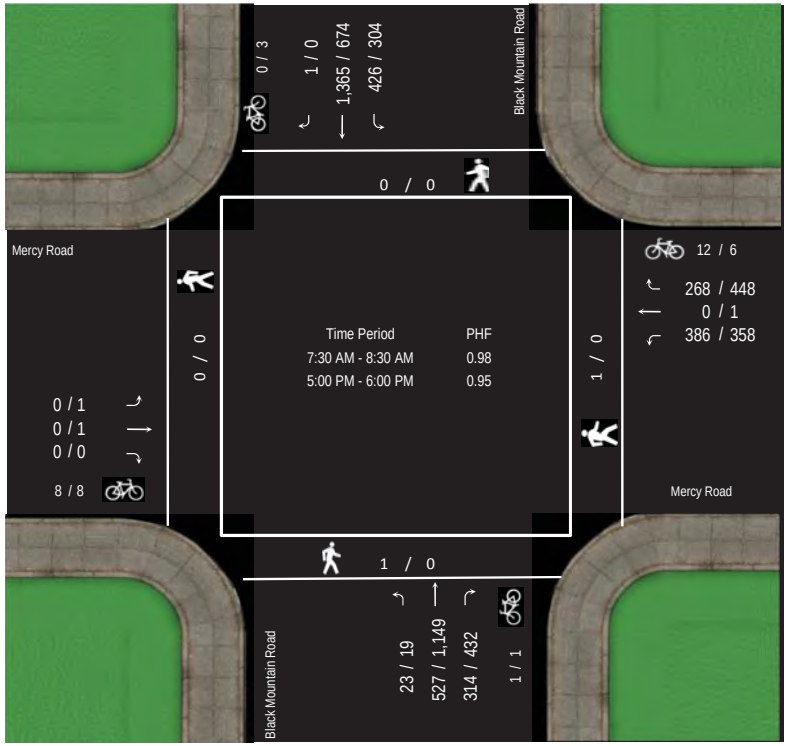
Location: Mercy Road @ Black Mountain Road

Date of Count: *Thursday, May 29, 2014*

Analysts: *LV/CD*

Weather: *Sunny*

AVC Proj No: *14-0210*



Vehicular Count

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

Location: Mercy Road @ Black Mountain Road

AM Period (7:00 AM - 9:00 AM)

	Southbound			Westbound			Northbound			Eastbound			
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	TOTAL
7:00 AM	0	237	75	54	0	80	58	132	8	0	0	0	644
7:15 AM	1	257	89	61	0	98	50	124	12	0	0	0	692
7:30 AM	0	317	107	58	0	102	90	130	7	0	0	0	811
7:45 AM	0	371	105	73	0	86	85	122	4	0	0	0	846
8:00 AM	1	327	111	67	0	105	62	137	9	0	0	0	819
8:15 AM	0	350	103	70	0	93	77	138	3	0	0	0	834
8:30 AM	0	295	113	67	0	99	91	128	11	0	0	0	804
8:45 AM	0	317	93	43	0	116	81	116	1	0	0	0	767
Total	2	2,471	796	493	0	779	594	1,027	55	0	0	0	6,217

AM Intersection Peak Hour : **7:30 AM - 8:30 AM** Intersection PHF : **0.98**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	1	1,365	426	268	0	386	314	527	23	0	0	0	3,310
PHF	0.25	0.92	0.96	0.92	#####	0.92	0.87	0.95	0.64	#####	#####	#####	0.98
Movement PHF		0.94			0.95			0.95			#DIV/0!		0.98

PM Period (4:00 PM - 6:00 PM)

	Southbound			Westbound			Northbound			Eastbound			
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	TOTAL
4:00 PM	0	172	59	71	21	54	58	197	9	0	0	0	641
4:15 PM	0	189	68	98	0	95	86	239	6	0	0	0	781
4:30 PM	0	173	69	80	0	76	96	247	4	0	0	0	745
4:45 PM	0	127	80	94	0	86	105	270	5	0	1	0	768
5:00 PM	0	166	82	118	0	94	104	267	3	0	0	0	834
5:15 PM	0	185	81	113	0	104	107	289	5	0	0	0	884
5:30 PM	0	157	75	103	1	80	92	264	6	0	0	0	778
5:45 PM	0	166	66	114	0	80	129	329	5	0	1	1	891
Total	0	1335	580	791	22	669	777	2,102	43	0	2	1	6,322

PM Intersection Peak Hour : **5:00 PM - 6:00 PM** Intersection PHF : **0.95**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	0	674	304	448	1	358	432	1149	19	0	1	1	3387
PHF	#####	0.911	0.927	0.949	0.25	0.861	0.837	0.873	0.792	#####	0.25	0.25	0.95
Movement PHF		0.92			0.93			0.86			0.25		0.95

Turn Count Summary

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

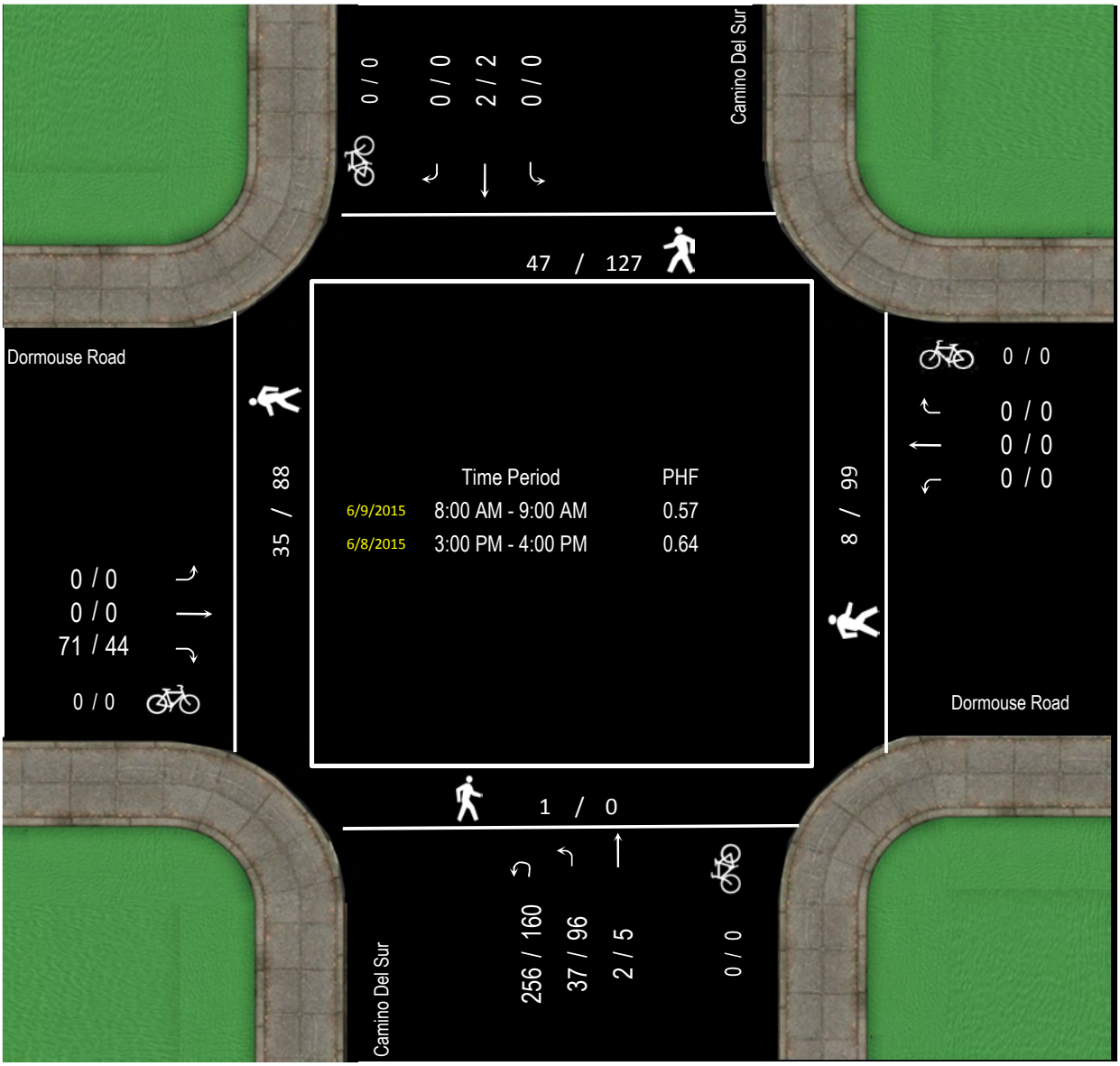
Location: Dormouse Road @ Camino Del Sur

Date of Count: *Monday June 8th 2015 (3 - 4 PM) & Tuesday June 9th 2015 (8 - 9 AM)*

Analysts: *LV/CD*

Weather: *Sunny*

AVC Proj No: *15-0366*



Vehicular Count

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

Location: Dormouse Road @ Camino Del Sur

AM Period (8:00 AM - 9:00 PM)													
	Southbound			Westbound			Northbound			Eastbound			
	Right	Thru	Left	Right	Thru	Left	U-Turn	Thru	Left	Right	Thru	Left	TOTAL
8:00 AM	0	0	0	0	0	0	2	0	8	21	0	0	31
8:15 AM	0	0	0	0	0	0	17	0	3	13	0	0	33
8:30 AM	0	0	0	0	0	0	108	0	13	21	0	0	142
8:45 AM	0	2	0	0	0	0	129	2	13	16	0	0	162
Total	0	2	0	0	0	0	256	2	37	71	0	0	368

AM Intersection Peak Hour : **8:00 AM - 9:00 AM** Intersection PHF : **0.57**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	U-Turn	Thru	Left	Right	Thru	Left	
Volume	0	2	0	0	0	0	256	2	37	71	0	0	368
PHF	#####	0.25	#####	#####	#####	#####	0.50	0.25	0.71	0.85	#####	#####	0.57
Movement PHF		0.25			#DIV/0!			0.51			0.85		0.57

PM Period (3:00 PM - 4:00 PM)													
	Southbound			Westbound			Northbound			Eastbound			
	Right	Thru	Left	Right	Thru	Left	U-Turn	Thru	Left	Right	Thru	Left	TOTAL
3:00 PM	0	0	0	0	0	0	18	1	16	8	0	0	43
3:15 PM	0	2	0	0	0	0	68	3	31	12	0	0	116
3:30 PM	0	0	0	0	0	0	70	1	35	14	0	0	120
3:45 PM	0	0	0	0	0	0	4	0	14	10	0	0	28
Total	0	2	0	0	0	0	160	5	96	44	0	0	307

PM Intersection Peak Hour : **3:00 PM - 4:00 PM** Intersection PHF : **0.64**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	U-Turn	Thru	Left	Right	Thru	Left	
Volume	0	2	0	0	0	0	160	5	96	44	0	0	307
PHF	#####	0.25	#####	#####	#####	#####	0.571	0.417	0.686	0.786	#####	#####	0.64
Movement PHF		0.25			#DIV/0!			0.62			0.79		0.64

24 Hour Segment Count

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

Location: 1. Camino Del Sur, South of Carmel Valley Road

Orientation: *North-South*

Date of Count: *Wednesday, May 28, 2014*

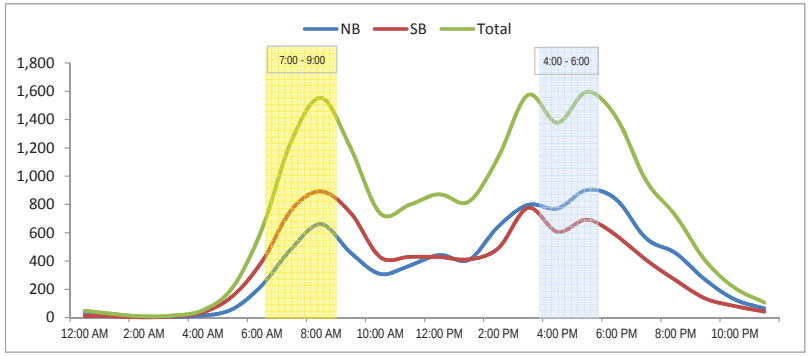
Analysts: *DASH*

Weather: *Sunny*

AVC Proj. No: *14-0210*

24 Hour Segment Volume				17,728				
Time	Hourly Volume			Time	Hourly Volume			
	NB	SB	Total		NB	SB	Total	
12:00 AM - 1:00 AM	36	13	49	12:00 PM - 1:00 PM	443	429	872	
1:00 AM - 2:00 AM	17	9	26	1:00 PM - 2:00 PM	408	412	820	
2:00 AM - 3:00 AM	7	2	9	2:00 PM - 3:00 PM	645	491	1,136	
3:00 AM - 4:00 AM	6	10	16	3:00 PM - 4:00 PM	797	776	1,573	
4:00 AM - 5:00 AM	15	38	53	4:00 PM - 5:00 PM	771	606	1,377	
5:00 AM - 6:00 AM	60	152	212	5:00 PM - 6:00 PM	903	693	1,596	
6:00 AM - 7:00 AM	230	397	627	6:00 PM - 7:00 PM	833	579	1,412	
7:00 AM - 8:00 AM	489	763	1,252	7:00 PM - 8:00 PM	560	408	968	
8:00 AM - 9:00 AM	661	892	1,553	8:00 PM - 9:00 PM	456	264	720	
9:00 AM - 10:00 AM	459	740	1,199	9:00 PM - 10:00 PM	268	136	404	
10:00 AM - 11:00 AM	309	428	737	10:00 PM - 11:00 PM	129	82	211	
11:00 AM - 12:00 PM	368	430	798	11:00 PM - 12:00 AM	65	43	108	
Total	2,657	3,874	6,531	Total	6,278	4,919	11,197	

24-Hour	NB	Volume	8,935	24-Hour	SB	Volume	8,793



24 Hour Segment Count

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

Location: 2. Camino Del Sur, South of Wolverine Way

Orientation: *North-South*

Date of Count: *Wednesday, May 28, 2014*

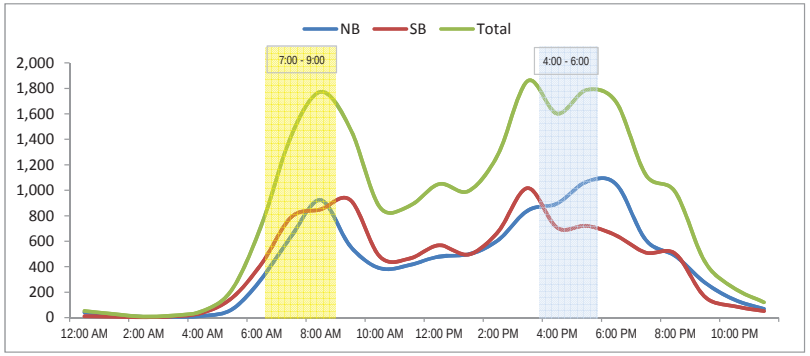
Analysts: *DASH*

Weather: *Sunny*

AVC Proj. No: *14-0210*

24 Hour Segment Volume				20,710				
Time	Hourly Volume			Time	Hourly Volume			
	NB	SB	Total		NB	SB	Total	
12:00 AM - 1:00 AM	41	12	53	12:00 PM - 1:00 PM	480	569	1,049	
1:00 AM - 2:00 AM	20	9	29	1:00 PM - 2:00 PM	498	496	994	
2:00 AM - 3:00 AM	6	3	9	2:00 PM - 3:00 PM	608	674	1,282	
3:00 AM - 4:00 AM	7	11	18	3:00 PM - 4:00 PM	841	1,017	1,858	
4:00 AM - 5:00 AM	14	39	53	4:00 PM - 5:00 PM	896	706	1,602	
5:00 AM - 6:00 AM	66	156	222	5:00 PM - 6:00 PM	1,067	721	1,788	
6:00 AM - 7:00 AM	307	425	732	6:00 PM - 7:00 PM	1,047	645	1,692	
7:00 AM - 8:00 AM	639	789	1,428	7:00 PM - 8:00 PM	611	511	1,122	
8:00 AM - 9:00 AM	923	850	1,773	8:00 PM - 9:00 PM	484	502	986	
9:00 AM - 10:00 AM	560	924	1,484	9:00 PM - 10:00 PM	276	164	440	
10:00 AM - 11:00 AM	388	479	867	10:00 PM - 11:00 PM	141	90	231	
11:00 AM - 12:00 PM	413	464	877	11:00 PM - 12:00 AM	69	52	121	
Total	3,384	4,161	7,545	Total	7,018	6,147	13,165	

24-Hour	NB	Volume	10,402	24-Hour	SB	Volume	10,308



24 Hour Segment Count

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

Location: 3. Camino Del Sur, North of SR 56 WB Ramps

Orientation: *North-South*

Date of Count: *Wednesday, May 28, 2014*

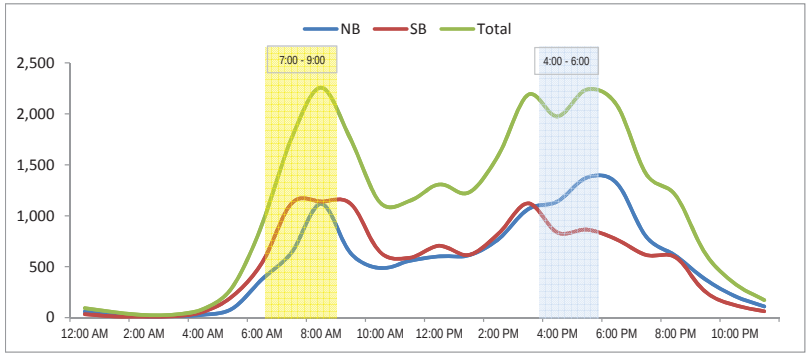
Analysts: *DASH*

Weather: *Sunny*

AVC Proj. No: *14-0210*

24 Hour Segment Volume				25,921				
Time	Hourly Volume			Time	Hourly Volume		
	NB	SB	Total		NB	SB	Total
12:00 AM - 1:00 AM	60	34	94	12:00 PM - 1:00 PM	602	706	1,308
1:00 AM - 2:00 AM	43	12	55	1:00 PM - 2:00 PM	612	616	1,228
2:00 AM - 3:00 AM	14	12	26	2:00 PM - 3:00 PM	770	824	1,594
3:00 AM - 4:00 AM	16	15	31	3:00 PM - 4:00 PM	1,064	1,122	2,186
4:00 AM - 5:00 AM	28	57	85	4:00 PM - 5:00 PM	1,140	835	1,975
5:00 AM - 6:00 AM	90	211	301	5:00 PM - 6:00 PM	1,375	864	2,239
6:00 AM - 7:00 AM	377	538	915	6:00 PM - 7:00 PM	1,322	768	2,090
7:00 AM - 8:00 AM	640	1,122	1,762	7:00 PM - 8:00 PM	796	615	1,411
8:00 AM - 9:00 AM	1,117	1,140	2,257	8:00 PM - 9:00 PM	608	592	1,200
9:00 AM - 10:00 AM	632	1,118	1,750	9:00 PM - 10:00 PM	377	254	631
10:00 AM - 11:00 AM	487	642	1,129	10:00 PM - 11:00 PM	212	123	335
11:00 AM - 12:00 PM	558	588	1146	11:00 PM - 12:00 AM	110	63	173
Total	4,062	5,489	9,551	Total	8,988	7,382	16,370

24-Hour	NB	Volume	13,050	24-Hour	SB	Volume	12,871



24 Hour Segment Count

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

Location: 4. Camino Del Sur, South of Torrey Santa Fe Road

Orientation: *North-South*

Date of Count: *Wednesday, May 28, 2014*

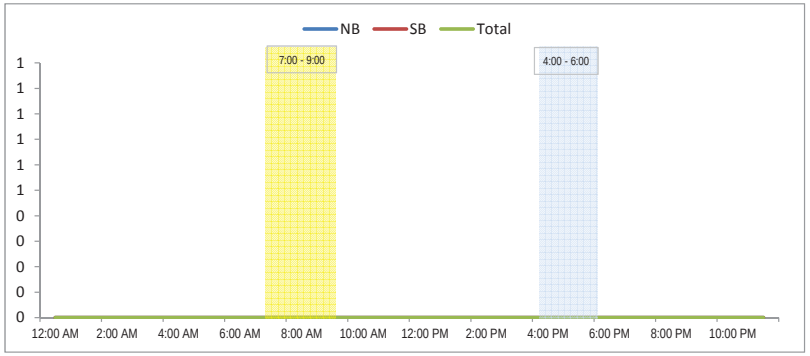
Analysts: *DASH*

Weather: *Sunny*

AVC Proj. No: *14-0210*

24 Hour Segment Volume				0				
Time	Hourly Volume			Time	Hourly Volume		
	NB	SB	Total		NB	SB	Total
12:00 AM - 1:00 AM	0	0	0	12:00 PM - 1:00 PM	0	0	0
1:00 AM - 2:00 AM	0	0	0	1:00 PM - 2:00 PM	0	0	0
2:00 AM - 3:00 AM	0	0	0	2:00 PM - 3:00 PM	0	0	0
3:00 AM - 4:00 AM	0	0	0	3:00 PM - 4:00 PM	0	0	0
4:00 AM - 5:00 AM	0	0	0	4:00 PM - 5:00 PM	0	0	0
5:00 AM - 6:00 AM	0	0	0	5:00 PM - 6:00 PM	0	0	0
6:00 AM - 7:00 AM	0	0	0	6:00 PM - 7:00 PM	0	0	0
7:00 AM - 8:00 AM	0	0	0	7:00 PM - 8:00 PM	0	0	0
8:00 AM - 9:00 AM	0	0	0	8:00 PM - 9:00 PM	0	0	0
9:00 AM - 10:00 AM	0	0	0	9:00 PM - 10:00 PM	0	0	0
10:00 AM - 11:00 AM	0	0	0	10:00 PM - 11:00 PM	0	0	0
11:00 AM - 12:00 PM	0	0	0	11:00 PM - 12:00 AM	0	0	0
Total	0	0	0	Total	0	0	0

24-Hour	NB	Volume	0	24-Hour	SB	Volume	0



24 Hour Segment Count

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

Location: 5. Black Mountain Road, North of Maler Road

Orientation: *North-South*

Date of Count: *Thursday, May 29, 2014*

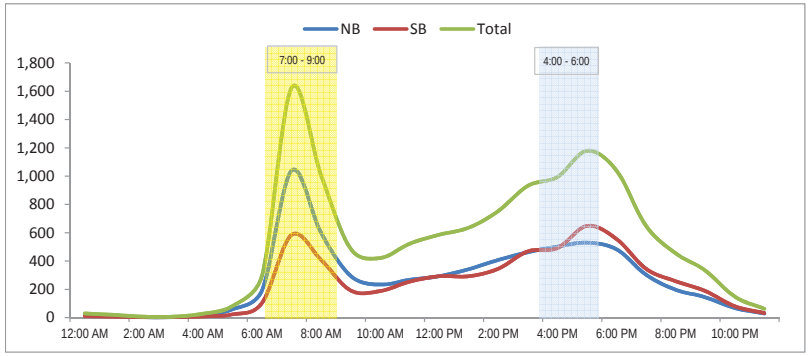
Analysts: *DASH*

Weather: *Sunny*

AVC Proj. No: *14-0210*

24 Hour Segment Volume				12,303				
Time	Hourly Volume				Time	Hourly Volume		
	NB	SB	Total			NB	SB	Total
12:00 AM - 1:00 AM	19	11	30		12:00 PM - 1:00 PM	293	293	586
1:00 AM - 2:00 AM	13	7	20		1:00 PM - 2:00 PM	343	293	636
2:00 AM - 3:00 AM	2	5	7		2:00 PM - 3:00 PM	408	346	754
3:00 AM - 4:00 AM	5	2	7		3:00 PM - 4:00 PM	463	469	932
4:00 AM - 5:00 AM	17	11	28		4:00 PM - 5:00 PM	502	492	994
5:00 AM - 6:00 AM	60	23	83		5:00 PM - 6:00 PM	530	649	1,179
6:00 AM - 7:00 AM	193	104	297		6:00 PM - 7:00 PM	483	556	1,039
7:00 AM - 8:00 AM	1,039	585	1,624		7:00 PM - 8:00 PM	303	345	648
8:00 AM - 9:00 AM	598	408	1,006		8:00 PM - 9:00 PM	197	258	455
9:00 AM - 10:00 AM	295	192	487		9:00 PM - 10:00 PM	145	189	334
10:00 AM - 11:00 AM	234	188	422		10:00 PM - 11:00 PM	68	81	149
11:00 AM - 12:00 PM	268	255	523		11:00 PM - 12:00 AM	30	33	63
Total	2,743	1,791	4,534		Total	3,765	4,004	7,769

24-Hour	NB	Volume	6,508	24-Hour	SB	Volume	5,795



24 Hour Segment Count

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

Location: 6. Black Mountain Road, South of Oviedo Street

Orientation: *North-South*

Date of Count: *Thursday, May 29, 2014*

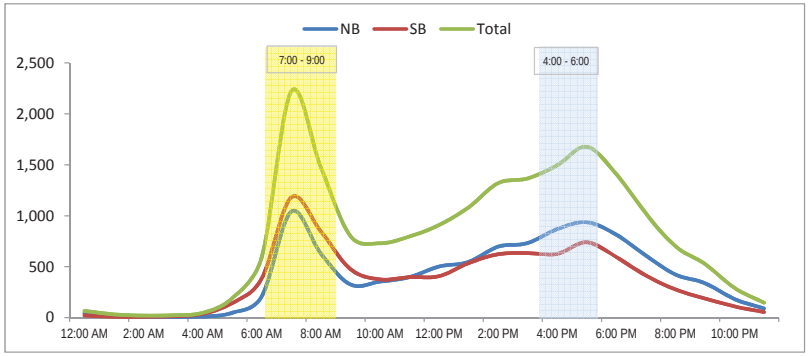
Analysts: *DASH*

Weather: *Sunny*

AVC Proj. No: *14-0210*

24 Hour Segment Volume				18,956				
Time	Hourly Volume				Time	Hourly Volume		
	NB	SB	Total			NB	SB	Total
12:00 AM - 1:00 AM	44	22	66		12:00 PM - 1:00 PM	502	407	909
1:00 AM - 2:00 AM	23	10	33		1:00 PM - 2:00 PM	547	535	1,082
2:00 AM - 3:00 AM	11	10	21		2:00 PM - 3:00 PM	697	623	1,320
3:00 AM - 4:00 AM	9	15	24		3:00 PM - 4:00 PM	732	634	1,366
4:00 AM - 5:00 AM	10	38	48		4:00 PM - 5:00 PM	869	626	1,495
5:00 AM - 6:00 AM	48	143	191		5:00 PM - 6:00 PM	937	740	1,677
6:00 AM - 7:00 AM	208	384	592		6:00 PM - 7:00 PM	815	595	1,410
7:00 AM - 8:00 AM	1,041	1,180	2,221		7:00 PM - 8:00 PM	610	415	1,025
8:00 AM - 9:00 AM	630	848	1,478		8:00 PM - 9:00 PM	424	277	701
9:00 AM - 10:00 AM	326	477	803		9:00 PM - 10:00 PM	339	189	528
10:00 AM - 11:00 AM	354	376	730		10:00 PM - 11:00 PM	183	110	293
11:00 AM - 12:00 PM	398	398	796		11:00 PM - 12:00 AM	91	56	147
Total	3,102	3,901	7,003		Total	6,746	5,207	11,953

24-Hour	NB	Volume	9,848	24-Hour	SB	Volume	9,108



24 Hour Segment Count

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

Location: 7. Black Mountain Road, South of Carmel Mountain Road

Orientation: *North-South*

Date of Count: *Thursday, May 29, 2014*

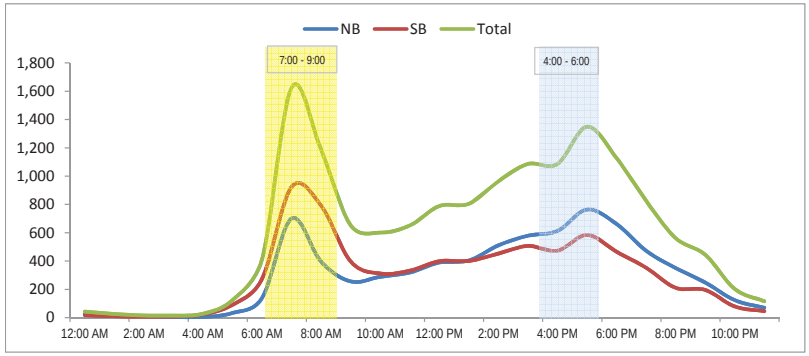
Analysts: *DASH*

Weather: *Sunny*

AVC Proj. No: *14-0210*

24 Hour Segment Volume				14,740				
Time	Hourly Volume			Time	Hourly Volume			
	NB	SB	Total		NB	SB	Total	
12:00 AM - 1:00 AM	25	18	43	12:00 PM - 1:00 PM	390	399	789	
1:00 AM - 2:00 AM	16	10	26	1:00 PM - 2:00 PM	404	401	805	
2:00 AM - 3:00 AM	9	7	16	2:00 PM - 3:00 PM	511	453	964	
3:00 AM - 4:00 AM	6	9	15	3:00 PM - 4:00 PM	579	507	1,086	
4:00 AM - 5:00 AM	5	23	28	4:00 PM - 5:00 PM	613	473	1,086	
5:00 AM - 6:00 AM	33	91	124	5:00 PM - 6:00 PM	764	585	1,349	
6:00 AM - 7:00 AM	139	274	413	6:00 PM - 7:00 PM	662	466	1,128	
7:00 AM - 8:00 AM	701	924	1,625	7:00 PM - 8:00 PM	473	353	826	
8:00 AM - 9:00 AM	395	791	1,186	8:00 PM - 9:00 PM	351	211	562	
9:00 AM - 10:00 AM	256	397	653	9:00 PM - 10:00 PM	249	196	445	
10:00 AM - 11:00 AM	289	312	601	10:00 PM - 11:00 PM	124	79	203	
11:00 AM - 12:00 PM	319	332	651	11:00 PM - 12:00 AM	70	46	116	
Total	**2,193**	**3,188**	**5,381**	**Total**	**5,190**	**4,169**	**9,359**	

24-Hour	NB	Volume	7,383	24-Hour	SB	Volume	7,357



24 Hour Segment Count

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

Location: 8. Black Mountain Road, South of Twin Trails Drive

Orientation: *North-South*

Date of Count: *Thursday, May 29, 2014*

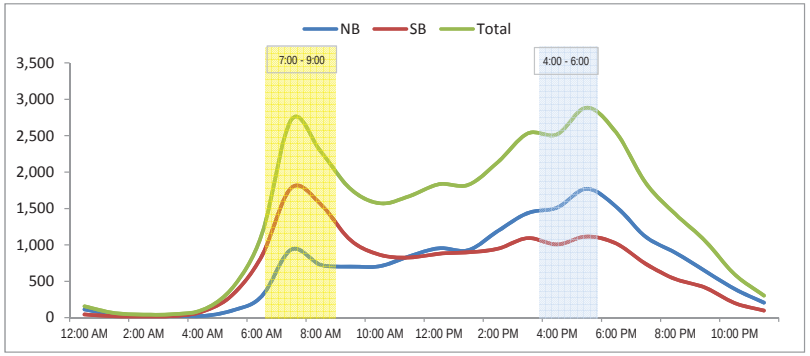
Analysts: *DASH*

Weather: *Sunny*

AVC Proj. No: *14-0210*

24 Hour Segment Volume				33,492				
Time	Hourly Volume			Time	Hourly Volume			
	NB	SB	Total		NB	SB	Total	
12:00 AM - 1:00 AM	113	44	157	12:00 PM - 1:00 PM	954	879	1,833	
1:00 AM - 2:00 AM	45	20	65	1:00 PM - 2:00 PM	928	898	1,826	
2:00 AM - 3:00 AM	26	17	43	2:00 PM - 3:00 PM	1,192	948	2,140	
3:00 AM - 4:00 AM	26	23	49	3:00 PM - 4:00 PM	1,437	1,093	2,530	
4:00 AM - 5:00 AM	24	85	109	4:00 PM - 5:00 PM	1,512	1,006	2,518	
5:00 AM - 6:00 AM	98	310	408	5:00 PM - 6:00 PM	1,770	1,115	2,885	
6:00 AM - 7:00 AM	293	845	1,138	6:00 PM - 7:00 PM	1,524	1,019	2,543	
7:00 AM - 8:00 AM	935	1,784	2,719	7:00 PM - 8:00 PM	1,110	740	1,850	
8:00 AM - 9:00 AM	725	1,557	2,282	8:00 PM - 9:00 PM	893	531	1,424	
9:00 AM - 10:00 AM	703	1,067	1,770	9:00 PM - 10:00 PM	644	415	1,059	
10:00 AM - 11:00 AM	707	864	1,571	10:00 PM - 11:00 PM	396	203	599	
11:00 AM - 12:00 PM	844	826	1670	11:00 PM - 12:00 AM	207	97	304	
Total	**4,539**	**7,442**	**11,981**	**Total**	**12,567**	**8,944**	**21,511**	

24-Hour	NB	Volume	17,106	24-Hour	SB	Volume	16,386



24 Hour Segment Count

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

Location: 9. Black Mountain Road, North of Park Village Drive

Orientation: *North-South*

Date of Count: *Thursday, May 29, 2014*

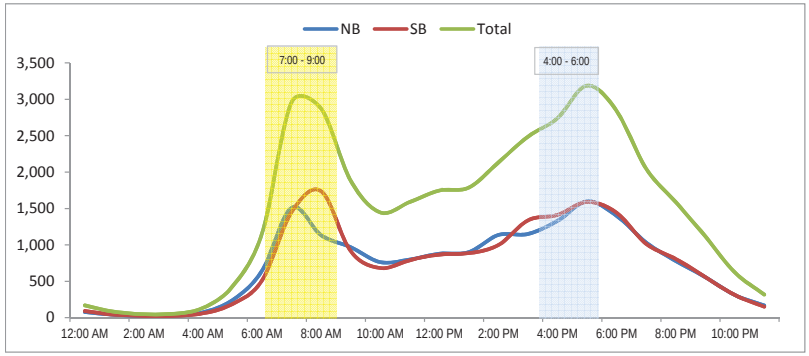
Analysts: *DASH*

Weather: *Sunny*

AVC Proj. No: *14-0210*

24 Hour Segment Volume				35,443				
Time	Hourly Volume				Time	Hourly Volume		
	NB	SB	Total			NB	SB	Total
12:00 AM - 1:00 AM	77	92	169		12:00 PM - 1:00 PM	879	868	1,747
1:00 AM - 2:00 AM	39	41	80		1:00 PM - 2:00 PM	901	886	1,787
2:00 AM - 3:00 AM	25	26	51		2:00 PM - 3:00 PM	1,136	997	2,133
3:00 AM - 4:00 AM	28	25	53		3:00 PM - 4:00 PM	1,150	1,337	2,487
4:00 AM - 5:00 AM	74	60	134		4:00 PM - 5:00 PM	1,329	1,411	2,740
5:00 AM - 6:00 AM	242	188	430		5:00 PM - 6:00 PM	1,598	1,590	3,188
6:00 AM - 7:00 AM	644	512	1,156		6:00 PM - 7:00 PM	1,400	1,442	2,842
7:00 AM - 8:00 AM	1,510	1,450	2,960		7:00 PM - 8:00 PM	1,033	1,015	2,048
8:00 AM - 9:00 AM	1,133	1,739	2,872		8:00 PM - 9:00 PM	781	808	1,589
9:00 AM - 10:00 AM	969	914	1,883		9:00 PM - 10:00 PM	558	560	1,118
10:00 AM - 11:00 AM	764	682	1,446		10:00 PM - 11:00 PM	312	311	623
11:00 AM - 12:00 PM	799	790	1589		11:00 PM - 12:00 AM	168	150	318
Total	6,304	6,519	12,823		Total	11,245	11,375	22,620

24-Hour	NB	Volume	17,549	24-Hour	SB	Volume	17,894



24 Hour Segment Count

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

Location: 10. Carmel Mountain Road, South of Sundance Avenue

Orientation: *North-South*

Date of Count: *Thursday, May 29, 2014*

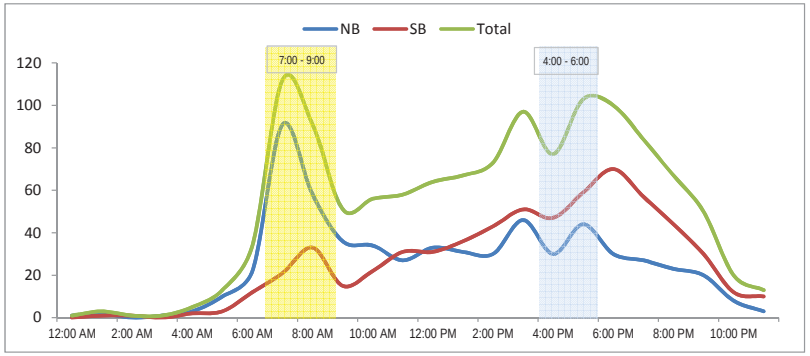
Analysts: *DASH*

Weather: *Sunny*

AVC Proj. No: *14-0210*

24 Hour Segment Volume				1,241				
Time	Hourly Volume				Time	Hourly Volume		
	NB	SB	Total			NB	SB	Total
12:00 AM - 1:00 AM	1	0	1		12:00 PM - 1:00 PM	33	31	64
1:00 AM - 2:00 AM	2	1	3		1:00 PM - 2:00 PM	31	36	67
2:00 AM - 3:00 AM	0	1	1		2:00 PM - 3:00 PM	30	43	73
3:00 AM - 4:00 AM	1	0	1		3:00 PM - 4:00 PM	46	51	97
4:00 AM - 5:00 AM	3	2	5		4:00 PM - 5:00 PM	30	47	77
5:00 AM - 6:00 AM	10	3	13		5:00 PM - 6:00 PM	44	59	103
6:00 AM - 7:00 AM	22	12	34		6:00 PM - 7:00 PM	30	70	100
7:00 AM - 8:00 AM	91	21	112		7:00 PM - 8:00 PM	27	57	84
8:00 AM - 9:00 AM	58	33	91		8:00 PM - 9:00 PM	23	44	67
9:00 AM - 10:00 AM	36	15	51		9:00 PM - 10:00 PM	20	30	50
10:00 AM - 11:00 AM	34	22	56		10:00 PM - 11:00 PM	8	12	20
11:00 AM - 12:00 PM	27	31	58		11:00 PM - 12:00 AM	3	10	13
Total	285	141	426		Total	325	490	815

24-Hour	NB	Volume	610	24-Hour	SB	Volume	631



24 Hour Segment Count

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

Location: 11. Carmel Mountain Road, West of Sparren Avenue

Orientation: *East-West*

Date of Count: *Thursday, May 29, 2014*

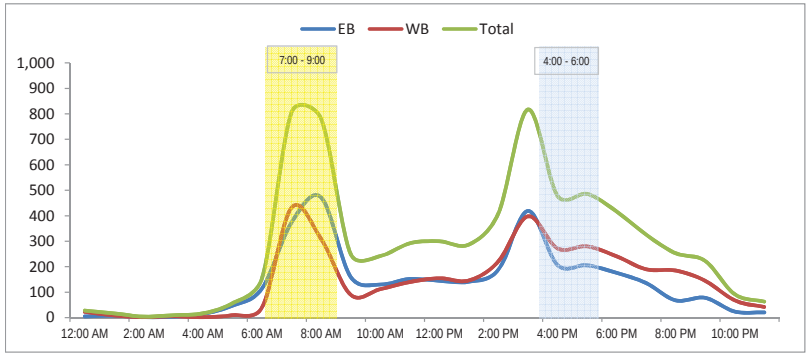
Analysts: *DASH*

Weather: *Sunny*

AVC Proj. No: *14-0210*

24 Hour Segment Volume				6,811				
Time	Hourly Volume				Time	Hourly Volume		
	EB	WB	Total			EB	WB	Total
12:00 AM - 1:00 AM	5	23	28		12:00 PM - 1:00 PM	145	155	300
1:00 AM - 2:00 AM	8	9	17		1:00 PM - 2:00 PM	141	146	287
2:00 AM - 3:00 AM	2	2	4		2:00 PM - 3:00 PM	188	221	409
3:00 AM - 4:00 AM	4	6	10		3:00 PM - 4:00 PM	419	398	817
4:00 AM - 5:00 AM	15	2	17		4:00 PM - 5:00 PM	207	272	479
5:00 AM - 6:00 AM	47	10	57		5:00 PM - 6:00 PM	206	280	486
6:00 AM - 7:00 AM	115	40	155		6:00 PM - 7:00 PM	176	241	417
7:00 AM - 8:00 AM	374	432	806		7:00 PM - 8:00 PM	136	190	326
8:00 AM - 9:00 AM	472	309	781		8:00 PM - 9:00 PM	68	185	253
9:00 AM - 10:00 AM	160	90	250		9:00 PM - 10:00 PM	78	145	223
10:00 AM - 11:00 AM	130	112	242		10:00 PM - 11:00 PM	24	68	92
11:00 AM - 12:00 PM	152	140	292		11:00 PM - 12:00 AM	21	42	63
Total	1,484	1,175	2,659		Total	1,809	2,343	4,152

24-Hour	EB	Volume	3,293	24-Hour	WB	Volume	3,518



24 Hour Segment Count

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

Location: 12. Carmel Mountain Road, West of Black Mountain Road

Orientation: *East-West*

Date of Count: *Thursday, May 29, 2014*

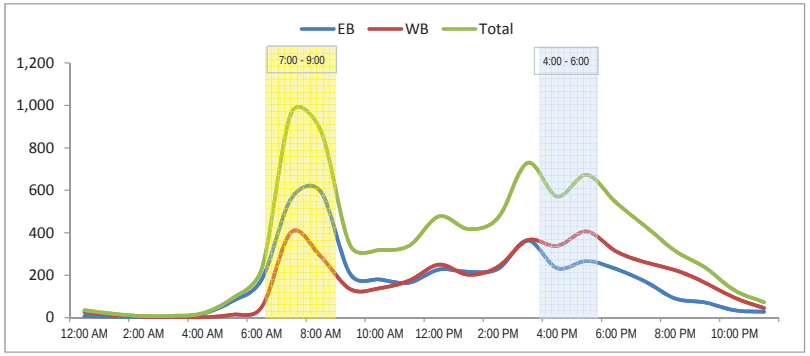
Analysts: *DASH*

Weather: *Sunny*

AVC Proj. No: *14-0210*

24 Hour Segment Volume				8,316				
Time	Hourly Volume				Time	Hourly Volume		
	EB	WB	Total			EB	WB	Total
12:00 AM - 1:00 AM	8	27	35		12:00 PM - 1:00 PM	227	250	477
1:00 AM - 2:00 AM	5	13	18		1:00 PM - 2:00 PM	216	202	418
2:00 AM - 3:00 AM	3	5	8		2:00 PM - 3:00 PM	230	240	470
3:00 AM - 4:00 AM	5	4	9		3:00 PM - 4:00 PM	364	365	729
4:00 AM - 5:00 AM	19	2	21		4:00 PM - 5:00 PM	233	338	571
5:00 AM - 6:00 AM	77	14	91		5:00 PM - 6:00 PM	267	406	673
6:00 AM - 7:00 AM	180	49	229		6:00 PM - 7:00 PM	229	312	541
7:00 AM - 8:00 AM	561	403	964		7:00 PM - 8:00 PM	169	260	429
8:00 AM - 9:00 AM	594	288	882		8:00 PM - 9:00 PM	90	224	314
9:00 AM - 10:00 AM	205	134	339		9:00 PM - 10:00 PM	72	165	237
10:00 AM - 11:00 AM	180	139	319		10:00 PM - 11:00 PM	35	94	129
11:00 AM - 12:00 PM	165	175	340		11:00 PM - 12:00 AM	28	45	73
Total	2,002	1,253	3,255		Total	2,160	2,901	5,061

24-Hour	EB	Volume	4,162	24-Hour	WB	Volume	4,154



24 Hour Segment Count

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

Location: 13. Sundance Avenue, West of War Bonnet Street

Orientation: *East-West*

Date of Count: *Thursday, May 29, 2014*

Analysts: *DASH*

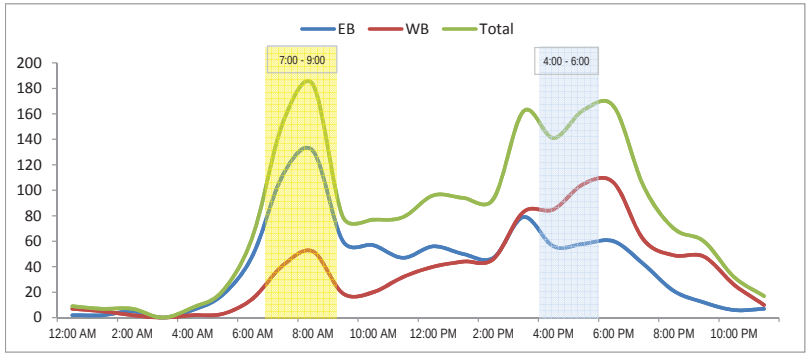
Weather: *Sunny*

AVC Proj. No: *14-0210*

24 Hour Segment Volume: 1,884

Time	Hourly Volume EB	WB	Total	Time	Hourly Volume EB	WB	Total
12:00 AM - 1:00 AM	2	7	9	12:00 PM - 1:00 PM	56	40	96
1:00 AM - 2:00 AM	2	5	7	1:00 PM - 2:00 PM	50	44	94
2:00 AM - 3:00 AM	5	2	7	2:00 PM - 3:00 PM	47	46	93
3:00 AM - 4:00 AM	0	0	0	3:00 PM - 4:00 PM	79	83	162
4:00 AM - 5:00 AM	6	2	8	4:00 PM - 5:00 PM	56	85	141
5:00 AM - 6:00 AM	18	3	21	5:00 PM - 6:00 PM	58	105	163
6:00 AM - 7:00 AM	49	15	64	6:00 PM - 7:00 PM	60	106	166
7:00 AM - 8:00 AM	112	41	153	7:00 PM - 8:00 PM	42	61	103
8:00 AM - 9:00 AM	131	52	183	8:00 PM - 9:00 PM	21	49	70
9:00 AM - 10:00 AM	60	19	79	9:00 PM - 10:00 PM	12	48	60
10:00 AM - 11:00 AM	57	20	77	10:00 PM - 11:00 PM	6	26	32
11:00 AM - 12:00 PM	47	32	79	11:00 PM - 12:00 AM	7	10	17
Total	**489**	**198**	**687**	**Total**	**494**	**703**	**1,197**

24-Hour EB Volume 983 **24-Hour WB Volume 901**



24 Hour Segment Count

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

Location: 14. Park Village Road, East of Camino Del Sur

Orientation: *East-West*

Date of Count: *Wednesday, May 28, 2014*

Analysts: *DASH*

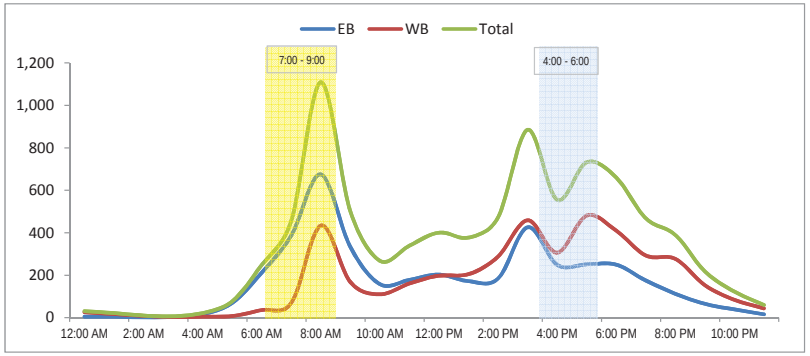
Weather: *Sunny*

AVC Proj. No: *14-0210*

24 Hour Segment Volume: 8,430

Time	Hourly Volume EB	WB	Total	Time	Hourly Volume EB	WB	Total
12:00 AM - 1:00 AM	5	26	31	12:00 PM - 1:00 PM	203	198	401
1:00 AM - 2:00 AM	5	17	22	1:00 PM - 2:00 PM	172	205	377
2:00 AM - 3:00 AM	1	9	10	2:00 PM - 3:00 PM	184	288	472
3:00 AM - 4:00 AM	4	3	7	3:00 PM - 4:00 PM	426	459	885
4:00 AM - 5:00 AM	17	5	22	4:00 PM - 5:00 PM	249	306	555
5:00 AM - 6:00 AM	69	8	77	5:00 PM - 6:00 PM	251	481	732
6:00 AM - 7:00 AM	212	36	248	6:00 PM - 7:00 PM	250	410	660
7:00 AM - 8:00 AM	387	68	455	7:00 PM - 8:00 PM	175	293	468
8:00 AM - 9:00 AM	675	434	1,109	8:00 PM - 9:00 PM	113	277	390
9:00 AM - 10:00 AM	333	168	501	9:00 PM - 10:00 PM	65	153	218
10:00 AM - 11:00 AM	158	110	268	10:00 PM - 11:00 PM	39	84	123
11:00 AM - 12:00 PM	178	161	339	11:00 PM - 12:00 AM	16	44	60
Total	**2,044**	**1,045**	**3,089**	**Total**	**2,143**	**3,198**	**5,341**

24-Hour EB Volume 4,187 **24-Hour WB Volume 4,243**



24 Hour Segment Count

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

Location: 15. Park Village Road , West of Black Mountain Road

Orientation: *East-West*

Date of Count: *Wednesday, May 28, 2014*

Analysts: *DASH*

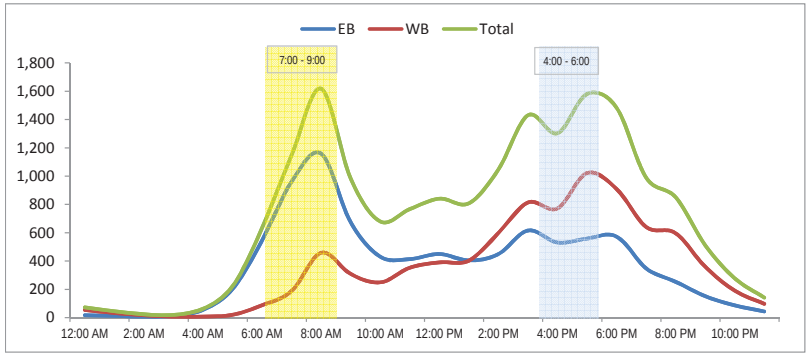
Weather: *Sunny*

AVC Proj. No: *14-0210*

24 Hour Segment Volume 17,546

Time	Hourly Volume EB	WB	Total	Time	Hourly Volume EB	WB	Total
12:00 AM - 1:00 AM	18	55	73	12:00 PM - 1:00 PM	450	391	841
1:00 AM - 2:00 AM	13	33	46	1:00 PM - 2:00 PM	405	403	808
2:00 AM - 3:00 AM	7	17	24	2:00 PM - 3:00 PM	449	598	1,047
3:00 AM - 4:00 AM	13	8	21	3:00 PM - 4:00 PM	616	814	1,430
4:00 AM - 5:00 AM	55	8	63	4:00 PM - 5:00 PM	531	772	1,303
5:00 AM - 6:00 AM	202	20	222	5:00 PM - 6:00 PM	559	1,022	1,581
6:00 AM - 7:00 AM	545	88	633	6:00 PM - 7:00 PM	574	910	1,484
7:00 AM - 8:00 AM	961	188	1,149	7:00 PM - 8:00 PM	349	641	990
8:00 AM - 9:00 AM	1,159	459	1,618	8:00 PM - 9:00 PM	254	597	851
9:00 AM - 10:00 AM	674	309	983	9:00 PM - 10:00 PM	152	360	512
10:00 AM - 11:00 AM	431	249	680	10:00 PM - 11:00 PM	87	191	278
11:00 AM - 12:00 PM	414	353	767	11:00 PM - 12:00 AM	44	98	142
Total	**4,492**	**1,787**	**6,279**	**Total**	**4,470**	**6,797**	**11,267**

24-Hour EB Volume 8,962 **24-Hour WB Volume 8,584**



THURSDAY, OCTOBER 3, 2013 CITY: MIRA MESA PROJECT: PTD13-1004-01

BLACK MTN BTN N-O CANYONSIDE

AM Period	NB		SB		EB	WB		PM Period	NB		SB		EB	WB	
00:00	27		19					12:00	169		180				
00:15	30		11					12:15	201		165				
00:30	20		11					12:30	152		197				
00:45	21	98	10	51			149	12:45	213	735	171	713			1448
01:00	14		15					13:00	200		154				
01:15	9		6					13:15	176		170				
01:30	13		2					13:30	197		151				
01:45	5	41	7	30			71	13:45	176	749	163	638			1387
02:00	8		8					14:00	216		160				
02:15	9		2					14:15	213		188				
02:30	5		5					14:30	238		198				
02:45	5	27	4	19			46	14:45	249	916	166	712			1628
03:00	6		4					15:00	268		193				
03:15	7		4					15:15	287		189				
03:30	4		9					15:30	277		226				
03:45	9	26	9	26			52	15:45	278	1110	247	855			1965
04:00	7		6					16:00	318		277				
04:15	6		7					16:15	348		284				
04:30	7		9					16:30	362		295				
04:45	17	37	29	51			88	16:45	395	1423	288	1144			2567
05:00	9		32					17:00	415		251				
05:15	20		35					17:15	462		315				
05:30	34		59					17:30	388		325				
05:45	41	104	79	205			309	17:45	315	1580	303	1194			2774
06:00	48		101					18:00	388		284				
06:15	53		135					18:15	303		295				
06:30	69		184					18:30	319		251				
06:45	85	255	265	685			940	18:45	333	1343	237	1067			2410
07:00	195		344					19:00	295		238				
07:15	212		461					19:15	277		181				
07:30	206		418					19:30	241		203				
07:45	215	828	477	1700			2528	19:45	232	1045	174	796			1841
08:00	188		495					20:00	227		146				
08:15	180		515					20:15	185		103				
08:30	195		444					20:30	204		92				
08:45	170	733	362	1816			2549	20:45	164	780	100	441			1221
09:00	166		400					21:00	151		93				
09:15	129		367					21:15	164		70				
09:30	161		316					21:30	138		70				
09:45	164	620	220	1303			1923	21:45	129	582	69	302			884
10:00	135		237					22:00	135		58				
10:15	132		194					22:15	102		59				
10:30	134		169					22:30	72		48				
10:45	150	551	192	792			1343	22:45	72	381	58	223			604
11:00	152		196					23:00	65		43				
11:15	159		176					23:15	39		46				
11:30	160		143					23:30	44		29				
11:45	148	619	191	706			1325	23:45	30	178	32	150			328
Total Vol.		3939		7384			**11323**			10822		8235			**19057**

Daily Totals

NB	SB	EB	WB	Combined
14761	15619			**30380**

	AM			PM		
Split %	34.8%	65.2%	**37.3%**	56.8%	43.2%	**62.7%**
Peak Hour	07:00	07:45	**07:45**	16:45	17:15	**16:45**
Volume	828	1931	**2709**	1660	1227	**2839**
P.H.F.	0.96	0.94	**0.97**	0.94	0.94	**0.91**

PACIFIC TECHNICAL DATA

THURSDAY, OCTOBER 3, 2013 CITY: MIRA MESA PROJECT: PTD13-1004-01

MERCY N-O ALEMANIA

AM Period	NB	SB	EB		WB			PM Period	NB	SB	EB		WB		
00:00			28		22			12:00			121		103		
00:15			20		18			12:15			112		97		
00:30			16		26			12:30			105		84		
00:45			11	75	21	87	162	12:45			92	430	90	374	804
01:00			19		15			13:00			95		95		
01:15			11		11			13:15			84		116		
01:30			17		19			13:30			103		99		
01:45			7	54	12	57	111	13:45			111	393	112	422	815
02:00			9		11			14:00			99		107		
02:15			12		10			14:15			107		111		
02:30			8		7			14:30			115		141		
02:45			9	38	5	33	71	14:45			126	447	165	524	971
03:00			5		9			15:00			118		177		
03:15			9		5			15:15			141		195		
03:30			7		6			15:30			154		184		
03:45			11	32	4	24	56	15:45			170	583	212	768	1351
04:00			12		5			16:00			168		235		
04:15			9		12			16:15			177		188		
04:30			16		9			16:30			215		216		
04:45			11	48	11	37	85	16:45			188	748	232	871	1619
05:00			15		16			17:00			212		284		
05:15			28		20			17:15			195		277		
05:30			31		18			17:30			216		231		
05:45			35	109	25	79	188	17:45			195	818	240	1032	1850
06:00			54		22			18:00			202		221		
06:15			70		54			18:15			195		188		
06:30			114		70			18:30			188		202		
06:45			161	399	101	247	646	18:45			170	755	184	795	1550
07:00			215		161			19:00			165		165		
07:15			208		135			19:15			141		142		
07:30			235		141			19:30			135		135		
07:45			218	876	158	595	1471	19:45			111	552	115	557	1109
08:00			251		144			20:00			121		111		
08:15			226		152			20:15			108		108		
08:30			262		226			20:30			92		121		
08:45			202	941	235	757	1698	20:45			95	416	88	428	844
09:00			184		219			21:00			74		95		
09:15			174		202			21:15			74		70		
09:30			161		188			21:30			65		54		
09:45			170	689	170	779	1468	21:45			66	279	66	285	564
10:00			151		141			22:00			50		45		
10:15			135		111			22:15			40		44		
10:30			141		126			22:30			35		40		
10:45			115	542	123	501	1043	22:45			44	169	32	161	330
11:00			108		118			23:00			28		28		
11:15			99		90			23:15			21		22		
11:30			103		115			23:30			22		35		
11:45			114	424	97	420	844	23:45			26	97	19	104	201
Total Vol.				4227		3616	**7843**					5687		6321	**12008**

Daily Totals

NB	SB	EB	WB	**Combined**
		9914	9937	**19851**

	AM			**PM**		
Split %	53.9%	46.1%	**39.5%**	47.4%	52.6%	**60.5%**
Peak Hour	07:45	08:30	**08:15**	17:00	17:00	**17:00**
Volume	957	882	**1706**	818	1032	**1850**
P.H.F.	0.91	0.94	**0.87**	0.95	0.91	**0.93**

PACIFIC TECHNICAL DATA

2013 Caltrans Volumes

Dist	Route	County	Postmile	Description	Back Peak Hour	Back Peak Month	Back AADT	Ahead Peak Hour	Ahead Peak AADT	Ahead AADT
11	56	SD	0	JCT. RTE . 5				4450	58000	56000
11	56	SD	0.309	EL CAMINO RL	4450	58000	56000	6100	75000	72000
11	56	SD	0.82	CARMEL CREEK RD	6100	75000	72000	7700	84000	79000
11	56	SD	1.808	CARMEL COUNTRY RD	7700	84000	79000	7200	79000	75000
11	56	SD	3.103	CARMEL VALLEY RD	7200	79000	75000	6000	68000	65000
11	56	SD	6.338	CAMINO DEL SUR	6000	68000	65000	7600	74000	72000
11	56	SD	7.202	BLACK MOUNTAIN RD	7600	74000	72000	7400	82000	76000
11	56	SD	8.54	RANCHO PENASQUITOS BLVD	7400	82000	76000	7300	79000	71000
11	56	SD	9.712	JCT. RTE. 15	7300	79000	71000	3100	35000	34500
11	56	SD	9.837	END ROUTE	3100	35000	34500			

Weekday Average Mainline Volumes: May 2014

EASTBOUND

West of Camino Del Sur						Camino Del Sur to Black Mountain Road						Black Mountain Road to Rancho Penasquitos						East of Rancho Penasquitos Blvd					
				Data Quality						Data Quality						Data Quality						Data Quality	
Time	Minimum	Mean	Maximum	# Lane Points	% Observed	Time	Minimum	Mean	Maximum	# Lane Points	% Observed	Time	Minimum	Mean	Maximum	# Lane Points	% Observed	Time	Minimum	Mean	Maximum	# Lane Points	% Observed
0:00	353	396	485	336	0	0:00	91	138	171	756	76	0:00	531	589	643	756	0	0:00	353	396	485	336	0
1:00	231	264	314	336	0	1:00	41	69	91	756	76	1:00	346	490	546	756	0	1:00	231	264	314	336	0
2:00	187	216	249	336	0	2:00	30	58	79	756	76	2:00	298	470	542	756	0	2:00	187	216	249	336	0
3:00	208	228	250	336	0	3:00	33	41	51	756	76	3:00	315	460	512	756	0	3:00	208	228	250	336	0
4:00	486	501	532	336	0	4:00	61	76	93	756	76	4:00	515	582	751	756	0	4:00	486	501	532	336	0
5:00	1434	1493	1522	336	0	5:00	224	256	293	756	76	5:00	701	1085	2267	756	0	5:00	1434	1493	1522	336	0
6:00	2541	2751	2825	336	0	6:00	642	722	803	756	75	6:00	1083	1892	4236	756	0	6:00	2541	2751	2825	336	0
7:00	2617	2884	2974	336	0	7:00	1277	1466	1555	756	76	7:00	1372	2240	4460	756	0	7:00	2617	2884	2974	336	0
8:00	2499	2782	2910	336	0	8:00	1511	1623	1731	756	76	8:00	1518	2267	4362	756	0	8:00	2499	2782	2910	336	0
9:00	2683	2884	2954	336	0	9:00	1228	1305	1440	756	75	9:00	1445	2244	4426	756	0	9:00	2683	2884	2954	336	0
10:00	2451	2653	2786	336	0	10:00	1132	1275	1430	756	73	10:00	1454	2249	4177	756	0	10:00	2451	2653	2786	336	0
11:00	2546	2701	2906	336	0	11:00	1293	1434	1576	756	68	11:00	1503	2356	4355	756	0	11:00	2546	2701	2906	336	0
12:00	2647	2784	3028	336	0	12:00	1400	1573	1870	756	67	12:00	1558	2412	4545	756	0	12:00	2647	2784	3028	336	0
13:00	2658	2831	3075	336	0	13:00	1548	1750	2064	756	67	13:00	1578	2464	4610	756	0	13:00	2658	2831	3075	336	0
14:00	2741	2922	3144	336	0	14:00	2073	2366	2825	756	67	14:00	1746	2678	4719	756	0	14:00	2741	2922	3144	336	0
15:00	2765	2941	3065	336	0	15:00	2395	3153	3371	756	65	15:00	2030	3098	4595	756	0	15:00	2765	2941	3065	336	0
16:00	2643	2750	2787	336	0	16:00	2690	3218	3406	756	65	16:00	2204	3058	4180	756	0	16:00	2643	2750	2787	336	0
17:00	2614	2808	2870	336	0	17:00	2492	3172	3401	756	67	17:00	2024	3081	4303	756	0	17:00	2614	2808	2870	336	0
18:00	2114	2347	2586	336	0	18:00	1852	2581	2806	756	67	18:00	1731	2603	3880	756	0	18:00	2114	2347	2586	336	0
19:00	1721	1881	2189	336	0	19:00	1245	1594	1818	756	66	19:00	1449	1996	3281	756	0	19:00	1721	1881	2189	336	0
20:00	1495	1638	1853	336	0	20:00	834	1095	1247	756	66	20:00	1232	1731	2786	756	0	20:00	1495	1638	1853	336	0
21:00	1348	1475	1640	336	0	21:00	631	802	906	756	67	21:00	1047	1541	2461	756	0	21:00	1348	1475	1640	336	0
22:00	1022	1143	1404	336	0	22:00	387	524	758	756	71	22:00	833	1193	2107	756	0	22:00	1022	1143	1404	336	0
23:00	629	733	993	336	0	23:00	214	308	488	756	69	23:00	635	875	1491	756	0	23:00	629	733	993	336	0
Total				8,064	0	Total				18,144	71	Total				18,144	0	Total				8,064	0

WESTBOUND

				Data Quality						Data Quality						Data Quality						Data Quality	
Time	Minimum	Mean	Maximum	# Lane Points	% Observed	Time	Minimum	Mean	Maximum	# Lane Points	% Observed	Time	Minimum	Mean	Maximum	# Lane Points	% Observed	Time	Minimum	Mean	Maximum	# Lane Points	% Observed
0:00	63	84	113	504	86	0:00	353	530	741	504	0	0:00	59	79	106	504	76	0:00	353	426	462	336	0
1:00	42	53	75	504	86	1:00	231	490	719	504	0	1:00	41	54	65	504	76	1:00	231	365	440	336	0
2:00	29	39	57	504	86	2:00	200	474	701	504	0	2:00	32	44	52	504	76	2:00	200	342	414	336	0
3:00	51	60	75	504	86	3:00	208	494	723	504	0	3:00	47	59	70	504	76	3:00	208	356	439	336	0
4:00	193	220	251	504	86	4:00	486	654	832	504	0	4:00	163	193	217	504	76	4:00	486	547	608	336	0
5:00	993	1074	1147	504	85	5:00	1152	1271	1510	504	0	5:00	897	985	1038	504	76	5:00	1138	1308	1510	336	0
6:00	2536	2798	2938	504	85	6:00	1841	2164	2825	504	0	6:00	2362	2578	2729	504	75	6:00	1974	2362	2825	336	0
7:00	3169	3490	3751	504	86	7:00	2381	2829	3226	504	0	7:00	2873	3170	3420	504	76	7:00	2581	2842	2974	336	0
8:00	2247	2542	2869	504	85	8:00	1968	2313	2910	504	0	8:00	2384	2568	2675	504	76	8:00	2205	2558	2910	336	0
9:00	2214	2403	2564	504	85	9:00	1799	2140	2954	504	0	9:00	2147	2293	2493	504	75	9:00	1988	2410	2954	336	0
10:00	1656	1776	1937	504	86	10:00	1562	1832	2786	504	0	10:00	1531	1623	1756	504	73	10:00	1634	2113	2786	336	0
11:00	1415	1595	1904	504	82	11:00	1499	1833	2906	504	0	11:00	1370	1512	1618	504	68	11:00	1598	2208	2906	336	0
12:00	1323	1534	1734	504	81	12:00	1501	1829	3028	504	0	12:00	1360	1492	1636	504	67	12:00	1625	2252	3028	336	0
13:00	1343	1539	1672	504	81	13:00	1462	1864	3075	504	0	13:00	1315	1529	1817	504	67	13:00	1579	2313	3075	336	0
14:00	1402	1564	1729	504	81	14:00	1490	1868	3144	504	0	14:00	1384	1567	1853	504	67	14:00	1598	2360	3144	336	0
15:00	1215	1411	1662	504	79	15:00	1397	1816	3065	504	0	15:00	1388	1528	1647	504	65	15:00	1634	2381	3065	336	0
16:00	1236	1338	1527	504	79	16:00	1368	1728	2787	504	0	16:00	1220	1491	1651	504	65	16:00	1464	2232	2787	336	0
17:00	1173	1485	1727	504	81	17:00	1430	1813	2870	504	0	17:00	1151	1720	1964	504	67	17:00	1458	2349	2870	336	0
18:00	941	1307	1479	504	81	18:00	1229	1633	2586	504	0	18:00	923	1436	1581	504	67	18:00	1220	2031	2586	336	0
19:00	685	891	1094	504	80	19:00	990	1345	2189	504	0	19:00	770	957	1069	504	66	19:00	1148	1622	2189	336	0
20:00	499	667	786	504	81	20:00	834	1174	1853	504	0	20:00	594	727	834	504	66	20:00	1018	1410	1853	336	0
21:00	414	533	676	504	81	21:00	779	1056	1640	504	0	21:00	441	563	671	504	67	21:00	851	1233	1640	336	0
22:00	251	350	531	504	81	22:00	612	869	1404	504	0	22:00	265	345	489	504	71	22:00	632	928	1404	336	0
23:00	127	183	298	504	77	23:00	480	668	993	504	0	23:00	129	186	324	504	69	23:00	486	657	993	336	0
Total				12,096	82.6	Total				12,096	0	Total				12,096	71	Total				8,064	0

MEMORANDUM

To:	Ms. Ann Gonsalves City of San Diego	Date:	June 6, 2017
From:	John P. Keating, P.E. LLG, Engineers	LLG Ref:	3-15-2478
Subject:	The Preserve Traffic Counts Validation		

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Pursuant to City staff request, updated traffic counts within The Preserve project study area were conducted and compared to traffic counts conducted in 2015. **This memorandum documents our review and findings that the Year 2015 counts remain appropriate for use in the Transportation Impact Analysis (TIA).** This memo presents a comparison of the October 2015 counts used in The Preserve TIA and the latest counts conducted in May 2017.

DATA COLLECTION

As standard engineering practice, existing counts were conducted when work on the traffic report began in 2015. Existing weekday traffic volumes were collected at key intersections and street segments to capture peak commuter activity. The AM and PM peak hour manual turning movement counts and street segment daily traffic (ADT) volumes were collected in October 2015 while local schools were in session.

In consultation with the City, a subset of the study area was identified to compare to the previous counts and determine if a full recount was required. Locations with the highest sensitivity to a significant impact were selected. These locations represent key areas with the highest percentage of project traffic and/or areas currently experiencing high congestion. Daily street segment counts were conducted in May 2017. ***Attachment A*** contains copies of the street segment count sheets.

The following locations were selected for review:

Street Segments

Camino Del Sur

- SR-56 EB Ramps to Torrey Santa Fe Road

Black Mountain Road

- SR-56 EB Ramps to Park Village Road
- Park Village Road to Mercy Road

Additionally, annual average daily traffic (AADT) volumes for freeway mainline locations analyzed in the TIA are available from Caltrans. The latest available AADT (Year 2015) was compared to the Year 2014 AADT used in the TIA. The following freeway mainline segments were reviewed:

LINSCOTT LAW & GREENSPAN engineers

Freeway Mainline Segments

SR-56

- Carmel Valley Road to Camino Del Sur
- Camino Del Sur to Black Mountain Road
- Black Mountain Road to Rancho Peñasquitos Boulevard
- Rancho Peñasquitos Boulevard to I-15

EXISTING COUNT REVIEW

Table 1, on the following page, shows the street segment counts for Year 2015 and Year 2017. For comparison purposes, a percent delta column is shown. *Table 1* indicates an increase of about 9% on Camino Del Sur. From a relatively low base, this equates to less than 1,000 ADT. The Black Mountain corridor shows a modest decrease averaging between 3-4% lower traffic volumes than 2015 TIA counts.

Table 1 also shows freeway mainline AADT for Year 2014 and Year 2015. As shown in *Table 1*, in the most recently available data, freeway AADT is flat or modestly down between Rancho Peñasquitos Boulevard and I-15 as compared to the TIA.

The results indicate recent counts throughout the study area are generally flat or have slightly decreased. Where the recent count on Camino Del Sur shows higher volume compared to the TIA, this increase is modest and would not affect the conclusions of the TIA.

It is therefore concluded that the Year 2015 existing counts remain appropriate for use in the Transportation Impact Analysis.

LINSCOTT LAW & GREENSPAN engineers

TABLE 1
STREET SEGMENT TRAFFIC COMPARISON

Street Segment	TIA (2015)	Year 2017		
	ADT [a]	ADT	Δ [b]	Δ (%)
Camino Del Sur				
1. Carmel Valley Rd to Wolverine Wy	17,730	—	—	—
2. Wolverine Wy to Torrey Meadows Dr	20,710	—	—	—
3. Torrey Meadows Dr to SR 56 WB Ramps	25,920	—	—	—
4. SR 56 EB Ramps to Torrey Santa Fe Rd	10,670	11,650	980	9%
5. Torrey Santa Fe Rd to Northern Project Dwy	DNE	—	—	—
6. Northern Project Dwy to Southern Project Dwy	DNE	—	—	—
7. Southern Project Dwy to Carmel Mountain Rd	DNE	—	—	—
8. Carmel Mountain Rd to Dormouse Rd	Partially Exists	—	—	—
9. Dormouse Rd to Park Village Rd	1,890	—	—	—
Carmel Mountain Road				
10. Camino Del Sur to Via Las Lenas	DNE	—	—	—
11. Via Las Lenas to Sundance Ave	1,240	—	—	—
12. Sundance Ave to Sedorus St	1,510	—	—	—
13. Sedorus St to Entreken Wy	2,780	—	—	—
14. Entreken Wy to Sparren Ave	6,810	—	—	—
15. Sparren Ave to Twin Trails Dr	12,320	—	—	—
Sundance Avenue				
16. Carmel Mountain Rd to Twin Trails Dr	1,880	—	—	—
Park Village Road				
17. Camino Del Sur to Ragweed St	8,430	—	—	—
18. Ragweed St to Black Mountain Rd	17,550	—	—	—
Black Mountain Road				
19. SR 56 EB Ramps to Park Village Rd	35,440	33,300	(2,140)	(6%)
20. Park Village Rd to Mercy Rd	30,380	30,110	(270)	(1%)
Mercy Road				
21. Black Mountain Rd to I-15 SB Ramps	19,850	—	—	—
Freeway Mainline Segments	**TIA (2014)**	**Year 2015**		
	AADT [a]	**AADT**	**Δ**	**Δ (%)**
State Route 56				
1. Carmel Valley Rd to Camino Del Sur	65,000	65,000	0	0%
2. Camino Del Sur to Black Mountain Road	73,000	73,000	0	0%
3. Black Mountain Rd to Ranch Peñasquitos Blvd	73,000	73,000	0	0%
4. Rancho Peñasquitos Blvd to I-15	68,000	65,000	(3,000)	(4%)

Footnotes:
a. (Annual) Average Daily Traffic Volumes.
b. **Δ =** change in traffic volumes from TIA. Both absolute and percent change shown.

General Notes:
1. DNE – Does Not Exist

ATTACHMENT A

STREET SEGMENT COUNT SHEETS

24 Hour Segment Count

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

Location: 1. Camino Del Sur btw SR-56 EB Ramps to Torrey Santa Fe Road

Orientation: *North-South*

Date of Count: *Tuesday, May 16, 2017*

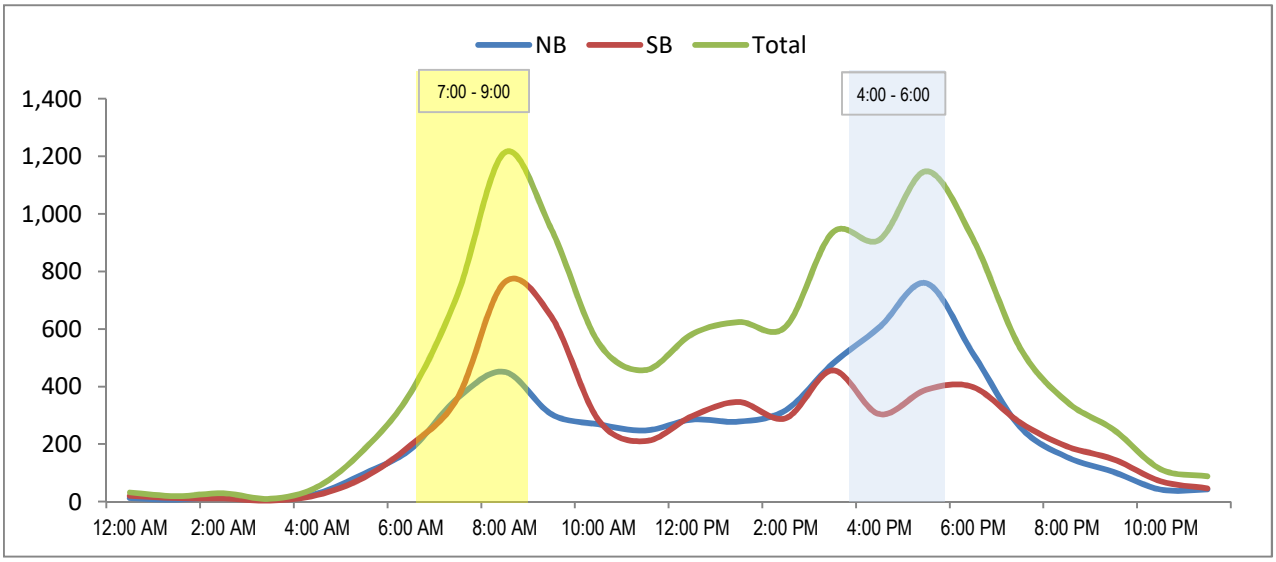
Analysts: *DASH*

Weather: *Sunny*

AVC Proj. No: *17-0671*

24 Hour Segment Volume				*11,645*			
Time	**Hourly Volume**			**Time**	**Hourly Volume**		
	NB	**SB**	**Total**		**NB**	**SB**	**Total**
12:00 AM - 1:00 AM	12	20	32	12:00 PM - 1:00 PM	285	297	582
1:00 AM - 2:00 AM	7	12	19	1:00 PM - 2:00 PM	278	346	624
2:00 AM - 3:00 AM	18	11	29	2:00 PM - 3:00 PM	318	290	608
3:00 AM - 4:00 AM	6	4	10	3:00 PM - 4:00 PM	479	456	935
4:00 AM - 5:00 AM	28	23	51	4:00 PM - 5:00 PM	606	304	910
5:00 AM - 6:00 AM	97	84	181	5:00 PM - 6:00 PM	759	389	1,148
6:00 AM - 7:00 AM	183	197	380	6:00 PM - 7:00 PM	514	398	912
7:00 AM - 8:00 AM	360	362	722	7:00 PM - 8:00 PM	260	275	535
8:00 AM - 9:00 AM	451	762	1,213	8:00 PM - 9:00 PM	155	192	347
9:00 AM - 10:00 AM	304	642	946	9:00 PM - 10:00 PM	103	147	250
10:00 AM - 11:00 AM	269	284	553	10:00 PM - 11:00 PM	42	71	113
11:00 AM - 12:00 PM	247	210	457	11:00 PM - 12:00 AM	42	46	88
Total	**1,982**	**2,611**	**4,593**	**Total**	**3,841**	**3,211**	**7,052**

24-Hour	*NB*	*Volume*	*5,823*	*24-Hour*	*SB*	*Volume*	*5,822*



24 Hour Segment Count

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

Location: 2. Black Mountain Road btw SR-56 EB Ramps to Park Village Road

Orientation: *North-South*

Date of Count: *Tuesday, May 16, 2017*

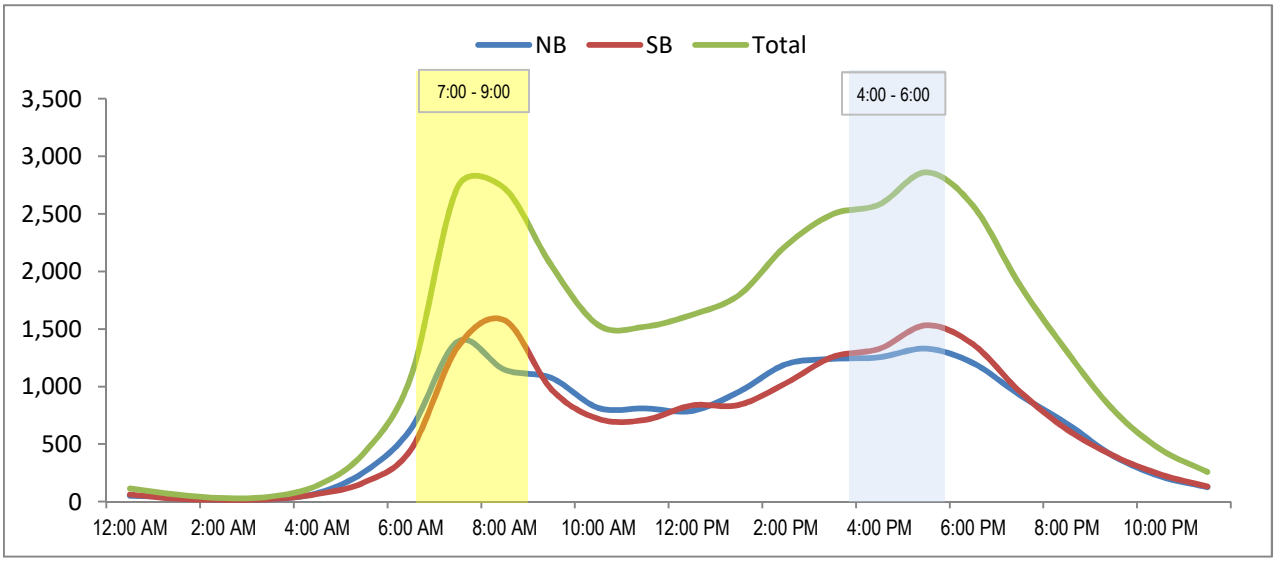
Analysts: *DASH*

Weather: *Sunny*

AVC Proj. No: *17-0671*

24 Hour Segment Volume				*33,297*				
Time	**Hourly Volume**			**Time**	**Hourly Volume**			
	NB	**SB**	**Total**		**NB**	**SB**	**Total**
12:00 AM - 1:00 AM	52	62	114	12:00 PM - 1:00 PM	788	836	1,624
1:00 AM - 2:00 AM	37	25	62	1:00 PM - 2:00 PM	954	840	1,794
2:00 AM - 3:00 AM	15	16	31	2:00 PM - 3:00 PM	1,193	1,028	2,221
3:00 AM - 4:00 AM	22	22	44	3:00 PM - 4:00 PM	1,240	1,257	2,497
4:00 AM - 5:00 AM	74	66	140	4:00 PM - 5:00 PM	1,254	1,328	2,582
5:00 AM - 6:00 AM	257	167	424	5:00 PM - 6:00 PM	1,329	1,532	2,861
6:00 AM - 7:00 AM	633	452	1,085	6:00 PM - 7:00 PM	1,203	1,366	2,569
7:00 AM - 8:00 AM	1,391	1,344	2,735	7:00 PM - 8:00 PM	925	955	1,880
8:00 AM - 9:00 AM	1,146	1,575	2,721	8:00 PM - 9:00 PM	678	627	1,305
9:00 AM - 10:00 AM	1,074	975	2,049	9:00 PM - 10:00 PM	395	398	793
10:00 AM - 11:00 AM	814	719	1,533	10:00 PM - 11:00 PM	219	236	455
11:00 AM - 12:00 PM	810	710	1520	11:00 PM - 12:00 AM	126	132	258
Total	**6,325**	**6,133**	**12,458**	**Total**	**10,304**	**10,535**	**20,839**

24-Hour	*NB*	*Volume*	*16,629*	*24-Hour*	*SB*	*Volume*	*16,668*



24 Hour Segment Count

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

Location: 3. Black Mountain Road btw Park Village Road to Mercy Road

Orientation: *North-South*

Date of Count: *Wednesday, May 17, 2017*

Analysts: *DASH*

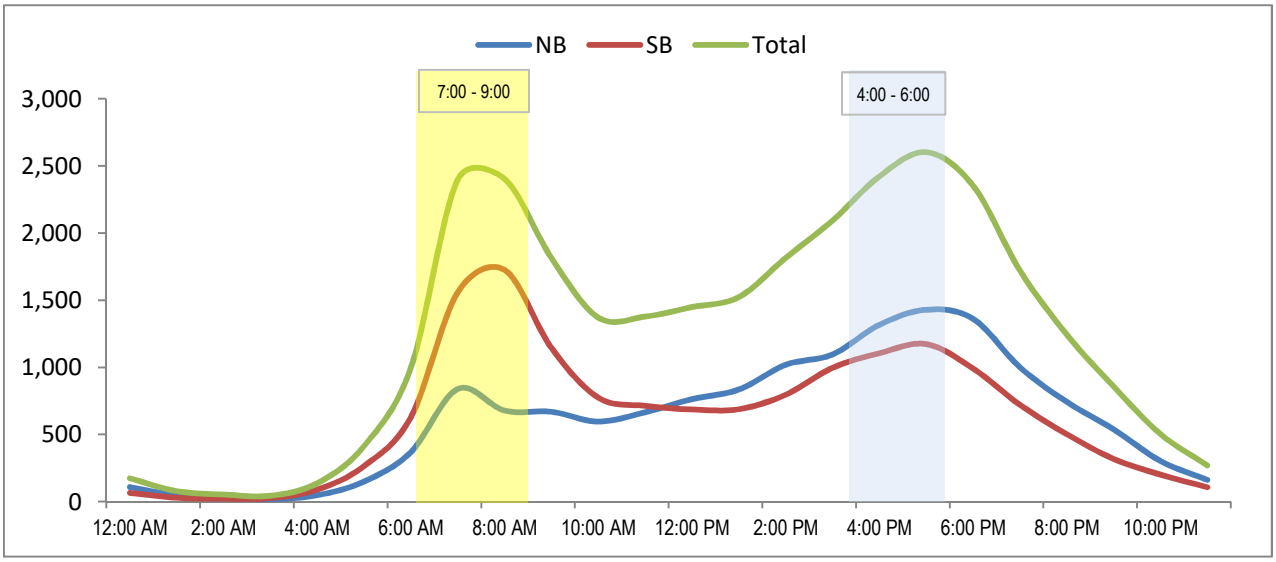
Weather: *Sunny*

AVC Proj. No: *17-0671*

24 Hour Segment Volume ***30,108***

Time	Hourly Volume NB	SB	Total	Time	Hourly Volume NB	SB	Total
12:00 AM - 1:00 AM	108	66	174	12:00 PM - 1:00 PM	763	686	1,449
1:00 AM - 2:00 AM	49	29	78	1:00 PM - 2:00 PM	835	688	1,523
2:00 AM - 3:00 AM	32	21	53	2:00 PM - 3:00 PM	1,019	796	1,815
3:00 AM - 4:00 AM	18	26	44	3:00 PM - 4:00 PM	1,096	997	2,093
4:00 AM - 5:00 AM	48	89	137	4:00 PM - 5:00 PM	1,317	1,105	2,422
5:00 AM - 6:00 AM	149	265	414	5:00 PM - 6:00 PM	1,429	1,173	2,602
6:00 AM - 7:00 AM	369	629	998	6:00 PM - 7:00 PM	1,361	991	2,352
7:00 AM - 8:00 AM	839	1,559	2,398	7:00 PM - 8:00 PM	1,000	720	1,720
8:00 AM - 9:00 AM	678	1,725	2,403	8:00 PM - 9:00 PM	742	502	1,244
9:00 AM - 10:00 AM	669	1,144	1,813	9:00 PM - 10:00 PM	538	318	856
10:00 AM - 11:00 AM	596	774	1,370	10:00 PM - 11:00 PM	302	201	503
11:00 AM - 12:00 PM	665	713	1378	11:00 PM - 12:00 AM	162	107	269
Total	**4,220**	**7,040**	**11,260**	**Total**	**10,564**	**8,284**	**18,848**

24-Hour NB Volume 14,784 ***24-Hour SB Volume 15,324***



APPENDIX C

CITY OF SAN DIEGO ROADWAY CLASSIFICATION TABLE, COMMUNITY PLAN CIRCULATION ELEMENT EXCERPTS

TABLE 2
Roadway Classifications, Levels of Service (LOS)
and Average Daily Traffic (ADT)

			LEVEL OF SERVICE				
STREET CLASSIFICATION	LANES	CROSS SECTIONS	A	B	C	D	E
Freeway	8 lanes		60,000	84,000	120,000	140,000	150,000
Freeway	6 lanes		45,000	63,000	90,000	110,000	120,000
Freeway	4 lanes		30,000	42,000	60,000	70,000	80,000
Expressway	6 lanes	102/122	30,000	42,000	60,000	70,000	80,000
Primary Arterial	6 lanes	102/122	25,000	35,000	50,000	55,000	60,000
Major Arterial	6 lanes	102/122	20,000	28,000	40,000	45,000	50,000
Major Arterial	4 lanes	78/98	15,000	21,000	30,000	35,000	40,000
Collector	4 lanes	72/92	10,000	14,000	20,000	25,000	30,000
Collector (no center lane) continuous left-turn lane)	4 lanes 2 lanes	64/84 50/70	5,000	7,000	10,000	13,000	15,000
Collector (no fronting property)	2 lanes	40/60	4,000	5,500	7,500	9,000	10,000
Collector (commercial-industrial fronting)	2 lanes	50/70	2,500	3,500	5,000	6,500	8,000
Collector (multifamily)	2 lanes	40/60	2,500	3,500	5,000	6,500	8,000
Sub-Collector (single-family)	2 lanes	36/56	—	—	2,200	—	—

LEGEND:

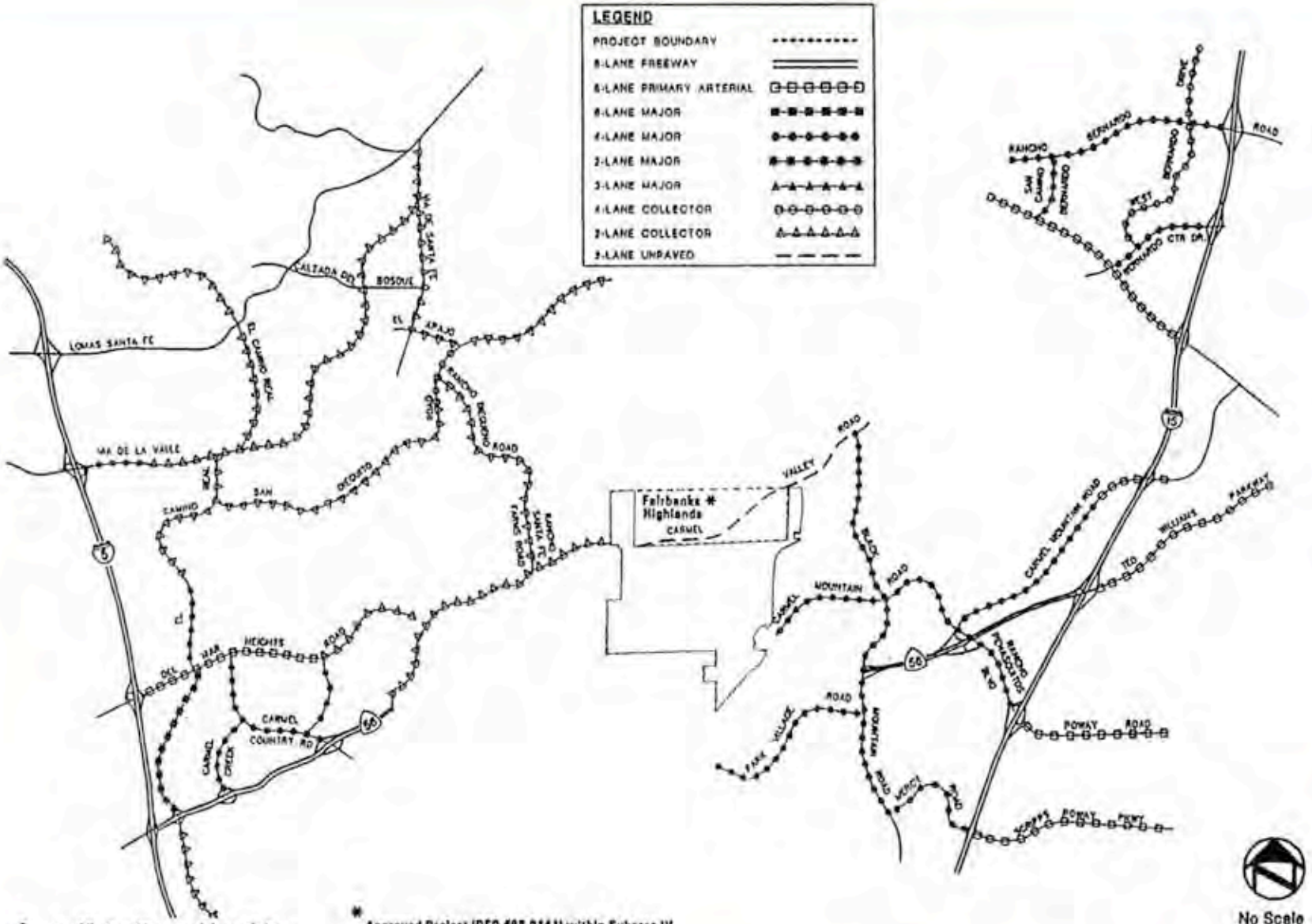
XXX/XXX = Curb to curb width (feet)/right-of-way width (feet): based on the City of San Diego Street Design. Manual

XX/XXX= Approximate recommended ADT based on the City of San Diego Street Design Manual.

NOTES:

1. The volumes and the average daily level of service listed above are only intended as a general planning guideline.

2. Levels of service are not applied to residential streets since their primary purpose is to serve abutting lots, not carry through traffic. Levels of service normally apply to roads carrying through traffic between major trip generators and attractors.



Source: Kimley-Horn and Associates

* Approved Project (DEP #88-0141) within Subarea IV.

Existing Regional Circulation **3-1**

Torrey Highlands Subarea Plan FIGURE

3.3.1 Circulation Roads

State Route 56 Freeway

The approved alignment for SR-56 bisects Torrey Highlands in a northwesterly direction. This freeway will ultimately accommodate six travel lanes, with interchanges located at Camino Ruiz and at Camino Santa Fe in Pacific Highlands Ranch (Subarea III). Initially, SR-56 will be constructed as a four-lane freeway and will include the completion of the interchange at Black Mountain Road and a bike path running adjacent to the south side of the freeway.

Major Roads

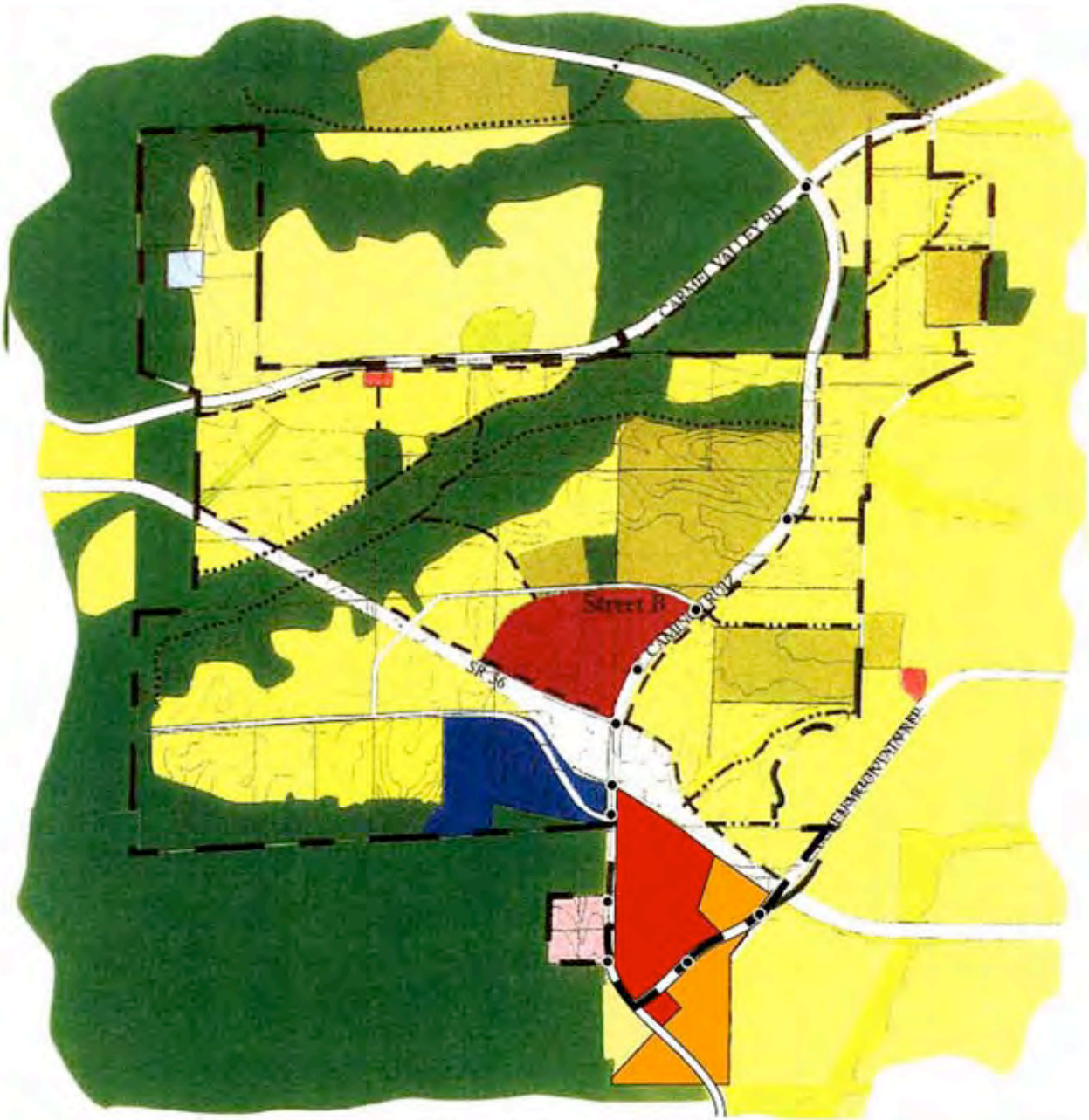
Camino Ruiz is a north/south road located in the eastern third of Torrey Highlands, serving both local and regional demands. The road will continue north of Torrey Highlands to serve as one of the major north/south arterials between I-5 and I-15 serving the mid-county area. An interchange is proposed at SR-56. Within Torrey Highlands, Camino Ruiz is planned as a six-lane major road from Carmel Valley Road to the southernmost project access road (i.e. "B" Street south).* Between the southernmost project access road and the primary Regional Commercial access, Camino Ruiz will be planned as a six-lane primary arterial. North of Carmel Valley Road and south of SR-56, the road transitions from Carmel Valley Road to a four-lane major road. Camino Ruiz will provide access to SR-56 for the southwest portion of Rancho Peñasquitos. Estimated ADT ranges from 22,000 to 41,000 north of SR-56, and 10,000 to 27,000 south of SR-56.

Carmel Valley Road is designated as a four-lane, east/west major roadway within the northern half of Torrey Highlands, which will ultimately extend from Del Mar Heights Road and Camino Santa Fe on the west to Camino del Norte in the east. Several Torrey Highlands neighborhoods will take direct access from Carmel Valley Road. While the road will be constructed for four lanes, right-of-way sufficient for six lanes will be reserved to include two lanes for future transit use. Estimated ADT through Torrey Highlands is approximately 22,000.

Del Mar Heights Road is the western extension of Carmel Valley Road that occurs off-site within the western portion of Subarea III and the community of Carmel Valley. The road ultimately provides a connection with I-5 and the City of Del Mar to the west. Estimated ADT on Del Mar Heights Road east of EI Camino Real is between 24,000 and 33,000 ADT. West of El Camino Real and east of I-5, ADT reaches 41,000 to 43,000.

Carmel Mountain Road is designated as a four-lane major roadway that connects Rancho Peñasquitos in the east to Camino Ruiz, south of SR-56.

* Camino Ruiz will initially be constructed to a maximum of four lanes, with two additional lanes of ROW provided in the median should traffic counts require future road expansion to six lanes.



Improved Multi-Purpose Trail

Un-Paved Trail

Paved Trail

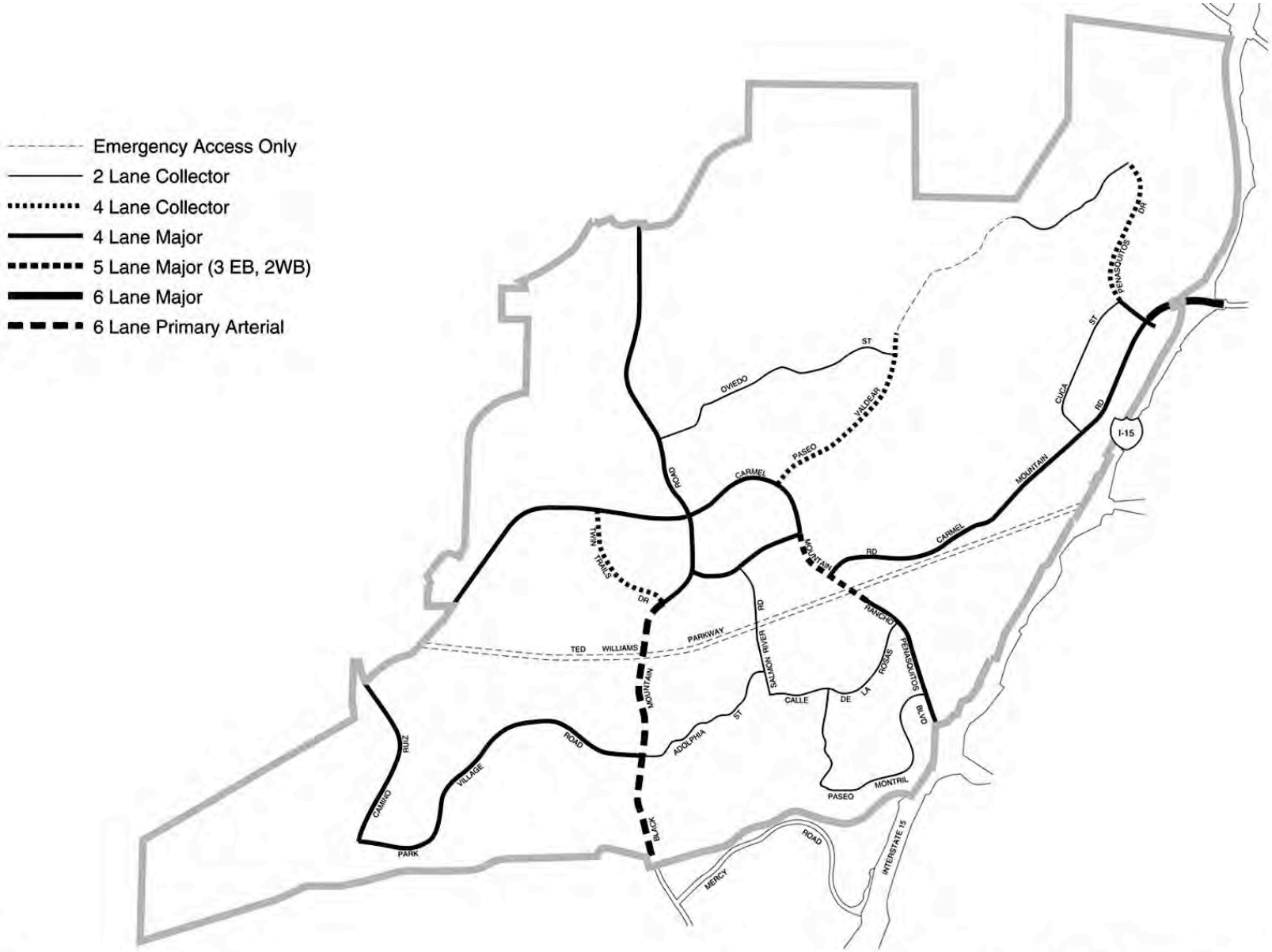
Traffic Signal

For Land Use Designations see Figure 4-3

0 800 1600 2400 3200 4000 FT

Trails and Circulation Map **3-2**

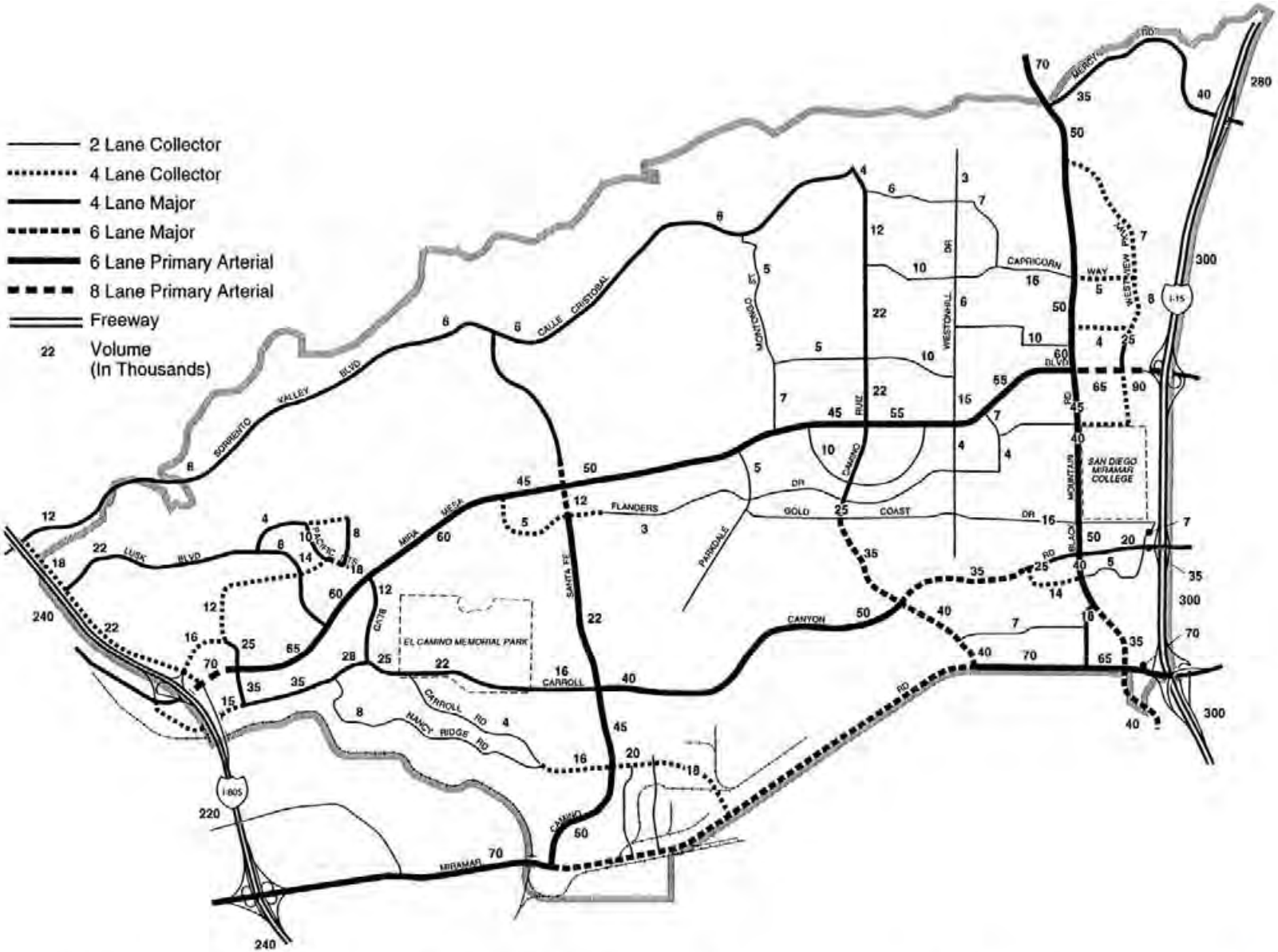
Torrey Highlands Subarea Plan FIGURE



Recommended Street Classifications

Rancho Peñasquitos Community Plan

28
FIGURE



Horizon Year Average Daily Traffic and Recommended Street Classifications

Mira Mesa Community Plan

10 FIGURE

APPENDIX D

CALTRANS RAMP METER DATA

Location (I.D.)	Route	Dir	Period	Cars per green	Sec./ Cycle	(per lane) Veh./hr	Total # lanes	HOV
Camino del Sur (14701)	56	WB	0530 - 0930	2	10.6	680	3	Lt
Camino del Sur (14703)	56	EB	1500 - 1900	2	9	800	3	Lt
Black Mtn Rd (14707)	56	WB	0530 - 0930	2	9.4	765	3	Lt
Black Mtn Rd (14709)	56	EB	1500 - 1830	2	7.9	910	3	Lt
Rho Penasquitos (14803)	56	WB	0530 - 0930	2	9	800	1	
Rho Penasquitos (14804)	56	EB	1500 - 1830	1	8	450	2	No

The meters operate in a traffic responsive mode or a fixed mode.
There are 15 separate rates or steps between the slowest and the fastest discharge rate that depend on the mainlane volumes when in a traffic responsive mode.

ID	Pk Hour	(all lanes) Pk Vol	
14701	0700 - 0800	690	(5/7/14)
14707	0700 - 0800	1200	(5/7/14)
14709	0700 - 0800	831	(8/8/07)
	1600 - 1700	743	
14803	0600 - 0700	766	(4/6/05)
	1600 - 1700	553	
14804	0600 - 0700	573	(4/6/05)
	1100 - 1200	266	

The other IDs did not show up in our ramp peak volumes spreadsheet or PeMS

EB RPQB to I-15 SB

Sample Time	1108488 Lane 1 Flo	1108488 Lane 2 Flow	
4/9/2014 6:00	277	472	749
4/9/2014 7:00	494	514	1008
4/9/2014 8:00	409	477	886
4/9/2014 9:00	194	532	726
4/9/2014 10:00	123	456	579
4/9/2014 11:00	104	388	492
4/9/2014 12:00	99	432	531
4/9/2014 13:00	86	403	489
4/9/2014 14:00	96	413	509
4/9/2014 15:00	221	372	593
4/9/2014 16:00	280	389	669
4/9/2014 17:00	292	443	735

Sample Time	1108587 Lane 1 Flow	TOTAL
4/9/2014 7:00	104	1112
4/9/2014 8:00	128	
4/9/2014 9:00	98	
4/9/2014 10:00	109	
4/9/2014 11:00	98	
4/9/2014 12:00	115	
4/9/2014 13:00	91	
4/9/2014 14:00	99	
4/9/2014 15:00	112	
4/9/2014 16:00	120	
4/9/2014 17:00	97	832

EB RPQB to I-15 SB

Sample Time	1108488 L	1108488 Lane 2 Flow	
6/11/2014 6:00	290	428	718
6/11/2014 7:00	478	487	965
6/11/2014 8:00	452	491	943
6/11/2014 9:00	233	548	781
6/11/2014 10:00	109	462	571
6/11/2014 11:00	118	412	530
6/11/2014 12:00	129	449	578
6/11/2014 13:00	99	425	524
6/11/2014 14:00	99	415	514
6/11/2014 15:00	256	409	665
6/11/2014 16:00	284	433	717
6/11/2014 17:00	328	461	789

EB RPQB to I-15 NB

Sample Time	1108587 La	TOTAL
6/11/2014 7:00	95	1060
6/11/2014 8:00	111	
6/11/2014 9:00	124	
6/11/2014 10:00	102	
6/11/2014 11:00	84	
6/11/2014 12:00	118	
6/11/2014 13:00	114	
6/11/2014 14:00	107	
6/11/2014 15:00	105	
6/11/2014 16:00	126	
6/11/2014 17:00	132	921

EB RPQB to I-15 SB

Sample Time	1108488 Lane 1 Flo	1108488 Lane 2 Flow	
3/5/2014 6:00	369	495	864
3/5/2014 7:00	504	513	1017
3/5/2014 8:00	475	478	953
3/5/2014 9:00	239	533	772
3/5/2014 10:00	116	439	555
3/5/2014 11:00	91	367	458
3/5/2014 12:00	115	421	536
3/5/2014 13:00	110	388	498
3/5/2014 14:00	100	450	550
3/5/2014 15:00	213	374	587
3/5/2014 16:00	317	434	751
3/5/2014 17:00	319	453	772

SR 56 at Carmel Valley Rd - WB On Ramp

Sample Time	1113723 Lane 1 Fl	1113723 Lane 2 Fl	1113723 Lane 3 Flow	Total		HOV %
5/28/2015 7:00	208	400	413	1021		20%
5/28/2015 8:00	206	476	465	1147		18%
5/28/2015 16:00	45	137	220	402		11%
5/28/2015 17:00	34	136	213	383		9%
					Average	**15%**

APPENDIX E

PEAK HOUR INTERSECTION ANALYSIS WORKSHEETS
EXISTING

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	111	177	81	371	512	179	97	490	81	176	466	186
Future Volume (vph)	111	177	81	371	512	179	97	490	81	176	466	186
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.3	6.3	4.4	6.2	6.2	4.4	6.0	6.0	4.4	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.99	1.00	1.00	0.97	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1557	3433	1863	1563	1770	3539	1542	1770	3539	1550
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	1863	1557	3433	1863	1563	1770	3539	1542	1770	3539	1550
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	121	192	88	403	557	195	105	533	88	191	507	202
RTOR Reduction (vph)	0	0	70	0	0	127	0	0	67	0	0	151
Lane Group Flow (vph)	121	192	18	403	557	68	105	533	21	191	507	51
Confl. Peds. (#/hr)									2			
Confl. Bikes (#/hr)			4			1			2			10
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Actuated Green, G (s)	8.6	19.2	19.2	22.9	33.6	33.6	8.7	23.0	23.0	9.7	24.0	24.0
Effective Green, g (s)	8.6	19.2	19.2	22.9	33.6	33.6	8.7	23.0	23.0	9.7	24.0	24.0
Actuated g/C Ratio	0.09	0.20	0.20	0.24	0.35	0.35	0.09	0.24	0.24	0.10	0.25	0.25
Clearance Time (s)	4.4	6.3	6.3	4.4	6.2	6.2	4.4	6.0	6.0	4.4	6.0	6.0
Vehicle Extension (s)	2.0	4.9	4.9	2.0	5.1	5.1	2.0	5.9	5.9	2.0	5.6	5.6
Lane Grp Cap (vph)	158	372	311	819	652	547	160	848	369	179	885	387
v/s Ratio Prot	c0.07	0.10		0.12	c0.30		0.06	c0.15		c0.11	0.14	
v/s Ratio Perm			0.01			0.04			0.01			0.03
v/c Ratio	0.77	0.52	0.06	0.49	0.85	0.12	0.66	0.63	0.06	1.07	0.57	0.13
Uniform Delay, d1	42.7	34.2	31.0	31.5	28.9	21.2	42.2	32.6	28.1	43.1	31.5	27.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	17.8	2.3	0.2	0.2	11.6	0.2	7.2	2.4	0.2	86.2	1.6	0.4
Delay (s)	60.5	36.5	31.2	31.7	40.5	21.4	49.3	35.1	28.3	129.3	33.1	28.3
Level of Service	E	D	C	C	D	C	D	D	C	F	C	C
Approach Delay (s)		42.6			34.2			36.3			52.4	
Approach LOS		D			C			D			D	

Intersection Summary				
HCM 2000 Control Delay	40.9	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.80			
Actuated Cycle Length (s)	95.9	Sum of lost time (s)	21.1	
Intersection Capacity Utilization	74.8%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	0	0	0	27	0	26	102	0	642	8	27	865
Future Volume (vph)	0	0	0	27	0	26	102	0	642	8	27	865
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.4		4.4		6.4	6.0		4.4	6.0
Lane Util. Factor				1.00		1.00		1.00	0.95		1.00	0.95
Frpb, ped/bikes				1.00		0.95		1.00	1.00		1.00	1.00
Flpb, ped/bikes				1.00		1.00		1.00	1.00		1.00	1.00
Frt				1.00		0.85		1.00	1.00		1.00	1.00
Flt Protected				0.95		1.00		0.95	1.00		0.95	1.00
Satd. Flow (prot)				1770		1503		1770	3529		1770	3539
Flt Permitted				0.95		1.00		0.95	1.00		0.95	1.00
Satd. Flow (perm)				1770		1503		1770	3529		1770	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	29	0	28	111	0	698	9	29	940
RTOR Reduction (vph)	0	0	0	0	0	22	0	0	1	0	0	0
Lane Group Flow (vph)	0	0	0	29	0	6	0	111	706	0	29	940
Confl. Peds. (#/hr)						28				16		
Confl. Bikes (#/hr)										1		
Turn Type				Prot		Perm	Prot	Prot	NA		Prot	NA
Protected Phases				8			5	5	2		1	6
Permitted Phases						8						
Actuated Green, G (s)				31.7		31.7		14.3	93.2		5.3	84.2
Effective Green, g (s)				31.7		31.7		12.3	93.2		5.3	84.2
Actuated g/C Ratio				0.22		0.22		0.08	0.64		0.04	0.58
Clearance Time (s)				4.4		4.4		4.4	6.0		4.4	6.0
Vehicle Extension (s)				3.0		3.0		3.0	3.0		3.0	3.0
Lane Grp Cap (vph)				386		328		150	2268		64	2055
v/s Ratio Prot				c0.02				c0.06	0.20		0.02	c0.27
v/s Ratio Perm						0.00						
v/c Ratio				0.08		0.02		0.74	0.31		0.45	0.46
Uniform Delay, d1				45.0		44.4		64.8	11.6		68.4	17.4
Progression Factor				1.00		1.00		1.00	1.00		1.00	1.00
Incremental Delay, d2				0.4		0.1		17.3	0.4		5.0	0.7
Delay (s)				45.4		44.6		82.1	11.9		73.5	18.1
Level of Service				D		D		F	B		E	B
Approach Delay (s)		0.0			45.0				21.4			19.8
Approach LOS		A			D				C			B

Intersection Summary				
HCM 2000 Control Delay	21.3	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.39			
Actuated Cycle Length (s)	145.0	Sum of lost time (s)	16.8	
Intersection Capacity Utilization	52.5%	ICU Level of Service	A	
Analysis Period (min)	15			

c Critical Lane Group

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	0
Future Volume (vph)	0
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	0
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary			
HCM 2000 Control Delay	57.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	144.5	Sum of lost time (s)	19.2
Intersection Capacity Utilization	104.6%	ICU Level of Service	G
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	12	0	45	86	2	17	117	91	723	18	29	19
Future Volume (vph)	12	0	45	86	2	17	117	91	723	18	29	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.4	4.4	4.4	4.4			4.4	6.0			4.4
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00			0.97	0.95			1.00
Frpb, ped/bikes	1.00	1.00	0.85	1.00	0.84			1.00	1.00			1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00			1.00	1.00			1.00
Frt	1.00	1.00	0.85	1.00	0.86			1.00	1.00			1.00
Flt Protected	0.95	0.95	1.00	0.95	1.00			0.95	1.00			0.95
Satd. Flow (prot)	1681	1681	1341	1770	1354			3433	3520			1770
Flt Permitted	0.95	0.95	1.00	0.95	1.00			0.95	1.00			0.95
Satd. Flow (perm)	1681	1681	1341	1770	1354			3433	3520			1770
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	13	0	49	93	2	18	127	99	786	20	32	21
RTOR Reduction (vph)	0	0	36	0	13	0	0	0	1	0	0	0
Lane Group Flow (vph)	6	7	13	93	7	0	0	226	805	0	0	53
Confl. Peds. (#/hr)			121			148				27		
Confl. Bikes (#/hr)			9							2		
Turn Type	Split	NA	Perm	Split	NA		Prot	Prot	NA		Prot	Prot
Protected Phases	4	4		8	8		5	5	2		1	1
Permitted Phases			4									
Actuated Green, G (s)	38.0	38.0	38.0	38.0	38.0			14.3	41.8			7.5
Effective Green, g (s)	38.0	38.0	38.0	38.0	38.0			14.3	41.8			7.5
Actuated g/C Ratio	0.26	0.26	0.26	0.26	0.26			0.10	0.29			0.05
Clearance Time (s)	4.4	4.4	4.4	4.4	4.4			4.4	6.0			4.4
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0	3.0			3.0
Lane Grp Cap (vph)	442	442	352	465	356			339	1018			91
v/s Ratio Prot	0.00	0.00		c0.05	0.00			c0.07	c0.23			0.03
v/s Ratio Perm			c0.01									
v/c Ratio	0.01	0.02	0.04	0.20	0.02			0.67	0.79			0.58
Uniform Delay, d1	39.4	39.4	39.6	41.4	39.4			62.8	47.3			67.0
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00			1.00
Incremental Delay, d2	0.0	0.0	0.0	0.2	0.0			4.9	4.2			9.2
Delay (s)	39.4	39.4	39.7	41.6	39.5			67.7	51.6			76.1
Level of Service	D	D	D	D	D			E	D			E
Approach Delay (s)		39.6			41.3				55.1			
Approach LOS		D			D				E			

Intersection Summary			
HCM 2000 Control Delay	57.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	144.5	Sum of lost time (s)	19.2
Intersection Capacity Utilization	104.6%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

3: Camino Del Sur & Wolverine Way/Fallhaven Rd

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	701	18
Future Volume (vph)	701	18
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.0	6.0
Lane Util. Factor	0.95	1.00
Frpb, ped/bikes	1.00	0.97
Flpb, ped/bikes	1.00	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	3539	1541
Flt Permitted	1.00	1.00
Satd. Flow (perm)	3539	1541
Peak-hour factor, PHF	0.92	0.92
Adj. Flow (vph)	762	20
RTOR Reduction (vph)	0	15
Lane Group Flow (vph)	762	5
Confl. Peds. (#/hr)		2
Confl. Bikes (#/hr)		12
Turn Type	NA	Perm
Protected Phases	6	
Permitted Phases		6
Actuated Green, G (s)	35.0	35.0
Effective Green, g (s)	35.0	35.0
Actuated g/C Ratio	0.24	0.24
Clearance Time (s)	6.0	6.0
Vehicle Extension (s)	3.0	3.0
Lane Grp Cap (vph)	857	373
v/s Ratio Prot	c0.22	
v/s Ratio Perm		0.00
v/c Ratio	0.89	0.01
Uniform Delay, d1	52.9	41.6
Progression Factor	1.00	1.00
Incremental Delay, d2	11.1	0.0
Delay (s)	64.0	41.6
Level of Service	E	D
Approach Delay (s)	64.2	
Approach LOS	E	

Intersection Summary

4: Camino Del Sur & Torrey Meadows Dr/Torrey Gardens Pl

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	71	6	81	89	2	29	65	858	58	30	799	18
Future Volume (vph)	71	6	81	89	2	29	65	858	58	30	799	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.3		4.4	4.9		4.4	6.0		4.4	6.0	
Lane Util. Factor	1.00	0.95		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.98		1.00	0.94		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.86		1.00	0.86		1.00	0.99		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	2972		1770	1511		1770	3500		1770	3525	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	2972		1770	1511		1770	3500		1770	3525	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	77	7	88	97	2	32	71	933	63	33	868	20
RTOR Reduction (vph)	0	75	0	0	28	0	0	3	0	0	1	0
Lane Group Flow (vph)	77	20	0	97	6	0	71	993	0	33	887	0
Confl. Peds. (#/hr)			17			62			10			6
Confl. Bikes (#/hr)			1			1			4			32
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	11.3	13.5		9.1	11.7		7.8	46.0		3.9	42.1	
Effective Green, g (s)	11.3	13.5		9.1	11.7		7.8	46.0		3.9	42.1	
Actuated g/C Ratio	0.12	0.15		0.10	0.13		0.08	0.50		0.04	0.45	
Clearance Time (s)	4.4	5.3		4.4	4.9		4.4	6.0		4.4	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	215	433		173	190		149	1738		74	1602	
v/s Ratio Prot	0.04	c0.01		c0.05	0.00		c0.04	c0.28		0.02	0.25	
v/s Ratio Perm												
v/c Ratio	0.36	0.05		0.56	0.03		0.48	0.57		0.45	0.55	
Uniform Delay, d1	37.3	34.0		39.8	35.5		40.5	16.4		43.3	18.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.0	0.0		4.1	0.1		2.4	0.5		4.2	0.4	
Delay (s)	38.3	34.1		44.0	35.6		42.8	16.8		47.5	18.8	
Level of Service	D	C		D	D		D	B		D	B	
Approach Delay (s)		36.0			41.8			18.6			19.8	
Approach LOS		D			D			B			B	

Intersection Summary

HCM 2000 Control Delay	21.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	92.6	Sum of lost time (s)	20.1
Intersection Capacity Utilization	70.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	100	271	236	881	869	100
Future Volume (vph)	100	271	236	881	869	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.9	5.4	5.4	7.0	7.0	
Lane Util. Factor	1.00	1.00	0.97	0.95	0.95	
Frpb, ped/bikes	1.00	0.98	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.98	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1551	3433	3539	3478	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1770	1551	3433	3539	3478	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	109	295	257	958	945	109
RTOR Reduction (vph)	0	44	0	0	6	0
Lane Group Flow (vph)	109	251	257	958	1048	0
Confl. Peds. (#/hr)		47				3
Confl. Bikes (#/hr)						4
Turn Type	Prot	pm+ov	Prot	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	13.9	26.6	12.7	49.4	32.3	
Effective Green, g (s)	12.9	24.6	11.7	48.4	31.3	
Actuated g/C Ratio	0.17	0.33	0.16	0.65	0.42	
Clearance Time (s)	4.9	4.4	4.4	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	307	514	541	2308	1467	
v/s Ratio Prot	0.06	c0.08	0.07	c0.27	c0.30	
v/s Ratio Perm		0.08				
v/c Ratio	0.36	0.49	0.48	0.42	0.71	
Uniform Delay, d1	27.0	19.8	28.5	6.2	17.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.7	0.7	0.7	0.1	1.7	
Delay (s)	27.7	20.5	29.1	6.3	19.4	
Level of Service	C	C	C	A	B	
Approach Delay (s)	22.4			11.1	19.4	
Approach LOS	C			B	B	

Intersection Summary			
HCM 2000 Control Delay	16.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	74.2	Sum of lost time (s)	18.3
Intersection Capacity Utilization	75.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	367	9	829	108	288	0	0	744	396
Future Volume (vph)	0	0	0	367	9	829	108	288	0	0	744	396
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				5.3	5.3	5.3	4.2	6.3			6.3	6.3
Lane Util. Factor				0.95	0.95	0.88	0.97	0.95			0.95	0.88
Frpb, ped/bikes				1.00	1.00	0.97	1.00	1.00			1.00	0.98
Flpb, ped/bikes				1.00	1.00	1.00	1.00	1.00			1.00	1.00
Frt				1.00	1.00	0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95	0.95	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				1681	1689	2708	3433	3539			3539	2729
Flt Permitted				0.95	0.95	1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)				1681	1689	2708	3433	3539			3539	2729
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	399	10	901	117	313	0	0	809	430
RTOR Reduction (vph)	0	0	0	0	0	682	0	0	0	0	0	204
Lane Group Flow (vph)	0	0	0	203	206	219	117	313	0	0	809	226
Confl. Peds. (#/hr)						4						
Confl. Bikes (#/hr)												1
Turn Type				Split	NA	Perm	Prot	NA			NA	Perm
Protected Phases				8	8		5	2			6	
Permitted Phases						8						6
Actuated Green, G (s)				25.5	25.5	25.5	8.6	67.9			55.1	55.1
Effective Green, g (s)				25.5	25.5	25.5	8.6	67.9			55.1	55.1
Actuated g/C Ratio				0.24	0.24	0.24	0.08	0.65			0.52	0.52
Clearance Time (s)				5.3	5.3	5.3	4.2	6.3			6.3	6.3
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)				408	410	657	281	2288			1857	1432
v/s Ratio Prot				0.12	c0.12		c0.03	0.09			c0.23	
v/s Ratio Perm						0.08						0.08
v/c Ratio				0.50	0.50	0.33	0.42	0.14			0.44	0.16
Uniform Delay, d1				34.2	34.3	32.7	45.8	7.2			15.4	12.9
Progression Factor				1.00	1.00	1.00	1.23	1.25			1.00	1.00
Incremental Delay, d2				1.0	1.0	0.3	1.0	0.1			0.7	0.2
Delay (s)				35.2	35.3	33.0	57.3	9.1			16.1	13.2
Level of Service				D	D	C	E	A			B	B
Approach Delay (s)		0.0			33.7			22.2			15.1	
Approach LOS		A			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	24.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	15.8
Intersection Capacity Utilization	56.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	121	1	184	0	0	0	0	275	185	544	567	0
Future Volume (vph)	121	1	184	0	0	0	0	275	185	544	567	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6	4.6					6.3	6.3	4.2	6.3	
Lane Util. Factor	0.95	0.95	0.88					0.95	1.00	0.97	0.95	
Frpb, ped/bikes	1.00	1.00	0.98					1.00	0.98	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00					1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95	0.95	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1681	1687	2727					3539	1549	3433	3539	
Flt Permitted	0.95	0.95	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1681	1687	2727					3539	1549	3433	3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	132	1	200	0	0	0	0	299	201	591	616	0
RTOR Reduction (vph)	0	0	171	0	0	0	0	0	100	0	0	0
Lane Group Flow (vph)	66	67	29	0	0	0	0	299	101	591	616	0
Confl. Peds. (#/hr)			1						3			
Confl. Bikes (#/hr)									14			
Turn Type	Split	NA	Perm					NA	Perm	Prot	NA	
Protected Phases	4	4						2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	15.1	15.1	15.1					52.7	52.7	22.1	79.0	
Effective Green, g (s)	15.1	15.1	15.1					52.7	52.7	22.1	79.0	
Actuated g/C Ratio	0.14	0.14	0.14					0.50	0.50	0.21	0.75	
Clearance Time (s)	4.6	4.6	4.6					6.3	6.3	4.2	6.3	
Vehicle Extension (s)	3.0	3.0	3.0					3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	241	242	392					1776	777	722	2662	
v/s Ratio Prot	0.04	c0.04						0.08		c0.17	c0.17	
v/s Ratio Perm			0.01						0.07			
v/c Ratio	0.27	0.28	0.07					0.17	0.13	0.82	0.23	
Uniform Delay, d1	40.1	40.1	38.9					14.2	13.9	39.5	3.9	
Progression Factor	1.00	1.00	1.00					1.00	1.00	0.93	1.05	
Incremental Delay, d2	0.6	0.6	0.1					0.2	0.3	6.7	0.2	
Delay (s)	40.7	40.7	39.0					14.4	14.3	43.7	4.3	
Level of Service	D	D	D					B	B	D	A	
Approach Delay (s)		39.7			0.0			14.4			23.6	
Approach LOS		D			A			B			C	

Intersection Summary			
HCM 2000 Control Delay	23.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	56.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	361	15	13	99	104	647
Future Volume (vph)	361	15	13	99	104	647
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	4.9		4.4	4.9
Lane Util. Factor	0.95	0.95	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.99		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.88		1.00	0.85
Flt Protected	0.95	0.96	1.00		0.95	1.00
Satd. Flow (prot)	1681	1692	1616		1770	1578
Flt Permitted	0.95	0.96	1.00		0.95	1.00
Satd. Flow (perm)	1681	1692	1616		1770	1578
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	392	16	14	108	113	703
RTOR Reduction (vph)	0	0	96	0	0	283
Lane Group Flow (vph)	204	204	26	0	113	420
Confl. Peds. (#/hr)				1		6
Confl. Bikes (#/hr)				1		1
Turn Type	Split	NA	NA		Prot	pm+ov
Protected Phases	4	4	8		1	4
Permitted Phases						6
Actuated Green, G (s)	21.8	21.8	5.2		7.0	28.8
Effective Green, g (s)	21.8	21.8	5.2		7.0	28.8
Actuated g/C Ratio	0.45	0.45	0.11		0.15	0.60
Clearance Time (s)	4.9	4.9	4.9		4.4	4.9
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	760	765	174		257	942
v/s Ratio Prot	0.12	0.12	c0.02		0.06	c0.20
v/s Ratio Perm						0.06
v/c Ratio	0.27	0.27	0.15		0.44	0.45
Uniform Delay, d1	8.2	8.2	19.5		18.8	5.3
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.2	0.2	0.4		1.2	0.3
Delay (s)	8.4	8.4	19.9		20.0	5.7
Level of Service	A	A	B		C	A
Approach Delay (s)		8.4	19.9		7.6	
Approach LOS		A	B		A	

Intersection Summary			
HCM 2000 Control Delay	9.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	48.2	Sum of lost time (s)	14.2
Intersection Capacity Utilization	55.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBU	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (veh/h)	0	71	256	37	2	2	0
Future Volume (Veh/h)	0	71	256	37	2	2	0
Sign Control	Stop				Free	Free	
Grade	0%				0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	77	0	40	2	2	0
Pedestrians	57					9	
Lane Width (ft)	12.0					12.0	
Walking Speed (ft/s)	4.0					4.0	
Percent Blockage	5					1	
Right turn flare (veh)							
Median type					None	None	
Median storage veh)							
Upstream signal (ft)					700		
pX, platoon unblocked			0.00				
vC, conflicting volume	150	59	0	59			
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	150	59	0	59			
tC, single (s)	6.4	6.2	0.0	4.1			
tC, 2 stage (s)							
tF (s)	3.5	3.3	0.0	2.2			
p0 queue free %	100	92	0	97			
cM capacity (veh/h)	774	959	0	1471			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	77	42	2
Volume Left	0	40	0
Volume Right	77	0	0
cSH	959	1471	1700
Volume to Capacity	0.08	0.03	0.00
Queue Length 95th (ft)	7	2	0
Control Delay (s)	9.1	7.2	0.0
Lane LOS	A	A	
Approach Delay (s)	9.1	7.2	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	8.3		
Intersection Capacity Utilization	34.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	58	377	11	33	90	92	5	7	8	267	8	27
Future Volume (vph)	58	377	11	33	90	92	5	7	8	267	8	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.5		4.4	6.0	6.0	4.4	4.9		4.4	4.9	
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	0.95		0.97	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.93	1.00	0.97		1.00	0.96	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00	0.85	1.00	0.92		1.00	0.89	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3519		1770	1863	1471	1770	3147		3433	1586	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3519		1770	1863	1471	1770	3147		3433	1586	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	63	410	12	36	98	100	5	8	9	290	9	29
RTOR Reduction (vph)	0	1	0	0	0	0	0	8	0	0	21	0
Lane Group Flow (vph)	63	421	0	36	98	100	5	9	0	290	17	0
Confl. Peds. (#/hr)			25			95			88			30
Confl. Bikes (#/hr)			6			1						
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8						
Actuated Green, G (s)	4.6	19.1		2.3	16.3	16.3	0.6	4.2		11.7	15.3	
Effective Green, g (s)	4.6	19.1		2.3	16.3	16.3	0.6	4.2		11.7	15.3	
Actuated g/C Ratio	0.08	0.34		0.04	0.29	0.29	0.01	0.07		0.21	0.27	
Clearance Time (s)	4.4	5.5		4.4	6.0	6.0	4.4	4.9		4.4	4.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	144	1189		72	537	424	18	233		710	429	
v/s Ratio Prot	c0.04	c0.12		0.02	0.05		0.00	0.00		c0.08	c0.01	
v/s Ratio Perm						0.07						
v/c Ratio	0.44	0.35		0.50	0.18	0.24	0.28	0.04		0.41	0.04	
Uniform Delay, d1	24.7	14.1		26.5	15.1	15.3	27.7	24.3		19.4	15.2	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		0.90	0.77	
Incremental Delay, d2	2.1	0.2		5.4	0.2	0.3	8.3	0.1		0.4	0.0	
Delay (s)	26.8	14.2		31.9	15.3	15.6	36.0	24.3		17.9	11.8	
Level of Service	C	B		C	B	B	D	C		B	B	
Approach Delay (s)		15.9			18.0			27.0			17.2	
Approach LOS		B			B			C			B	

Intersection Summary			
HCM 2000 Control Delay	17.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	56.5	Sum of lost time (s)	19.7
Intersection Capacity Utilization	60.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	52	33	0	18	17
Future Volume (Veh/h)	0	52	33	0	18	17
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	57	36	0	20	18
Pedestrians	2					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						1069
pX, platoon unblocked						
vC, conflicting volume	96	38			38	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	96	38			38	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	94			99	
cM capacity (veh/h)	890	1032			1570	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	57	36	38
Volume Left	0	0	20
Volume Right	57	0	0
cSH	1032	1700	1570
Volume to Capacity	0.06	0.02	0.01
Queue Length 95th (ft)	4	0	1
Control Delay (s)	8.7	0.0	3.9
Lane LOS	A		A
Approach Delay (s)	8.7	0.0	3.9
Approach LOS	A		

Intersection Summary			
Average Delay	4.9		
Intersection Capacity Utilization	18.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	17	4	2	48	32	18	38	0	5	7	14
Future Volume (vph)	7	17	4	2	48	32	18	38	0	5	7	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9			4.9		4.4	5.2		4.4	5.4	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	0.98	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.98			0.95		1.00	1.00		1.00	0.90	
Flt Protected		0.99			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1801			1753		1770	3539		1770	3144	
Flt Permitted		0.88			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1605			1739		1770	3539		1770	3144	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	8	18	4	2	52	35	20	41	0	5	8	15
RTOR Reduction (vph)	0	4	0	0	31	0	0	0	0	0	7	0
Lane Group Flow (vph)	0	26	0	0	58	0	20	41	0	5	16	0
Confl. Peds. (#/hr)			12			1			6			3
Confl. Bikes (#/hr)			1						1			
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		4.8			4.8		0.8	21.7		0.7	21.4	
Effective Green, g (s)		4.8			4.8		0.8	21.7		0.7	21.4	
Actuated g/C Ratio		0.12			0.12		0.02	0.52		0.02	0.51	
Clearance Time (s)		4.9			4.9		4.4	5.2		4.4	5.4	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		184			200		33	1841		29	1613	
v/s Ratio Prot							c0.01	c0.01		0.00	0.00	
v/s Ratio Perm		0.02			c0.03							
v/c Ratio		0.14			0.29		0.61	0.02		0.17	0.01	
Uniform Delay, d1		16.6			16.9		20.3	4.9		20.2	5.0	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.4			0.8		27.6	0.0		2.8	0.0	
Delay (s)		17.0			17.7		47.9	4.9		23.0	5.0	
Level of Service		B			B		D	A		C	A	
Approach Delay (s)		17.0			17.7			19.0			8.2	
Approach LOS		B			B			B			A	

Intersection Summary			
HCM 2000 Control Delay	16.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.09		
Actuated Cycle Length (s)	41.7	Sum of lost time (s)	14.7
Intersection Capacity Utilization	29.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	8.2
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Traffic Vol, veh/h	0	57	21	7	0	0	18	23	0	16	64	2
Future Vol, veh/h	0	57	21	7	0	0	18	23	0	16	64	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	62	23	8	0	0	20	25	0	17	70	2
Number of Lanes	0	0	1	0	0	0	1	0	0	1	2	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	3
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	3	3	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	3	3	1
HCM Control Delay	8.8	7.7	8.1
HCM LOS	A	A	A

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	67%	0%	100%	0%	0%
Vol Thru, %	0%	100%	91%	25%	44%	0%	100%	34%
Vol Right, %	0%	0%	9%	8%	56%	0%	0%	66%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	16	43	23	85	41	11	33	48
LT Vol	16	0	0	57	0	11	0	0
Through Vol	0	43	21	21	18	0	33	16
RT Vol	0	0	2	7	23	0	0	32
Lane Flow Rate	17	46	25	92	45	12	36	53
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.027	0.064	0.035	0.136	0.058	0.018	0.049	0.066
Departure Headway (Hd)	5.496	4.994	4.933	5.286	4.671	5.491	4.988	4.522
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	654	720	728	681	769	654	720	794
Service Time	3.211	2.708	2.648	2.999	2.386	3.206	2.703	2.237
HCM Lane V/C Ratio	0.026	0.064	0.034	0.135	0.059	0.018	0.05	0.067
HCM Control Delay	8.4	8.1	7.8	8.8	7.7	8.3	8	7.6
HCM Lane LOS	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0.1	0.2	0.1	0.5	0.2	0.1	0.2	0.2

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Traffic Vol, veh/h	0	11	49	32
Future Vol, veh/h	0	11	49	32
Peak Hour Factor	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	12	53	35
Number of Lanes	0	1	2	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	3
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	7.8
HCM LOS	A

Lane

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	396	13	38	2	26	11	25	179	0	6	141	440
Future Volume (vph)	396	13	38	2	26	11	25	179	0	6	141	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.1		4.0	4.8		4.0	5.1	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	0.98	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.99			0.96		1.00	1.00		1.00	0.89	
Flt Protected		0.96			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1761			1778		1770	3539		1770	3059	
Flt Permitted		0.72			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1324			1756		1770	3539		1770	3059	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	430	14	41	2	28	12	27	195	0	7	153	478
RTOR Reduction (vph)	0	4	0	0	7	0	0	0	0	0	347	0
Lane Group Flow (vph)	0	481	0	0	35	0	27	195	0	7	284	0
Confl. Peds. (#/hr)			8			6			25			9
Confl. Bikes (#/hr)			1			1			7			2
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		24.1			24.0		1.4	15.7		0.5	14.5	
Effective Green, g (s)		24.1			24.0		1.4	15.7		0.5	14.5	
Actuated g/C Ratio		0.45			0.45		0.03	0.30		0.01	0.27	
Clearance Time (s)		4.0			4.1		4.0	4.8		4.0	5.1	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		600			793		46	1046		16	835	
v/s Ratio Prot							c0.02	0.06		0.00	c0.09	
v/s Ratio Perm		c0.36			0.02							
v/c Ratio		0.80			0.04		0.59	0.19		0.44	0.34	
Uniform Delay, d1		12.4			8.1		25.6	13.9		26.2	15.5	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		7.6			0.0		17.7	0.1		18.0	0.2	
Delay (s)		20.0			8.2		43.2	14.0		44.1	15.7	
Level of Service		C			A		D	B		D	B	
Approach Delay (s)		20.0			8.2			17.6			16.0	
Approach LOS		C			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	17.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	53.1	Sum of lost time (s)	13.2
Intersection Capacity Utilization	59.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	558	12	16	539	95	12	27	57	511	26	36
Future Volume (vph)	16	558	12	16	539	95	12	27	57	511	26	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.9		4.4	5.2			4.9		4.9	4.9	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	0.99			0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.98			0.92		1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00			0.99		0.95	1.00	
Satd. Flow (prot)	1770	3526		1770	3436			1688		1770	1686	
Flt Permitted	0.95	1.00		0.95	1.00			0.97		0.69	1.00	
Satd. Flow (perm)	1770	3526		1770	3436			1656		1285	1686	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	17	607	13	17	586	103	13	29	62	555	28	39
RTOR Reduction (vph)	0	2	0	0	20	0	0	32	0	0	20	0
Lane Group Flow (vph)	17	618	0	17	669	0	0	72	0	555	47	0
Confl. Peds. (#/hr)			2			8			3			1
Confl. Bikes (#/hr)						10			1			3
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	0.7	17.9		0.7	17.6			31.4		31.4	31.4	
Effective Green, g (s)	0.7	17.9		0.7	17.6			31.4		31.4	31.4	
Actuated g/C Ratio	0.01	0.28		0.01	0.27			0.49		0.49	0.49	
Clearance Time (s)	4.4	4.9		4.4	5.2			4.9		4.9	4.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	19	983		19	941			809		628	824	
v/s Ratio Prot	c0.01	0.18		0.01	c0.19						0.03	
v/s Ratio Perm								0.04		c0.43		
v/c Ratio	0.89	0.63		0.89	0.71			0.09		0.88	0.06	
Uniform Delay, d1	31.7	20.2		31.7	21.0			8.8		14.8	8.6	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	155.2	1.3		155.2	2.6			0.0		13.9	0.0	
Delay (s)	186.9	21.5		186.9	23.6			8.8		28.7	8.6	
Level of Service	F	C		F	C			A		C	A	
Approach Delay (s)		25.9			27.5			8.8			26.5	
Approach LOS		C			C			A			C	

Intersection Summary			
HCM 2000 Control Delay	25.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	64.2	Sum of lost time (s)	14.5
Intersection Capacity Utilization	61.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	479	252	93	242	6	151	27	81	33	43	3
Future Volume (vph)	7	479	252	93	242	6	151	27	81	33	43	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.2		4.4	5.9		4.9	4.9			4.9	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00			1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	0.99			1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Frt	1.00	0.95		1.00	1.00		1.00	0.89			1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.98	
Satd. Flow (prot)	1770	3323		1770	3524		1770	1633			1815	
Flt Permitted	0.95	1.00		0.95	1.00		0.70	1.00			0.87	
Satd. Flow (perm)	1770	3323		1770	3524		1306	1633			1614	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	8	521	274	101	263	7	164	29	88	36	47	3
RTOR Reduction (vph)	0	88	0	0	2	0	0	54	0	0	2	0
Lane Group Flow (vph)	8	707	0	101	268	0	164	63	0	0	84	0
Confl. Peds. (#/hr)			4						2			5
Confl. Bikes (#/hr)			2			1			4			1
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	0.8	28.2		4.8	31.5		30.0	30.0			30.0	
Effective Green, g (s)	0.8	28.2		4.8	31.5		30.0	30.0			30.0	
Actuated g/C Ratio	0.01	0.36		0.06	0.41		0.39	0.39			0.39	
Clearance Time (s)	4.4	5.2		4.4	5.9		4.9	4.9			4.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)	18	1209		109	1432		505	632			624	
v/s Ratio Prot	0.00	c0.21		c0.06	c0.08			0.04				
v/s Ratio Perm							c0.13				0.05	
v/c Ratio	0.44	0.58		0.93	0.19		0.32	0.10			0.13	
Uniform Delay, d1	38.1	19.9		36.2	14.8		16.6	15.1			15.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	16.5	2.1		62.7	0.3		1.7	0.3			0.4	
Delay (s)	54.6	22.0		98.9	15.1		18.4	15.5			15.8	
Level of Service	D	C		F	B		B	B			B	
Approach Delay (s)		22.3			37.9			17.1			15.8	
Approach LOS		C			D			B			B	

Intersection Summary			
HCM 2000 Control Delay	24.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	77.5	Sum of lost time (s)	15.2
Intersection Capacity Utilization	63.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	458	24	270	652	628	0	0	988	814
Future Volume (vph)	0	0	0	458	24	270	652	628	0	0	988	814
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				8.6	8.6	8.6	7.2	9.3			9.3	
Lane Util. Factor				0.95	0.95	1.00	0.97	0.95			0.91	
Frpb, ped/bikes				1.00	1.00	1.00	1.00	1.00			0.99	
Flpb, ped/bikes				1.00	1.00	1.00	1.00	1.00			1.00	
Frt				1.00	1.00	0.85	1.00	1.00			0.93	
Flt Protected				0.95	0.96	1.00	0.95	1.00			1.00	
Satd. Flow (prot)				1681	1697	1583	3433	3539			4699	
Flt Permitted				0.95	0.96	1.00	0.95	1.00			1.00	
Satd. Flow (perm)				1681	1697	1583	3433	3539			4699	
Peak-hour factor, PHF	0.92	0.92	0.92	0.82	0.55	0.73	0.88	0.87	0.92	0.92	0.89	0.83
Adj. Flow (vph)	0	0	0	559	44	370	741	722	0	0	1110	981
RTOR Reduction (vph)	0	0	0	0	0	179	0	0	0	0	114	0
Lane Group Flow (vph)	0	0	0	302	301	191	741	722	0	0	1977	0
Confl. Bikes (#/hr)												1
Turn Type				Split	NA	Perm	Prot	NA			NA	
Protected Phases				8	8		5	2			6	
Permitted Phases						8						
Actuated Green, G (s)				32.0	32.0	32.0	35.8	92.1			52.1	
Effective Green, g (s)				29.0	29.0	29.0	32.8	89.1			49.1	
Actuated g/C Ratio				0.21	0.21	0.21	0.24	0.66			0.36	
Clearance Time (s)				5.6	5.6	5.6	4.2	6.3			6.3	
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)				358	361	337	827	2318			1696	
v/s Ratio Prot				c0.18	0.18		c0.22	0.20			c0.42	
v/s Ratio Perm						0.12						
v/c Ratio				0.84	0.83	0.57	0.90	0.31			1.42dr	
Uniform Delay, d1				51.3	51.2	47.9	49.9	10.2			43.5	
Progression Factor				1.00	1.00	1.00	1.44	1.00			1.00	
Incremental Delay, d2				16.4	15.1	2.2	1.4	0.2			81.5	
Delay (s)				67.7	66.3	50.1	73.4	10.3			124.9	
Level of Service				E	E	D	E	B			F	
Approach Delay (s)		0.0			60.6			42.3			124.9	
Approach LOS		A			E			D			F	

Intersection Summary			
HCM 2000 Control Delay	84.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	136.0	Sum of lost time (s)	25.1
Intersection Capacity Utilization	90.2%	ICU Level of Service	E
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

c Critical Lane Group

18: Black Mountain Rd & SR 56 EB Ramps

3/15/2016

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	185	0	383	0	0	0	0	1095	335	356	1090	0
Future Volume (vph)	185	0	383	0	0	0	0	1095	335	356	1090	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0					6.3	6.3	4.2	6.3	
Lane Util. Factor	0.95	0.95	0.88					0.95	1.00	0.97	0.91	
Frpb, ped/bikes	1.00	1.00	0.98					1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00					1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95	0.95	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1681	1681	2739					3539	1583	3433	5085	
Flt Permitted	0.95	0.95	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1681	1681	2739					3539	1583	3433	5085	
Peak-hour factor, PHF	0.81	0.82	0.80	0.92	0.92	0.92	0.92	0.86	0.76	0.94	0.98	0.92
Adj. Flow (vph)	228	0	479	0	0	0	0	1273	441	379	1112	0
RTOR Reduction (vph)	0	0	342	0	0	0	0	0	129	0	0	0
Lane Group Flow (vph)	114	114	137	0	0	0	0	1273	312	379	1112	0
Confl. Peds. (#/hr)			5									
Turn Type	Split	NA	Perm					NA	Perm	Prot	NA	
Protected Phases	4	4						2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	39.0	39.0	39.0					45.5	45.5	16.0	65.7	
Effective Green, g (s)	39.0	39.0	39.0					45.5	45.5	16.0	65.7	
Actuated g/C Ratio	0.29	0.29	0.29					0.33	0.33	0.12	0.48	
Clearance Time (s)	5.0	5.0	5.0					6.3	6.3	4.2	6.3	
Vehicle Extension (s)	3.0	3.0	3.0					3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	482	482	785					1184	529	403	2456	
v/s Ratio Prot	c0.07	0.07						c0.36		c0.11	0.22	
v/s Ratio Perm			0.05						0.20			
v/c Ratio	0.24	0.24	0.17					1.08	0.59	0.94	0.45	
Uniform Delay, d1	37.1	37.1	36.4					45.2	37.5	59.5	23.3	
Progression Factor	1.00	1.00	1.00					1.00	1.00	1.40	1.26	
Incremental Delay, d2	1.2	1.2	0.5					48.9	4.8	5.3	0.2	
Delay (s)	38.3	38.3	36.9					94.1	42.3	88.3	29.6	
Level of Service	D	D	D					F	D	F	C	
Approach Delay (s)		37.3			0.0			80.8			44.5	
Approach LOS		D			A			F			D	

Intersection Summary				
HCM 2000 Control Delay	59.1	HCM 2000 Level of Service	E	
HCM 2000 Volume to Capacity ratio	0.63			
Actuated Cycle Length (s)	136.0	Sum of lost time (s)	19.5	
Intersection Capacity Utilization	90.2%	ICU Level of Service	E	
Analysis Period (min)	15			
c Critical Lane Group				

19: Black Mountain Rd & Park Village Rd/Adolphia St

3/15/2016

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	629	65	283	145	34	101	79	642	50	130	1428	244
Future Volume (vph)	629	65	283	145	34	101	79	642	50	130	1428	244
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3	6.3	6.3	4.9	4.9		4.4	5.7		4.4	6.5	6.5
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95		0.97	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	0.99		1.00	1.00		1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.90		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	0.96	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1701	1555	1681	1569		3433	3501		1770	3539	1583
Flt Permitted	0.95	0.96	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1681	1701	1555	1681	1569		3433	3501		1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	684	71	308	158	37	110	86	698	54	141	1552	265
RTOR Reduction (vph)	0	0	164	0	55	0	0	3	0	0	0	74
Lane Group Flow (vph)	376	379	144	142	108	0	86	749	0	141	1552	191
Confl. Peds. (#/hr)			5			1						
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4									6
Actuated Green, G (s)	33.1	33.1	33.1	18.3	18.3		4.0	47.3		14.6	57.1	57.1
Effective Green, g (s)	33.1	33.1	33.1	18.3	18.3		4.0	47.3		14.6	57.1	57.1
Actuated g/C Ratio	0.25	0.25	0.25	0.14	0.14		0.03	0.35		0.11	0.42	0.42
Clearance Time (s)	6.3	6.3	6.3	4.9	4.9		4.4	5.7		4.4	6.5	6.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	413	418	382	228	213		102	1230		191	1501	671
v/s Ratio Prot	c0.22	0.22		c0.08	0.07		0.03	0.21		c0.08	c0.44	
v/s Ratio Perm			0.09									0.12
v/c Ratio	0.91	0.91	0.38	0.62	0.51		0.84	0.61		0.74	1.03	0.29
Uniform Delay, d1	49.3	49.3	42.2	54.9	54.0		65.0	36.0		58.1	38.8	25.4
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	23.8	22.8	0.6	5.2	1.9		43.6	0.9		13.8	32.5	0.2
Delay (s)	73.1	72.0	42.8	60.1	55.8		108.6	36.9		72.0	71.2	25.6
Level of Service	E	E	D	E	E		F	D		E	E	C
Approach Delay (s)		64.0			57.8			44.2			65.1	
Approach LOS		E			E			D			E	

Intersection Summary				
HCM 2000 Control Delay	60.1	HCM 2000 Level of Service	E	
HCM 2000 Volume to Capacity ratio	0.93			
Actuated Cycle Length (s)	134.6	Sum of lost time (s)	22.1	
Intersection Capacity Utilization	90.3%	ICU Level of Service	E	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	386	0	268	23	527	314	426	1365	1
Future Volume (vph)	0	0	0	386	0	268	23	527	314	426	1365	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0	4.0	4.0	6.1	4.0	4.0	5.8	
Lane Util. Factor				0.97	0.95	0.95	1.00	0.95	1.00	0.97	0.95	
Frpb, ped/bikes				1.00	0.98	0.98	1.00	1.00	0.99	1.00	1.00	
Flpb, ped/bikes				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt				1.00	0.85	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected				0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)				3433	1481	1481	1770	3539	1569	3433	3539	
Flt Permitted				0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)				3433	1481	1481	1770	3539	1569	3433	3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	420	0	291	25	573	341	463	1484	1
RTOR Reduction (vph)	0	0	0	0	113	112	0	0	129	0	0	0
Lane Group Flow (vph)	0	0	0	420	33	33	25	573	212	463	1485	0
Confl. Peds. (#/hr)			2			4			2			
Confl. Bikes (#/hr)									3			5
Turn Type				Split	NA	Perm	Prot	NA	pm+ov	Prot	NA	
Protected Phases	4	4		8	8		5	2	8	1	6	
Permitted Phases						8			2			
Actuated Green, G (s)				20.7	20.7	20.7	1.5	36.4	57.1	11.9	47.1	
Effective Green, g (s)				20.7	20.7	20.7	1.5	36.4	57.1	11.9	47.1	
Actuated g/C Ratio				0.23	0.23	0.23	0.02	0.40	0.62	0.13	0.51	
Clearance Time (s)				4.0	4.0	4.0	4.0	6.1	4.0	4.0	5.8	
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)				773	333	333	28	1401	974	444	1813	
v/s Ratio Prot				c0.12	0.02		0.01	0.16	0.05	c0.13	c0.42	
v/s Ratio Perm						0.02			0.09			
v/c Ratio				0.54	0.10	0.10	0.89	0.41	0.22	1.04	0.82	
Uniform Delay, d1				31.4	28.2	28.2	45.1	20.0	7.6	40.0	18.8	
Progression Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2				0.8	0.1	0.1	123.8	0.2	0.1	54.3	3.0	
Delay (s)				32.2	28.3	28.3	168.9	20.2	7.7	94.3	21.8	
Level of Service				C	C	C	F	C	A	F	C	
Approach Delay (s)		0.0			30.6			19.6			39.1	
Approach LOS		A			C			B			D	

Intersection Summary			
HCM 2000 Control Delay	32.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	91.9	Sum of lost time (s)	18.1
Intersection Capacity Utilization	71.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	215	399	137	84	138	115	118	531	245	139	477	70
Future Volume (vph)	215	399	137	84	138	115	118	531	245	139	477	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.3	6.3	4.4	6.2	6.2	4.4	6.0	6.0	4.4	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	0.98	1.00	1.00	0.97	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1561	3433	1863	1556	1770	3539	1542	1770	3539	1560
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	1863	1561	3433	1863	1556	1770	3539	1542	1770	3539	1560
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	234	434	149	91	150	125	128	577	266	151	518	76
RTOR Reduction (vph)	0	0	97	0	0	97	0	0	200	0	0	56
Lane Group Flow (vph)	234	434	52	91	150	28	128	577	66	151	518	20
Confl. Bikes (#/hr)			3			5			4			3
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Actuated Green, G (s)	18.3	34.5	34.5	5.6	21.9	21.9	12.1	24.7	24.7	13.4	26.0	26.0
Effective Green, g (s)	18.3	34.5	34.5	5.6	21.9	21.9	12.1	24.7	24.7	13.4	26.0	26.0
Actuated g/C Ratio	0.18	0.35	0.35	0.06	0.22	0.22	0.12	0.25	0.25	0.13	0.26	0.26
Clearance Time (s)	4.4	6.3	6.3	4.4	6.2	6.2	4.4	6.0	6.0	4.4	6.0	6.0
Vehicle Extension (s)	2.0	4.9	4.9	2.0	5.1	5.1	2.0	5.9	5.9	2.0	5.6	5.6
Lane Grp Cap (vph)	326	647	542	193	410	343	215	880	383	238	926	408
v/s Ratio Prot	c0.13	c0.23		0.03	0.08		0.07	c0.16		c0.09	0.15	
v/s Ratio Perm			0.03			0.02			0.04			0.01
v/c Ratio	0.72	0.67	0.10	0.47	0.37	0.08	0.60	0.66	0.17	0.63	0.56	0.05
Uniform Delay, d1	38.1	27.6	21.9	45.4	32.8	30.7	41.3	33.5	29.3	40.6	31.7	27.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	6.2	3.5	0.2	0.7	1.2	0.2	2.9	2.8	0.6	4.0	1.5	0.1
Delay (s)	44.2	31.1	22.0	46.1	34.0	30.9	44.2	36.3	29.9	44.7	33.2	27.5
Level of Service	D	C	C	D	C	C	D	D	C	D	C	C
Approach Delay (s)		33.2			36.0			35.6			34.9	
Approach LOS		C			D			D			C	

Intersection Summary				
HCM 2000 Control Delay	34.8	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.69			
Actuated Cycle Length (s)	99.3	Sum of lost time (s)	21.1	
Intersection Capacity Utilization	64.3%	ICU Level of Service	C	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	0	0	0	16	0	11	56	0	883	20	20	673
Future Volume (vph)	0	0	0	16	0	11	56	0	883	20	20	673
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.4		4.4		5.4	6.0		4.4	6.0
Lane Util. Factor				1.00		1.00		1.00	0.95		1.00	0.95
Frpb, ped/bikes				1.00		0.98		1.00	1.00		1.00	1.00
Flpb, ped/bikes				1.00		1.00		1.00	1.00		1.00	1.00
Frt				1.00		0.85		1.00	1.00		1.00	1.00
Flt Protected				0.95		1.00		0.95	1.00		0.95	1.00
Satd. Flow (prot)				1770		1548		1770	3525		1770	3539
Flt Permitted				0.95		1.00		0.95	1.00		0.95	1.00
Satd. Flow (perm)				1770		1548		1770	3525		1770	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	17	0	12	61	0	960	22	22	732
RTOR Reduction (vph)	0	0	0	0	0	11	0	0	1	0	0	0
Lane Group Flow (vph)	0	0	0	17	0	1	0	61	981	0	22	732
Confl. Peds. (#/hr)						4				3		
Confl. Bikes (#/hr)						3				6		
Turn Type				Prot		Perm	Prot	Prot	NA		Prot	NA
Protected Phases				8			5	5	2		1	6
Permitted Phases						8						
Actuated Green, G (s)				4.5		4.5		4.8	35.4		0.9	31.5
Effective Green, g (s)				4.5		4.5		3.8	35.4		0.9	31.5
Actuated g/C Ratio				0.08		0.08		0.07	0.64		0.02	0.57
Clearance Time (s)				4.4		4.4		4.4	6.0		4.4	6.0
Vehicle Extension (s)				3.0		3.0		3.0	3.0		3.0	3.0
Lane Grp Cap (vph)				143		125		120	2244		28	2005
v/s Ratio Prot				c0.01				c0.03	c0.28		0.01	0.21
v/s Ratio Perm						0.00						
v/c Ratio				0.12		0.01		0.51	0.44		0.79	0.37
Uniform Delay, d1				23.7		23.5		25.0	5.1		27.3	6.6
Progression Factor				1.00		1.00		1.00	1.00		1.00	1.00
Incremental Delay, d2				0.4		0.0		3.4	0.1		82.7	0.1
Delay (s)				24.1		23.5		28.4	5.2		110.0	6.7
Level of Service				C		C		C	A		F	A
Approach Delay (s)		0.0			23.9				6.6			9.7
Approach LOS		A			C				A			A

Intersection Summary				
HCM 2000 Control Delay	8.1	HCM 2000 Level of Service	A	
HCM 2000 Volume to Capacity ratio	0.44			
Actuated Cycle Length (s)	55.6	Sum of lost time (s)	15.8	
Intersection Capacity Utilization	44.1%	ICU Level of Service	A	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	0
Future Volume (vph)	0
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	0
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	28	1	34	13	0	6	71	62	925	12	19	23
Future Volume (vph)	28	1	34	13	0	6	71	62	925	12	19	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.4	4.4	4.4	4.4			4.4	6.0			4.4
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00			0.97	0.95			1.00
Frpb, ped/bikes	1.00	1.00	0.97	1.00	0.97			1.00	1.00			1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00			1.00	1.00			1.00
Frt	1.00	1.00	0.85	1.00	0.85			1.00	1.00			1.00
Flt Protected	0.95	0.96	1.00	0.95	1.00			0.95	1.00			0.95
Satd. Flow (prot)	1681	1691	1539	1770	1542			3433	3531			1770
Flt Permitted	0.95	0.96	1.00	0.95	1.00			0.95	1.00			0.95
Satd. Flow (perm)	1681	1691	1539	1770	1542			3433	3531			1770
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	30	1	37	14	0	7	77	67	1005	13	21	25
RTOR Reduction (vph)	0	0	34	0	7	0	0	0	0	0	0	0
Lane Group Flow (vph)	16	15	3	14	0	0	0	144	1018	0	0	46
Confl. Peds. (#/hr)			26			18				6		
Confl. Bikes (#/hr)						1				6		
Turn Type	Split	NA	Perm	Split	NA		Prot	Prot	NA		Prot	Prot
Protected Phases	4	4		8	8		5	5	2		1	1
Permitted Phases			4									
Actuated Green, G (s)	7.1	7.1	7.1	5.5	5.5			8.5	43.3			3.9
Effective Green, g (s)	7.1	7.1	7.1	5.5	5.5			8.5	43.3			3.9
Actuated g/C Ratio	0.09	0.09	0.09	0.07	0.07			0.11	0.55			0.05
Clearance Time (s)	4.4	4.4	4.4	4.4	4.4			4.4	6.0			4.4
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0	3.0			3.0
Lane Grp Cap (vph)	151	151	138	123	107			369	1935			87
v/s Ratio Prot	c0.01	0.01		c0.01	0.00			c0.04	c0.29			0.03
v/s Ratio Perm			0.00									
v/c Ratio	0.11	0.10	0.02	0.11	0.00			0.39	0.53			0.53
Uniform Delay, d1	33.0	33.0	32.8	34.5	34.2			32.8	11.3			36.7
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00			1.00
Incremental Delay, d2	0.3	0.3	0.1	0.4	0.0			0.7	0.3			5.7
Delay (s)	33.3	33.3	32.9	34.9	34.2			33.5	11.6			42.3
Level of Service	C	C	C	C	C			C	B			D
Approach Delay (s)		33.1			34.7				14.3			
Approach LOS		C			C				B			

Intersection Summary			
HCM 2000 Control Delay	15.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	79.0	Sum of lost time (s)	19.2
Intersection Capacity Utilization	73.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	610	24
Future Volume (vph)	610	24
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.0	6.0
Lane Util. Factor	0.95	1.00
Frpb, ped/bikes	1.00	0.98
Flpb, ped/bikes	1.00	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	3539	1553
Flt Permitted	1.00	1.00
Satd. Flow (perm)	3539	1553
Peak-hour factor, PHF	0.92	0.92
Adj. Flow (vph)	663	26
RTOR Reduction (vph)	0	13
Lane Group Flow (vph)	663	13
Confl. Peds. (#/hr)		5
Confl. Bikes (#/hr)		4
Turn Type	NA	Perm
Protected Phases	6	
Permitted Phases		6
Actuated Green, G (s)	38.7	38.7
Effective Green, g (s)	38.7	38.7
Actuated g/C Ratio	0.49	0.49
Clearance Time (s)	6.0	6.0
Vehicle Extension (s)	3.0	3.0
Lane Grp Cap (vph)	1733	760
v/s Ratio Prot	0.19	
v/s Ratio Perm		0.01
v/c Ratio	0.38	0.02
Uniform Delay, d1	12.6	10.4
Progression Factor	1.00	1.00
Incremental Delay, d2	0.1	0.0
Delay (s)	12.8	10.4
Level of Service	B	B
Approach Delay (s)	14.6	
Approach LOS	B	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	42	3	41	56	1	22	93	1075	83	40	693	42
Future Volume (vph)	42	3	41	56	1	22	93	1075	83	40	693	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.3		4.4	4.9		4.4	6.0		4.4	6.0	
Lane Util. Factor	1.00	0.95		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.98		1.00	0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.86		1.00	0.86		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	2994		1770	1574		1770	3498		1770	3506	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	2994		1770	1574		1770	3498		1770	3506	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	46	3	45	61	1	24	101	1168	90	43	753	46
RTOR Reduction (vph)	0	43	0	0	21	0	0	4	0	0	4	0
Lane Group Flow (vph)	46	5	0	61	4	0	101	1254	0	43	795	0
Confl. Peds. (#/hr)			1			2						
Confl. Bikes (#/hr)			2						2			6
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	4.4	7.8		4.0	7.8		7.0	35.9		2.1	31.0	
Effective Green, g (s)	4.4	7.8		4.0	7.8		7.0	35.9		2.1	31.0	
Actuated g/C Ratio	0.06	0.11		0.06	0.11		0.10	0.51		0.03	0.44	
Clearance Time (s)	4.4	5.3		4.4	4.9		4.4	6.0		4.4	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	111	334		101	175		177	1796		53	1554	
v/s Ratio Prot	0.03	0.00		c0.03	c0.00		c0.06	c0.36		0.02	0.23	
v/s Ratio Perm												
v/c Ratio	0.41	0.02		0.60	0.02		0.57	0.70		0.81	0.51	
Uniform Delay, d1	31.5	27.6		32.2	27.7		30.0	12.9		33.7	14.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.5	0.0		9.8	0.0		4.4	1.2		59.7	0.3	
Delay (s)	34.0	27.7		42.0	27.7		34.4	14.1		93.4	14.3	
Level of Service	C	C		D	C		C	B		F	B	
Approach Delay (s)		30.8			37.8			15.6			18.3	
Approach LOS		C			D			B			B	

Intersection Summary

HCM 2000 Control Delay	18.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	69.9	Sum of lost time (s)	20.1
Intersection Capacity Utilization	59.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	139	180	263	1112	688	102
Future Volume (vph)	139	180	263	1112	688	102
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.4	4.4	6.0	6.0	
Lane Util. Factor	1.00	1.00	0.97	0.95	0.95	
Frpb, ped/bikes	1.00	0.99	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.98	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1570	3433	3539	3464	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1770	1570	3433	3539	3464	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	151	196	286	1209	748	111
RTOR Reduction (vph)	0	28	0	0	12	0
Lane Group Flow (vph)	151	168	286	1209	847	0
Confl. Peds. (#/hr)		3				
Confl. Bikes (#/hr)						6
Turn Type	Prot	pm+ov	Prot	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	11.0	17.4	6.4	31.1	20.3	
Effective Green, g (s)	11.0	17.4	6.4	31.1	20.3	
Actuated g/C Ratio	0.21	0.33	0.12	0.59	0.38	
Clearance Time (s)	4.9	4.4	4.4	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	367	515	414	2076	1326	
v/s Ratio Prot	c0.09	0.04	0.08	c0.34	0.24	
v/s Ratio Perm		0.07				
v/c Ratio	0.41	0.33	0.69	0.58	0.64	
Uniform Delay, d1	18.2	13.4	22.4	6.9	13.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.8	0.4	4.9	0.4	1.0	
Delay (s)	18.9	13.8	27.3	7.3	14.4	
Level of Service	B	B	C	A	B	
Approach Delay (s)	16.0			11.1	14.4	
Approach LOS	B			B	B	

Intersection Summary			
HCM 2000 Control Delay	12.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	53.0	Sum of lost time (s)	15.3
Intersection Capacity Utilization	52.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	162	0	803	146	572	0	0	708	160
Future Volume (vph)	0	0	0	162	0	803	146	572	0	0	708	160
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				5.3	5.3	5.3	4.2	6.3			6.3	6.3
Lane Util. Factor				0.95	0.95	0.88	0.97	0.95			0.95	0.88
Frpb, ped/bikes				1.00	1.00	0.98	1.00	1.00			1.00	0.98
Flpb, ped/bikes				1.00	1.00	1.00	1.00	1.00			1.00	1.00
Frt				1.00	1.00	0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95	0.95	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				1681	1681	2726	3433	3539			3539	2727
Flt Permitted				0.95	0.95	1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)				1681	1681	2726	3433	3539			3539	2727
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	176	0	873	159	622	0	0	770	174
RTOR Reduction (vph)	0	0	0	0	0	278	0	0	0	0	0	93
Lane Group Flow (vph)	0	0	0	88	88	595	159	622	0	0	770	81
Confl. Peds. (#/hr)						1						
Confl. Bikes (#/hr)												2
Turn Type				Split	NA	Perm	Prot	NA			NA	Perm
Protected Phases				8	8		5	2			6	
Permitted Phases						8						6
Actuated Green, G (s)				30.5	30.5	30.5	9.7	62.9			49.0	49.0
Effective Green, g (s)				30.5	30.5	30.5	9.7	62.9			49.0	49.0
Actuated g/C Ratio				0.29	0.29	0.29	0.09	0.60			0.47	0.47
Clearance Time (s)				5.3	5.3	5.3	4.2	6.3			6.3	6.3
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)				488	488	791	317	2120			1651	1272
v/s Ratio Prot				0.05	0.05		c0.05	0.18			c0.22	
v/s Ratio Perm						c0.22						0.03
v/c Ratio				0.18	0.18	0.75	0.50	0.29			0.47	0.06
Uniform Delay, d1				27.9	27.9	33.8	45.3	10.2			19.1	15.4
Progression Factor				1.00	1.00	1.00	0.99	1.49			1.00	1.00
Incremental Delay, d2				0.2	0.2	4.1	1.2	0.3			0.9	0.1
Delay (s)				28.1	28.1	37.9	46.2	15.6			20.0	15.5
Level of Service				C	C	D	D	B			C	B
Approach Delay (s)		0.0			36.2			21.8			19.2	
Approach LOS		A			D			C			B	

Intersection Summary			
HCM 2000 Control Delay	26.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	15.8
Intersection Capacity Utilization	69.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	409	1	136	0	0	0	0	309	447	571	299	0
Future Volume (vph)	409	1	136	0	0	0	0	309	447	571	299	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6	4.6					6.3	6.3	4.2	6.3	
Lane Util. Factor	0.95	0.95	0.88					0.95	1.00	0.97	0.95	
Frpb, ped/bikes	1.00	1.00	0.98					1.00	0.98	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00					1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95	0.95	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1681	1686	2724					3539	1558	3433	3539	
Flt Permitted	0.95	0.95	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1681	1686	2724					3539	1558	3433	3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	445	1	148	0	0	0	0	336	486	621	325	0
RTOR Reduction (vph)	0	0	116	0	0	0	0	0	283	0	0	0
Lane Group Flow (vph)	222	224	32	0	0	0	0	336	203	621	325	0
Confl. Peds. (#/hr)			2						1			
Confl. Bikes (#/hr)									6			
Turn Type	Split	NA	Perm					NA	Perm	Prot	NA	
Protected Phases	4	4						2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	22.9	22.9	22.9					43.9	43.9	23.1	71.2	
Effective Green, g (s)	22.9	22.9	22.9					43.9	43.9	23.1	71.2	
Actuated g/C Ratio	0.22	0.22	0.22					0.42	0.42	0.22	0.68	
Clearance Time (s)	4.6	4.6	4.6					6.3	6.3	4.2	6.3	
Vehicle Extension (s)	3.0	3.0	3.0					3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	366	367	594					1479	651	755	2399	
v/s Ratio Prot	0.13	c0.13						0.09		c0.18	0.09	
v/s Ratio Perm			0.01						c0.13			
v/c Ratio	0.61	0.61	0.05					0.23	0.31	0.82	0.14	
Uniform Delay, d1	37.0	37.0	32.5					19.6	20.4	39.0	6.0	
Progression Factor	1.00	1.00	1.00					1.00	1.00	1.06	1.52	
Incremental Delay, d2	2.8	3.0	0.0					0.4	1.2	6.8	0.1	
Delay (s)	39.8	40.0	32.5					20.0	21.7	48.1	9.2	
Level of Service	D	D	C					C	C	D	A	
Approach Delay (s)		38.1			0.0			21.0			34.7	
Approach LOS		D			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	30.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	69.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	582	35	17	174	156	279
Future Volume (vph)	582	35	17	174	156	279
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	4.9		4.4	4.9
Lane Util. Factor	0.95	0.95	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.98		1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.88		1.00	0.85
Flt Protected	0.95	0.96	1.00		0.95	1.00
Satd. Flow (prot)	1681	1694	1598		1770	1572
Flt Permitted	0.95	0.96	1.00		0.95	1.00
Satd. Flow (perm)	1681	1694	1598		1770	1572
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	633	38	18	189	170	303
RTOR Reduction (vph)	0	0	165	0	0	110
Lane Group Flow (vph)	335	336	42	0	170	193
Confl. Peds. (#/hr)				5		3
Confl. Bikes (#/hr)						4
Turn Type	Split	NA	NA		Prot	pm+ov
Protected Phases	4	4	8		1	4
Permitted Phases						1
Actuated Green, G (s)	20.2	20.2	7.5		18.1	38.3
Effective Green, g (s)	20.2	20.2	7.5		18.1	38.3
Actuated g/C Ratio	0.34	0.34	0.12		0.30	0.64
Clearance Time (s)	4.9	4.9	4.9		4.4	4.9
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	565	570	199		533	1003
v/s Ratio Prot	c0.20	0.20	c0.03		c0.10	0.06
v/s Ratio Perm						0.06
v/c Ratio	0.59	0.59	0.21		0.32	0.19
Uniform Delay, d1	16.5	16.5	23.6		16.2	4.5
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	1.7	1.6	0.5		1.6	0.1
Delay (s)	18.2	18.0	24.1		17.8	4.6
Level of Service	B	B	C		B	A
Approach Delay (s)		18.1	24.1		9.3	
Approach LOS		B	C		A	

Intersection Summary			
HCM 2000 Control Delay	15.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	14.2
Intersection Capacity Utilization	49.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBU	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (veh/h)	0	44	160	96	5	2	0
Future Volume (Veh/h)	0	44	160	96	5	2	0
Sign Control	Stop				Free	Free	
Grade	0%				0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	48	0	104	5	2	0
Pedestrians	5				1		
Lane Width (ft)	12.0				12.0		
Walking Speed (ft/s)	4.0				4.0		
Percent Blockage	0				0		
Right turn flare (veh)							
Median type					None	None	
Median storage veh)							
Upstream signal (ft)					700		
pX, platoon unblocked			0.00				
vC, conflicting volume	220	8	0	7			
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	220	8	0	7			
tC, single (s)	6.4	6.2	0.0	4.1			
tC, 2 stage (s)							
tF (s)	3.5	3.3	0.0	2.2			
p0 queue free %	100	96	0	94			
cM capacity (veh/h)	715	1069	0	1607			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	48	109	2
Volume Left	0	104	0
Volume Right	48	0	0
cSH	1069	1607	1700
Volume to Capacity	0.04	0.06	0.00
Queue Length 95th (ft)	4	5	0
Control Delay (s)	8.5	7.1	0.0
Lane LOS	A	A	
Approach Delay (s)	8.5	7.1	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	7.4		
Intersection Capacity Utilization	31.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	161	2	69	342	80	8	3	27	45	1	1
Future Volume (vph)	1	161	2	69	342	80	8	3	27	45	1	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.5		4.4	6.0	6.0	4.4	4.9		4.4	4.9	
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	0.95		0.97	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.97	1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00	0.85	1.00	0.86		1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3532		1770	1863	1538	1770	3017		3433	1703	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3532		1770	1863	1538	1770	3017		3433	1703	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1	175	2	75	372	87	9	3	29	49	1	1
RTOR Reduction (vph)	0	1	0	0	0	41	0	29	0	0	1	0
Lane Group Flow (vph)	1	176	0	75	372	46	9	3	0	49	1	0
Confl. Peds. (#/hr)			9			8			5			3
Confl. Bikes (#/hr)			1			1						
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8						
Actuated Green, G (s)	0.6	25.6		5.3	29.8	29.8	0.7	4.7		2.0	6.0	
Effective Green, g (s)	0.6	25.6		5.3	29.8	29.8	0.7	4.7		2.0	6.0	
Actuated g/C Ratio	0.01	0.45		0.09	0.52	0.52	0.01	0.08		0.04	0.11	
Clearance Time (s)	4.4	5.5		4.4	6.0	6.0	4.4	4.9		4.4	4.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	18	1591		165	977	806	21	249		120	179	
v/s Ratio Prot	0.00	0.05		c0.04	c0.20		0.01	c0.00		c0.01	0.00	
v/s Ratio Perm						0.03						
v/c Ratio	0.06	0.11		0.45	0.38	0.06	0.43	0.01		0.41	0.01	
Uniform Delay, d1	27.8	9.0		24.4	8.0	6.6	27.9	23.9		26.8	22.7	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		0.97	1.00	
Incremental Delay, d2	1.3	0.0		2.0	0.2	0.0	13.4	0.0		2.3	0.0	
Delay (s)	29.1	9.1		26.4	8.3	6.6	41.3	23.9		28.3	22.9	
Level of Service	C	A		C	A	A	D	C		C	C	
Approach Delay (s)		9.2			10.5			27.7			28.0	
Approach LOS		A			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	12.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	56.8	Sum of lost time (s)	19.7
Intersection Capacity Utilization	44.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	25	9	0	18	35
Future Volume (Veh/h)	0	25	9	0	18	35
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	27	10	0	20	38
Pedestrians	3					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						1050
pX, platoon unblocked						
vC, conflicting volume	91	13			13	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	91	13			13	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	97			99	
cM capacity (veh/h)	896	1065			1602	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	27	10	58
Volume Left	0	0	20
Volume Right	27	0	0
cSH	1065	1700	1602
Volume to Capacity	0.03	0.01	0.01
Queue Length 95th (ft)	2	0	1
Control Delay (s)	8.5	0.0	2.6
Lane LOS	A		A
Approach Delay (s)	8.5	0.0	2.6
Approach LOS	A		

Intersection Summary			
Average Delay	4.0		
Intersection Capacity Utilization	19.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	46	13	2	34	17	7	11	2	24	28	17
Future Volume (vph)	20	46	13	2	34	17	7	11	2	24	28	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9			4.9		4.4	5.2		4.4	5.4	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00			0.99		1.00	1.00		1.00	0.99	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.98			0.96		1.00	0.98		1.00	0.94	
Flt Protected		0.99			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1793			1770		1770	3447		1770	3312	
Flt Permitted		0.89			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1625			1742		1770	3447		1770	3312	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	50	14	2	37	18	8	12	2	26	30	18
RTOR Reduction (vph)	0	11	0	0	16	0	0	1	0	0	9	0
Lane Group Flow (vph)	0	75	0	0	41	0	8	13	0	26	39	0
Confl. Peds. (#/hr)			1			4			10			
Confl. Bikes (#/hr)			3			2			2			3
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		4.7			4.7		0.7	20.6		0.8	20.5	
Effective Green, g (s)		4.7			4.7		0.7	20.6		0.8	20.5	
Actuated g/C Ratio		0.12			0.12		0.02	0.51		0.02	0.50	
Clearance Time (s)		4.9			4.9		4.4	5.2		4.4	5.4	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		188			201		30	1748		34	1672	
v/s Ratio Prot							0.00	0.00		c0.01	c0.01	
v/s Ratio Perm		c0.05			0.02							
v/c Ratio		0.40			0.20		0.27	0.01		0.76	0.02	
Uniform Delay, d1		16.6			16.3		19.7	4.9		19.8	5.0	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.4			0.5		4.7	0.0		66.1	0.0	
Delay (s)		18.0			16.8		24.4	4.9		85.9	5.0	
Level of Service		B			B		C	A		F	A	
Approach Delay (s)		18.0			16.8			12.0			33.5	
Approach LOS		B			B			B			C	

Intersection Summary			
HCM 2000 Control Delay	21.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.11		
Actuated Cycle Length (s)	40.6	Sum of lost time (s)	14.7
Intersection Capacity Utilization	30.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	7.7
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Traffic Vol, veh/h	0	25	1	2	0	0	1	9	0	2	43	2
Future Vol, veh/h	0	25	1	2	0	0	1	9	0	2	43	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	27	1	2	0	0	1	10	0	2	47	2
Number of Lanes	0	0	1	0	0	0	1	0	0	1	2	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	3
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	3	3	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	3	3	1
HCM Control Delay	8.4	7.2	7.6
HCM LOS	A	A	A

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	89%	0%	100%	0%	0%
Vol Thru, %	0%	100%	88%	4%	10%	0%	100%	35%
Vol Right, %	0%	0%	12%	7%	90%	0%	0%	65%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	2	29	16	28	10	22	52	74
LT Vol	2	0	0	25	0	22	0	0
Through Vol	0	29	14	1	1	0	52	26
RT Vol	0	0	2	2	9	0	0	48
Lane Flow Rate	2	31	18	30	11	24	57	80
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.003	0.041	0.023	0.046	0.013	0.034	0.073	0.093
Departure Headway (Hd)	5.186	4.686	4.6	5.398	4.396	5.133	4.633	4.178
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	683	756	769	667	819	694	769	851
Service Time	2.968	2.467	2.381	3.098	2.097	2.89	2.389	1.935
HCM Lane V/C Ratio	0.003	0.041	0.023	0.045	0.013	0.035	0.074	0.094
HCM Control Delay	8	7.7	7.5	8.4	7.2	8.1	7.8	7.4
HCM Lane LOS	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0	0.1	0.1	0.1	0	0.1	0.2	0.3

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Traffic Vol, veh/h	0	22	78	48
Future Vol, veh/h	0	22	78	48
Peak Hour Factor	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	24	85	52
Number of Lanes	0	1	2	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	3
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	7.6
HCM LOS	A

Lane

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	129	5	6	0	1	11	6	66	0	10	100	170
Future Volume (vph)	129	5	6	0	1	11	6	66	0	10	100	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.1		4.0	4.8		4.0	5.1	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00			0.99		1.00	1.00		1.00	0.98	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.99			0.88		1.00	1.00		1.00	0.91	
Flt Protected		0.96			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1769			1609		1770	3539		1770	3151	
Flt Permitted		0.73			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1357			1609		1770	3539		1770	3151	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	140	5	7	0	1	12	7	72	0	11	109	185
RTOR Reduction (vph)	0	2	0	0	9	0	0	0	0	0	104	0
Lane Group Flow (vph)	0	150	0	0	4	0	7	72	0	11	190	0
Confl. Peds. (#/hr)			3			5			8			7
Confl. Bikes (#/hr)			1						1			1
Turn Type	Perm	NA			NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		9.4			9.3		0.6	18.1		0.6	17.8	
Effective Green, g (s)		9.4			9.3		0.6	18.1		0.6	17.8	
Actuated g/C Ratio		0.23			0.23		0.01	0.44		0.01	0.44	
Clearance Time (s)		4.0			4.1		4.0	4.8		4.0	5.1	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		311			365		25	1566		25	1371	
v/s Ratio Prot					0.00		0.00	0.02		c0.01	c0.06	
v/s Ratio Perm		c0.11										
v/c Ratio		0.48			0.01		0.28	0.05		0.44	0.14	
Uniform Delay, d1		13.6			12.2		19.9	6.5		20.0	6.9	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.2			0.0		6.0	0.0		11.9	0.0	
Delay (s)		14.8			12.2		26.0	6.5		31.9	7.0	
Level of Service		B			B		C	A		C	A	
Approach Delay (s)		14.8			12.2			8.2			7.9	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	10.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.26		
Actuated Cycle Length (s)	40.9	Sum of lost time (s)	13.2
Intersection Capacity Utilization	33.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	204	0	58	272	216	2	7	25	163	14	6
Future Volume (vph)	2	204	0	58	272	216	2	7	25	163	14	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.9		4.4	5.2			4.9		4.9	4.9	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	0.99			0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.93			0.90		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00			1.00		0.95	1.00	
Satd. Flow (prot)	1770	3539		1770	3258			1657		1770	1766	
Flt Permitted	0.95	1.00		0.95	1.00			0.99		0.73	1.00	
Satd. Flow (perm)	1770	3539		1770	3258			1642		1365	1766	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2	222	0	63	296	235	2	8	27	177	15	7
RTOR Reduction (vph)	0	0	0	0	136	0	0	20	0	0	5	0
Lane Group Flow (vph)	2	222	0	63	395	0	0	17	0	177	17	0
Confl. Peds. (#/hr)			3			11						3
Confl. Bikes (#/hr)									3			1
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	0.5	17.2		2.3	18.7			10.8		10.8	10.8	
Effective Green, g (s)	0.5	17.2		2.3	18.7			10.8		10.8	10.8	
Actuated g/C Ratio	0.01	0.39		0.05	0.42			0.24		0.24	0.24	
Clearance Time (s)	4.4	4.9		4.4	5.2			4.9		4.9	4.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	19	1367		91	1369			398		331	428	
v/s Ratio Prot	0.00	0.06		c0.04	c0.12						0.01	
v/s Ratio Perm								0.01		c0.13		
v/c Ratio	0.11	0.16		0.69	0.29			0.04		0.53	0.04	
Uniform Delay, d1	21.8	8.9		20.8	8.5			12.9		14.7	12.9	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	2.4	0.1		20.3	0.1			0.0		1.7	0.0	
Delay (s)	24.2	9.0		41.1	8.6			12.9		16.3	12.9	
Level of Service	C	A		D	A			B		B	B	
Approach Delay (s)		9.1			12.1			12.9			15.9	
Approach LOS		A			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	12.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	44.5	Sum of lost time (s)	14.5
Intersection Capacity Utilization	47.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	263	222	25	366	27	286	54	17	20	28	1
Future Volume (vph)	4	263	222	25	366	27	286	54	17	20	28	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.2		4.4	5.9		4.9	4.9			4.9	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00			1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00			1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Frt	1.00	0.93		1.00	0.99		1.00	0.96			1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.98	
Satd. Flow (prot)	1770	3260		1770	3498		1770	1792			1820	
Flt Permitted	0.95	1.00		0.95	1.00		0.72	1.00			0.90	
Satd. Flow (perm)	1770	3260		1770	3498		1346	1792			1663	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	4	286	241	27	398	29	311	59	18	22	30	1
RTOR Reduction (vph)	0	167	0	0	8	0	0	12	0	0	1	0
Lane Group Flow (vph)	4	360	0	27	419	0	311	65	0	0	52	0
Confl. Peds. (#/hr)			3						3			3
Confl. Bikes (#/hr)			1			1			1			2
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	0.5	14.1		0.6	13.5		16.5	16.5			16.5	
Effective Green, g (s)	0.5	14.1		0.6	13.5		16.5	16.5			16.5	
Actuated g/C Ratio	0.01	0.31		0.01	0.30		0.36	0.36			0.36	
Clearance Time (s)	4.4	5.2		4.4	5.9		4.9	4.9			4.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)	19	1005		23	1033		485	647			600	
v/s Ratio Prot	0.00	0.11		c0.02	c0.12			0.04				
v/s Ratio Perm							c0.23				0.03	
v/c Ratio	0.21	0.36		1.17	0.41		0.64	0.10			0.09	
Uniform Delay, d1	22.4	12.3		22.6	12.9		12.1	9.7			9.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	5.5	0.2		246.2	0.3		2.9	0.1			0.1	
Delay (s)	27.9	12.5		268.7	13.2		15.0	9.8			9.7	
Level of Service	C	B		F	B		B	A			A	
Approach Delay (s)		12.6			28.4			14.0			9.7	
Approach LOS		B			C			B			A	

Intersection Summary			
HCM 2000 Control Delay	17.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	45.7	Sum of lost time (s)	15.2
Intersection Capacity Utilization	52.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	594	1	457	376	1313	0	0	827	288
Future Volume (vph)	0	0	0	594	1	457	376	1313	0	0	827	288
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				5.6	5.6	5.6	4.2	6.3			6.3	
Lane Util. Factor				0.95	0.95	1.00	0.97	0.95			0.91	
Frpb, ped/bikes				1.00	1.00	1.00	1.00	1.00			0.99	
Flpb, ped/bikes				1.00	1.00	1.00	1.00	1.00			1.00	
Frt				1.00	1.00	0.85	1.00	1.00			0.96	
Flt Protected				0.95	0.95	1.00	0.95	1.00			1.00	
Satd. Flow (prot)				1681	1686	1583	3433	3539			4847	
Flt Permitted				0.95	0.95	1.00	0.95	1.00			1.00	
Satd. Flow (perm)				1681	1686	1583	3433	3539			4847	
Peak-hour factor, PHF	0.92	0.92	0.92	0.73	0.25	0.98	0.86	0.93	0.92	0.92	0.97	0.87
Adj. Flow (vph)	0	0	0	814	4	466	437	1412	0	0	853	331
RTOR Reduction (vph)	0	0	0	0	0	46	0	0	0	0	53	0
Lane Group Flow (vph)	0	0	0	407	411	420	437	1412	0	0	1131	0
Confl. Peds. (#/hr)												3
Confl. Bikes (#/hr)												3
Turn Type				Split	NA	Perm	Prot	NA			NA	
Protected Phases				8	8		5	2			6	
Permitted Phases						8						
Actuated Green, G (s)				39.6	39.6	39.6	18.8	68.5			45.5	
Effective Green, g (s)				39.6	39.6	39.6	18.8	68.5			45.5	
Actuated g/C Ratio				0.33	0.33	0.33	0.16	0.57			0.38	
Clearance Time (s)				5.6	5.6	5.6	4.2	6.3			6.3	
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)				554	556	522	537	2020			1837	
v/s Ratio Prot				0.24	0.24		c0.13	c0.40			0.23	
v/s Ratio Perm						c0.27						
v/c Ratio				0.73	0.74	0.81	0.81	0.70			0.62	
Uniform Delay, d1				35.6	35.6	36.7	48.9	18.4			30.2	
Progression Factor				1.00	1.00	1.00	1.00	1.00			1.00	
Incremental Delay, d2				5.0	5.1	8.8	9.2	2.0			1.6	
Delay (s)				40.6	40.7	45.5	58.1	20.4			31.7	
Level of Service				D	D	D	E	C			C	
Approach Delay (s)		0.0			42.4			29.3			31.7	
Approach LOS		A			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	33.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.1
Intersection Capacity Utilization	74.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	305	0	461	0	0	0	0	1384	367	356	1065	0
Future Volume (vph)	305	0	461	0	0	0	0	1384	367	356	1065	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0					6.3	6.3	4.2	6.3	
Lane Util. Factor	0.95	0.95	0.88					0.95	1.00	0.97	0.91	
Frpb, ped/bikes	1.00	1.00	0.97					1.00	0.99	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00					1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95	0.95	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1681	1681	2707					3539	1563	3433	5085	
Flt Permitted	0.95	0.95	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1681	1681	2707					3539	1563	3433	5085	
Peak-hour factor, PHF	0.67	0.92	0.85	0.92	0.92	0.92	0.92	0.93	0.82	0.82	0.92	0.92
Adj. Flow (vph)	455	0	542	0	0	0	0	1488	448	434	1158	0
RTOR Reduction (vph)	0	0	406	0	0	0	0	0	112	0	0	0
Lane Group Flow (vph)	227	228	136	0	0	0	0	1488	336	434	1158	0
Confl. Peds. (#/hr)			14									
Confl. Bikes (#/hr)									1			
Turn Type	Split	NA	Perm					NA	Perm	Prot	NA	
Protected Phases	4	4						2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	34.1	34.1	34.1					50.7	50.7	15.7	70.6	
Effective Green, g (s)	34.1	34.1	34.1					50.7	50.7	15.7	70.6	
Actuated g/C Ratio	0.25	0.25	0.25					0.37	0.37	0.12	0.52	
Clearance Time (s)	5.0	5.0	5.0					6.3	6.3	4.2	6.3	
Vehicle Extension (s)	3.0	3.0	3.0					3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	421	421	678					1319	582	396	2639	
v/s Ratio Prot	0.14	c0.14						c0.42		c0.13	0.23	
v/s Ratio Perm			0.05						0.21			
v/c Ratio	0.54	0.54	0.20					1.13	0.58	1.10	0.44	
Uniform Delay, d1	44.1	44.2	40.2					42.6	34.1	60.1	20.4	
Progression Factor	1.00	1.00	1.00					1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.3	1.4	0.1					67.9	4.1	73.6	0.5	
Delay (s)	45.5	45.6	40.3					110.5	38.2	133.8	20.9	
Level of Service	D	D	D					F	D	F	C	
Approach Delay (s)		42.7			0.0			93.8			51.7	
Approach LOS		D			A			F			D	

Intersection Summary				
HCM 2000 Control Delay	67.7	HCM 2000 Level of Service	E	
HCM 2000 Volume to Capacity ratio	0.80			
Actuated Cycle Length (s)	136.0	Sum of lost time (s)	19.5	
Intersection Capacity Utilization	74.5%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	337	9	123	59	22	44	446	1217	136	85	987	518
Future Volume (vph)	337	9	123	59	22	44	446	1217	136	85	987	518
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3	6.3	6.3	4.9	4.9		4.4	5.7		4.4	6.5	6.5
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95		0.97	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	0.99		1.00	1.00		1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.91		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	0.95	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1690	1548	1681	1583		3433	3478		1770	3539	1583
Flt Permitted	0.95	0.95	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1681	1690	1548	1681	1583		3433	3478		1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	366	10	134	64	24	48	485	1323	148	92	1073	563
RTOR Reduction (vph)	0	0	111	0	42	0	0	5	0	0	0	223
Lane Group Flow (vph)	187	189	23	58	36	0	485	1466	0	92	1073	340
Confl. Peds. (#/hr)						2			1			
Confl. Bikes (#/hr)			8			2						
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			4									6
Actuated Green, G (s)	18.2	18.2	18.2	12.4	12.4		10.9	47.3		5.7	41.3	41.3
Effective Green, g (s)	18.2	18.2	18.2	12.4	12.4		10.9	47.3		5.7	41.3	41.3
Actuated g/C Ratio	0.17	0.17	0.17	0.12	0.12		0.10	0.45		0.05	0.39	0.39
Clearance Time (s)	6.3	6.3	6.3	4.9	4.9		4.4	5.7		4.4	6.5	6.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	291	293	268	198	187		356	1568		96	1393	623
v/s Ratio Prot	0.11	c0.11		c0.03	0.02		c0.14	c0.42		0.05	0.30	
v/s Ratio Perm			0.02									0.22
v/c Ratio	0.64	0.65	0.09	0.29	0.19		1.36	0.93		0.96	0.77	0.55
Uniform Delay, d1	40.3	40.3	36.4	42.2	41.7		47.0	27.3		49.5	27.7	24.6
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	4.8	4.8	0.1	0.8	0.5		180.3	10.7		77.4	2.7	1.0
Delay (s)	45.1	45.2	36.5	43.1	42.2		227.3	38.1		126.9	30.4	25.6
Level of Service	D	D	D	D	D		F	D		F	C	C
Approach Delay (s)		42.9			42.6			85.0			33.9	
Approach LOS		D			D			F			C	

Intersection Summary				
HCM 2000 Control Delay	58.3	HCM 2000 Level of Service	E	
HCM 2000 Volume to Capacity ratio	0.87			
Actuated Cycle Length (s)	104.9	Sum of lost time (s)	22.1	
Intersection Capacity Utilization	72.6%	ICU Level of Service	C	
Analysis Period (min)	15			

c Critical Lane Group

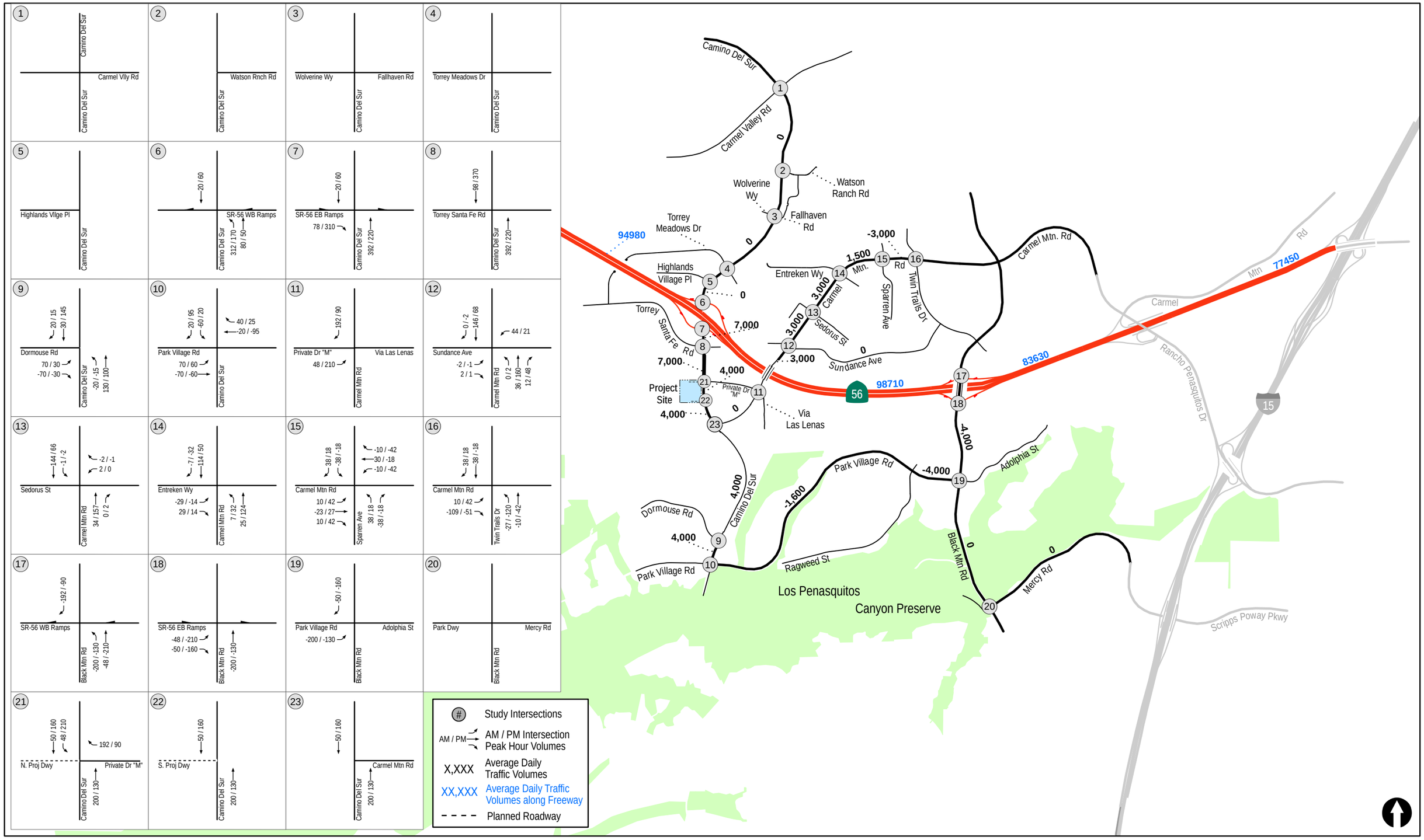
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	1	0	358	1	448	19	1149	432	304	674	0
Future Volume (vph)	1	1	0	358	1	448	19	1149	432	304	674	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0	4.0	4.0	6.1	4.0	4.0	5.8	
Lane Util. Factor		1.00		0.97	0.95	0.95	1.00	0.95	1.00	0.97	0.95	
Frpb, ped/bikes		1.00		1.00	0.99	0.99	1.00	1.00	0.99	1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		1.00		1.00	0.85	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.98		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1817		3433	1484	1483	1770	3539	1567	3433	3539	
Flt Permitted		0.98		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1817		3433	1484	1483	1770	3539	1567	3433	3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1	1	0	389	1	487	21	1249	470	330	733	0
RTOR Reduction (vph)	0	0	0	0	193	192	0	0	151	0	0	0
Lane Group Flow (vph)	0	2	0	389	52	51	21	1249	319	330	733	0
Confl. Peds. (#/hr)			1									
Confl. Bikes (#/hr)			2			2			8			
Turn Type	Split	NA		Split	NA	Perm	Prot	NA	pm+ov	Prot	NA	
Protected Phases	4	4		8	8		5	2	8	1	6	
Permitted Phases						8			2			
Actuated Green, G (s)		5.7		25.5	25.5	25.5	2.2	57.2	82.7	15.5	70.8	
Effective Green, g (s)		5.7		25.5	25.5	25.5	2.2	57.2	82.7	15.5	70.8	
Actuated g/C Ratio		0.05		0.21	0.21	0.21	0.02	0.47	0.68	0.13	0.58	
Clearance Time (s)		4.0		4.0	4.0	4.0	4.0	6.1	4.0	4.0	5.8	
Vehicle Extension (s)		3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		84		717	310	309	31	1659	1062	436	2053	
v/s Ratio Prot		c0.00		c0.11	0.04		0.01	c0.35	0.06	c0.10	0.21	
v/s Ratio Perm						0.03			0.14			
v/c Ratio		0.02		0.54	0.17	0.16	0.68	0.75	0.30	0.76	0.36	
Uniform Delay, d1		55.5		43.0	39.6	39.5	59.5	26.6	7.9	51.4	13.6	
Progression Factor		1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.1		0.8	0.3	0.3	45.6	2.0	0.2	7.3	0.1	
Delay (s)		55.6		43.9	39.8	39.8	105.2	28.6	8.1	58.8	13.7	
Level of Service		E		D	D	D	F	C	A	E	B	
Approach Delay (s)		55.6			41.6			24.0			27.7	
Approach LOS		E			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	29.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	122.0	Sum of lost time (s)	18.1
Intersection Capacity Utilization	69.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

APPENDIX F

APPENDIX VOLUME FIGURES



LINSCOTT LAW & GREENSPAN engineers

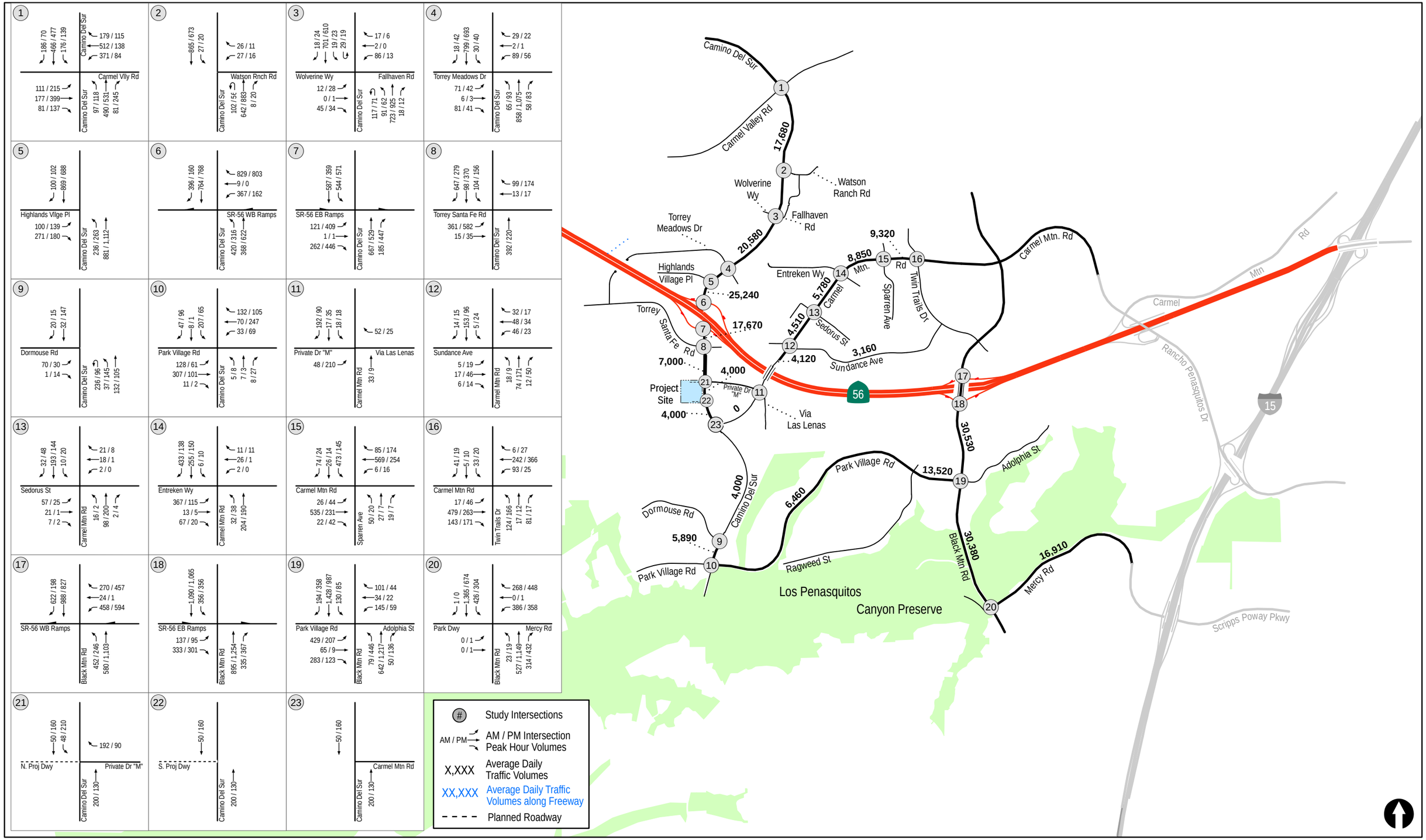
N:\2478\Figures\Mar 2016
Date: 03/01/16

Appendix F-1

Rerouted Existing Traffic Volumes

Opening Day Network

THE PRESERVE AT TORREY HIGHLANDS



LINSCOTT LAW & GREENSPAN engineers

N:\2478\Figures\Mar 2016
Date: 03/01/16

Appendix F-2

Existing + Rerouted Existing Traffic Volumes (Project Access)

Opening Day Network

THE PRESERVE AT TORREY HIGHLANDS

APPENDIX G

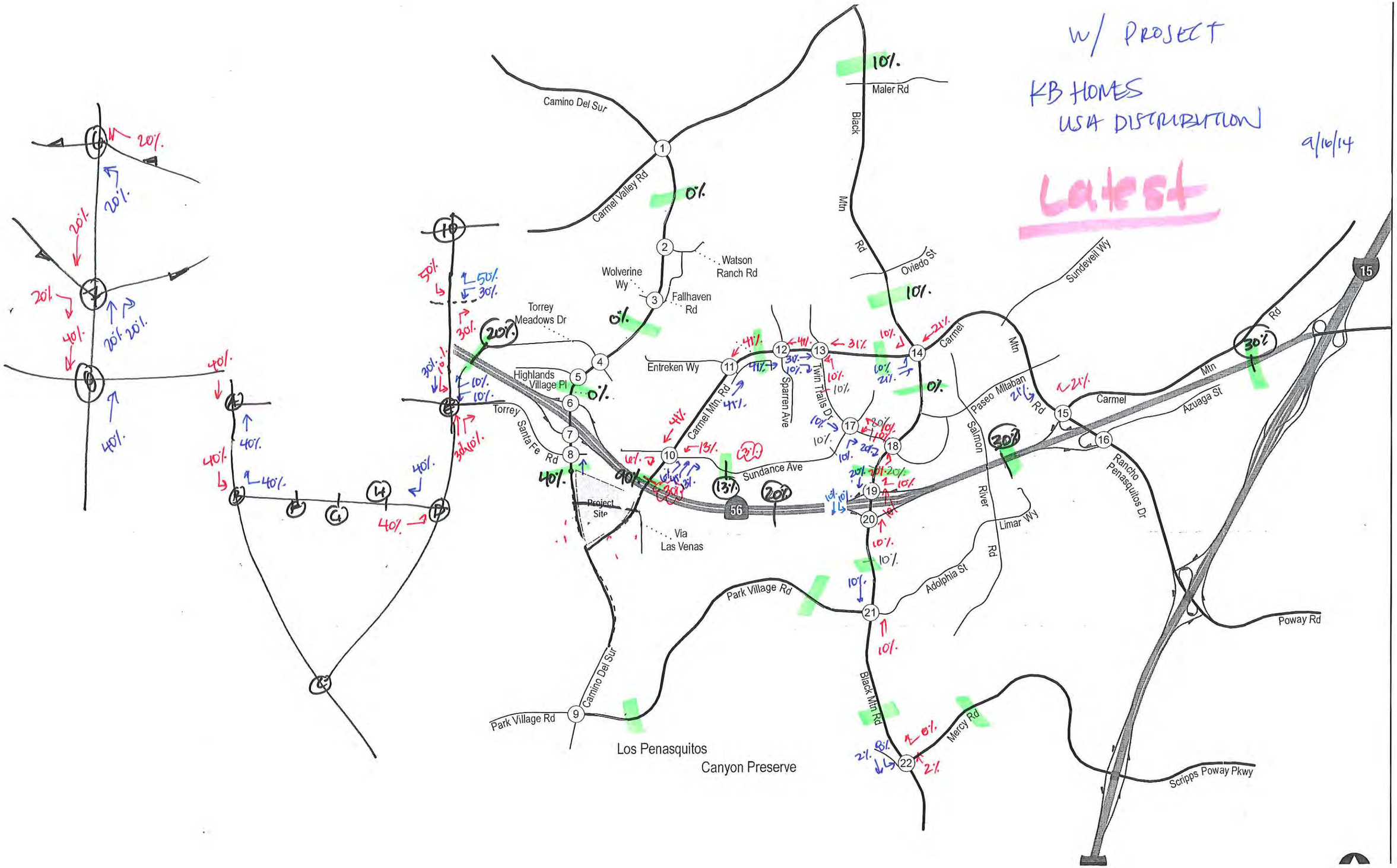
INDIVIDUAL CUMULATIVE PROJECTS TRAFFIC VOLUME ASSIGNMENTS

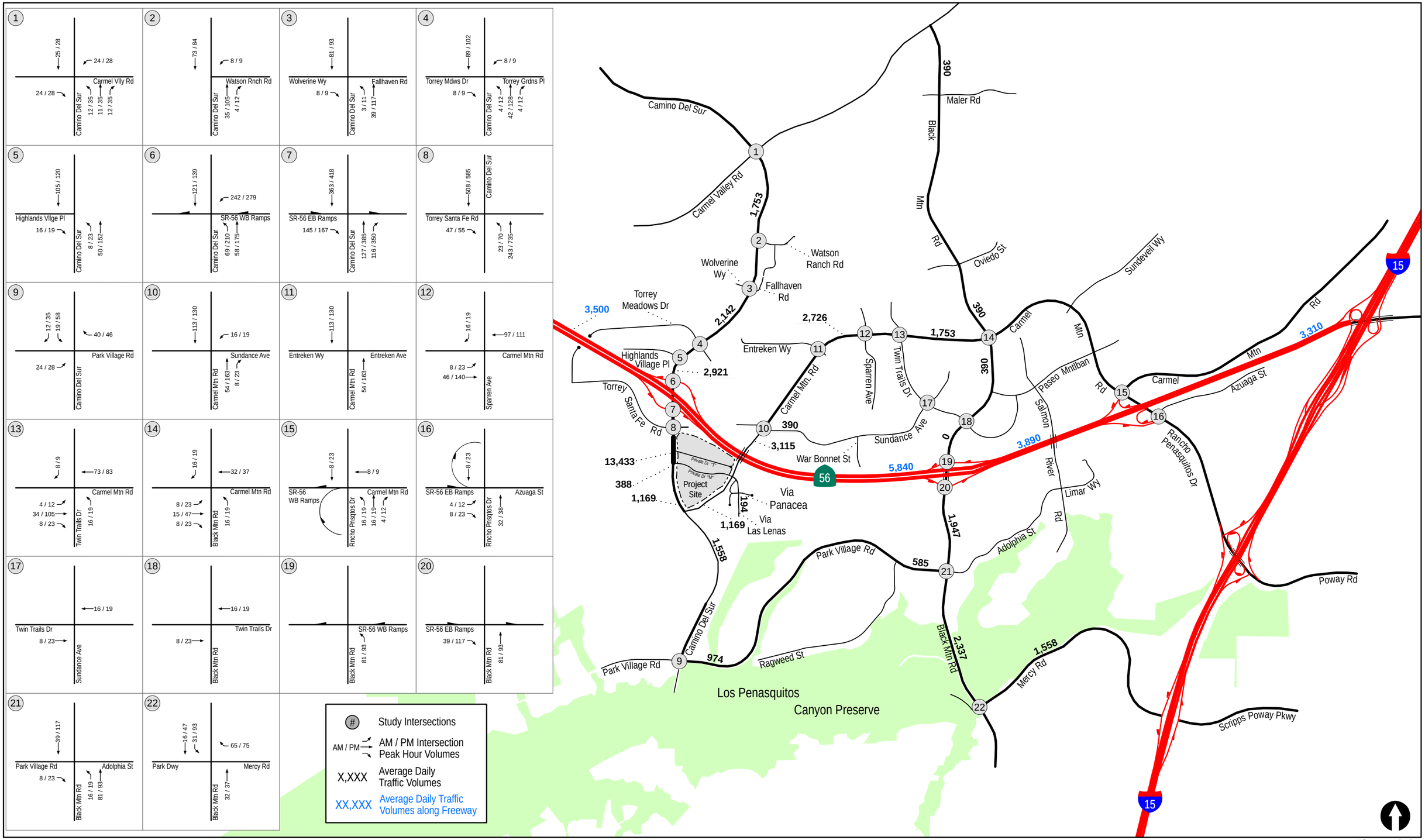
W/ PROJECT

KB HOMES
USA DISTRIBUTION

9/10/14

Latest





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N:\2255\Figures\June 2015
Date: 06/23/15

Figure 8-2a

Project Traffic Volumes

MERGE 56

INTERSECTION	DIRECTION	TOTAL CUMULATIVE + CDS & CMR						MERGE + CDS & CMR					
		Ram	Rpm	Tam	Tpm	Lam	Lpm	Ram	Rpm	Tam	Tpm	Lam	Lpm
1 Carmel Valley Rd / Camino Del Sur	Sb	0	0	25	28	0	0	0	0	25	28	0	0
	Wb	0	0	0	0	24	28	0	0	0	0	24	28
	Nb	12	35	11	35	12	35	12	35	11	35	12	35
	Eb	24	28	0	0	0	0	24	28	0	0	0	0
2 Camino Del Sur / Watson Ranch Rd	Sb	0	0	73	84	0	0	0	0	73	84	0	0
	Wb	0	0	0	0	8	9	0	0	0	0	8	9
	Nb	4	12	35	105	0	0	4	12	35	105	0	0
	Eb	0	0	0	0	0	0	0	0	0	0	0	0
3 Camino Del Sur / Wolverine Way	Sb	0	0	81	93	0	0	0	0	81	93	0	0
	Wb	0	0	0	0	0	0	0	0	0	0	0	0
	Nb	0	0	39	117	3	11	0	0	39	117	3	11
	Eb	8	9	0	0	0	0	8	9	0	0	0	0
4 Camino Del Sur (N/S) / Torrey Meadows Dr (E/W)	Sb	0	0	89	102	0	0	0	0	89	102	0	0
	Wb	0	0	0	0	8	9	0	0	0	0	8	9
	Nb	4	12	42	128	4	12	4	12	42	128	4	12
	Eb	8	9	0	0	0	0	8	9	0	0	0	0
5 Camino Del Sur (N/S) / Highlands Village Pl (E/W)	Sb	0	0	105	120	0	0	0	0	105	120	0	0
	Wb	0	0	0	0	0	0	0	0	0	0	0	0
	Nb	0	0	50	152	8	23	0	0	50	152	8	23
	Eb	16	19	0	0	0	0	16	19	0	0	0	0
6 Camino Del Sur / SR 56 WB Ramps	Sb	0	0	121	139	0	0	0	0	121	139	0	0
	Wb	0	0	0	0	245	292	0	0	0	0	242	279
	Nb	0	0	58	175	81	216	0	0	58	175	69	210
	Eb	0	0	0	0	0	0	0	0	0	0	0	0
		WB On	81	216	WB Off	245	292	WB On	69	210	WB Off	242	279
7 Camino Del Sur / SR 56 EB Ramps	Sb	0	0	366	431	0	0	0	0	363	418	0	0
	Wb	0	0	0	0	0	0	0	0	0	0	0	0
	Nb	128	356	139	391	0	0	116	350	127	385	0	0
	Eb	148	180	0	0	0	0	145	167	0	0	0	0
		EB On	128	356	EB Off	148	180	EB On	116	350	EB Off	145	167
8 Camino Del Sur / Torrey Santa Fe Rd	Sb	0	0	514	611	0	0	0	0	508	585	0	0
	Wb	0	0	0	0	0	0	0	0	0	0	0	0
	Nb	0	0	267	747	23	70	0	0	243	735	23	70
	Eb	47	55	0	0	0	0	47	55	0	0	0	0
9 Camino Del Sur/ Dormouse Rd	Sb	0	0	31	93	0	0			31	93		
	Wb	0	0	0	0	0	0						
	Nb	0	0	64	74	0	0			64	74		
	Eb	0	0	0	0	0	0						
10 Camino Del Sur/ Park Village Rd	Sb	12	35	0	0	19	58	12	35	0	0	19	58
	Wb	40	46	0	0	0	0	40	46	0	0	0	0
	Nb	0	0	0	0	0	0	0	0	0	0	0	0
	Eb	0	0	0	0	24	28	0	0	0	0	24	28
11 Carmel Mountain Rd (N/S) / Via Las Lenas/ Prv. Dr M	Sb	147	157	0	0	2	7	129	149	0	0	0	0
	Wb	6	3	14	12	0	0	0	0	8	9	0	0
	Nb	0	0	0	0	49	56	0	0	0	0	49	56
	Eb	23	70	6	19	66	206	23	70	4	12	62	186
12 Carmel Mountain Rd (N/S) / Sundance Ave (E/W)	Sb	0	0	119	157	0	0	0	0	113	130	0	0
	Wb	0	0	0	0	18	28	0	0	0	0	16	19
	Nb	12	25	79	174	8	4	8	23	54	163	0	0
	Eb	1	4	0	0	0	0	0	0	0	0	0	0

INTERSECTION	DIRECTION	TOTAL CUMULATIVE + CDS & CMR						MERGE + CDS & CMR					
		Ram	Rpm	Tam	Tpm	Lam	Lpm	Ram	Rpm	Tam	Tpm	Lam	Lpm
13 Carmel Mountain Rd (N/S) / Sedorus (E/W)	Sb	0	0	119	157	0	0			113	130		
	Wb	0	0	0	0	0	0						
	Nb	0	0	79	174	0	0			54	163		
	Eb	0	0	0	0	0	0						
14 Carmel Mountain Rd (N/S) / Entreken Way (E/W)	Sb	0	0	119	157	0	0	0	0	113	130	0	0
	Wb	0	0	0	0	0	0	0	0	0	0	0	0
	Nb	0	0	79	174	0	0	0	0	54	163	0	0
	Eb	0	0	0	0	0	0	0	0	0	0	0	0
15 Carmel Mountain Rd (E/W) / Sparren Ave (N/S)	Sb	16	19	0	0	0	0	16	19	0	0	0	0
	Wb	0	0	103	138	0	0	0	0	97	111	0	0
	Nb	0	0	0	0	0	0	0	0	0	0	0	0
	Eb	0	0	71	151	8	23	0	0	46	140	8	23
		WB On	119	157	WB Off	79	174						
16 Carmel Mountain Rd/ Twin Trails Dr	Sb	8	9	0	0	0	0	8	9	0	0	0	0
	Wb	0	0	78	103	0	0	0	0	73	83	0	0
	Nb	0	0	0	0	17	26	0	0	0	0	16	19
	Eb	14	26	53	113	4	12	8	23	34	105	4	12
		EB On	103	138	EB Off	71	151						
17 Black Mountain Rd / SR 56 WB Ramps	Sb	0	0	12	6	0	0	0	0	0	0	0	0
	Wb	3	7	0	0	0	0	0	0	0	0	0	0
	Nb	0	0	2	7	81	93	0	0	0	0	81	93
	Eb	0	0	0	0	0	0	0	0	0	0	0	0
								WB On	81	93	WB Off	0	0
18 Black Mountain Rd / SR 56 EB Ramps	Sb	0	0	6	3	6	3	0	0	0	0	0	0
	Wb	0	0	0	0	0	0	0	0	0	0	0	0
	Nb	0	0	83	100	0	0	0	0	81	93	0	0
	Eb	39	117	0	0	0	0	39	117	0	0	0	0
								EB On	0	0	EB Off	39	117
19 Black Mountain Rd / Park Village Rd	Sb	0	0	45	120	0	0	0	0	39	117	0	0
	Wb	0	0	0	0	0	0	0	0	0	0	0	0
	Nb	0	0	83	100	16	19	0	0	81	93	16	19
	Eb	8	23	0	0	0	0	8	23	0	0	0	0
		WB On	16	19	WB Off	0	0						
20 Black Mountain Rd / Mercy Rd	Sb	0	0	17	48	36	95	0	0	16	47	31	93
	Wb	66	80	0	0	0	0	65	75	0	0	0	0
	Nb	0	0	33	39	0	0	0	0	32	37	0	0
	Eb	0	0	0	0	0	0	0	0	0	0	0	0
		EB On	36	95	EB Off	0	0						
21 Camino Del Sur/ Northern Project Dwy/ Priv Dr M	Sb	0	0	8	32	**553**	**634**	0	0	8	32	**547**	**608**
	Wb	102	275	7	23	24	70	78	264	7	23	24	70
	Nb	31	32	97	112	0	0	31	32	97	112	0	0
	Eb	0	0	16	19	0	0	0	0	16	19	0	0
22 Camino Del Sur/ Southern Project Dwy	Sb	0	0	32	102	0	0			32	102		
	Wb	0	0	0	0	0	0						
	Nb	0	0	128	144	0	0			128	144		
	Eb	0	0	0	0	0	0						
23 Carmel Mountain Road/ Camino Del Sur	Sb	0	0	24	70	**8**	**32**	0	0	24	70	**8**	**32**
	Wb	0	0	0	0	23	70	0	0	0	0	23	70
	Nb	49	56	49	56	0	0	49	56	49	56	0	0
	Eb	0	0	0	0	0	0	0	0	0	0	0	0

INTERSECTION	DIRECTION	KB + CDS & CMR						Cumulative Adjustment for Proj Roads						Cumulative w/ Project Roads					
		Ram	Rpm	Tam	Tpm	Lam	Lpm	Ram	Rpm	Tam	Tpm	Lam	Lpm	Ram	Rpm	Tam	Tpm	Lam	Lpm
1 Carmel Valley Rd / Camino Del Sur	Sb	0	0	0	0	0	0							0	0	25	28	0	0
	Wb	0	0	0	0	0	0							0	0	0	0	24	28
	Nb	0	0	0	0	0	0							12	35	11	35	12	35
	Eb	0	0	0	0	0	0							24	28	0	0	0	0
2 Camino Del Sur / Watson Ranch Rd	Sb	0	0	0	0	0	0							0	0	73	84	0	0
	Wb	0	0	0	0	0	0							0	0	0	0	8	9
	Nb	0	0	0	0	0	0							4	12	35	105	0	0
	Eb	0	0	0	0	0	0							0	0	0	0	0	0
3 Camino Del Sur / Wolverine Way	Sb	0	0	0	0	0	0							0	0	81	93	0	0
	Wb	0	0	0	0	0	0							0	0	0	0	0	0
	Nb	0	0	0	0	0	0							0	0	39	117	3	11
	Eb	0	0	0	0	0	0							8	9	0	0	0	0
4 Camino Del Sur (N/S) / Torrey Meadows Dr (E/W)	Sb	0	0	0	0	0	0							0	0	89	102	0	0
	Wb	0	0	0	0	0	0							0	0	0	0	8	9
	Nb	0	0	0	0	0	0							4	12	42	128	4	12
	Eb	0	0	0	0	0	0							8	9	0	0	0	0
5 Camino Del Sur (N/S) / Highlands Village Pl (E/W)	Sb	0	0	0	0	0	0							0	0	105	120	0	0
	Wb	0	0	0	0	0	0							0	0	0	0	0	0
	Nb	0	0	0	0	0	0							0	0	50	152	8	23
	Eb	0	0	0	0	0	0							16	19	0	0	0	0
6 Camino Del Sur / SR 56 WB Ramps	Sb	0	0	0	0	0	0							0	0	121	139	0	0
	Wb	0	0	0	0	3	13							0	0	0	0	245	292
	Nb	0	0	0	0	12	6							0	0	58	175	81	216
	Eb	0	0	0	0	0	0							0	0	0	0	0	0
		WB On	12	6	WB Off	3	13												
7 Camino Del Sur / SR 56 EB Ramps	Sb	0	0	3	13	0	0							0	0	366	431	0	0
	Wb	0	0	0	0	0	0							0	0	0	0	0	0
	Nb	12	6	12	6	0	0							128	356	139	391	0	0
	Eb	3	13	0	0	0	0							148	180	0	0	0	0
		EB On	12	6	EB Off	3	13												
8 Camino Del Sur / Torrey Santa Fe Rd	Sb	0	0	6	26	0	0							0	0	514	611	0	0
	Wb	0	0	0	0	0	0							0	0	0	0	0	0
	Nb	0	0	24	12	0	0							0	0	267	747	23	70
	Eb	0	0	0	0	0	0							47	55	0	0	0	0
9 Camino Del Sur/ Dormouse Rd	Sb			0	0									0	0	31	93	0	0
	Wb													0	0	0	0	0	0
	Nb			0	0									0	0	64	74	0	0
	Eb													0	0	0	0	0	0
10 Camino Del Sur/ Park Village Rd	Sb	0	0	0	0	0	0							12	35	0	0	19	58
	Wb	0	0	0	0	0	0							40	46	0	0	0	0
	Nb	0	0	0	0	0	0							0	0	0	0	0	0
	Eb	0	0	0	0	0	0							0	0	0	0	24	28
11 Carmel Mountain Rd (N/S) / Via Las Lenas/ Prv. Dr M	Sb	18	8	0	0	2	7							147	157	0	0	2	7
	Wb	6	3	6	3	0	0							6	3	14	12	0	0
	Nb	0	0	0	0	0	0							0	0	0	0	49	56
	Eb	0	0	2	7	4	20							23	70	6	19	66	206
12 Carmel Mountain Rd (N/S) / Sundance Ave (E/W)	Sb	0	0	6	27	0	0							0	0	119	157	0	0
	Wb	0	0	0	0	2	9							0	0	0	0	18	28
	Nb	4	2	25	11	8	4							12	25	79	174	8	4
	Eb	1	4	0	0	0	0							1	4	0	0	0	0

INTERSECTION	DIRECTION	KB + CDS & CMR						Cumulative Adjustment for Proj Roads						Cumulative w/ Project Roads					
		Ram	Rpm	Tam	Tpm	Lam	Lpm	Ram	Rpm	Tam	Tpm	Lam	Lpm	Ram	Rpm	Tam	Tpm	Lam	Lpm
13 Carmel Mountain Rd (N/S) / Sedorus (E/W)	Sb			6	27									0	0	119	157	0	0
	Wb													0	0	0	0	0	0
	Nb			25	11									0	0	79	174	0	0
	Eb													0	0	0	0	0	0
14 Carmel Mountain Rd (N/S) / Entreken Way (E/W)	Sb	0	0	6	27	0	0							0	0	119	157	0	0
	Wb	0	0	0	0	0	0							0	0	0	0	0	0
	Nb	0	0	25	11	0	0							0	0	79	174	0	0
	Eb	0	0	0	0	0	0							0	0	0	0	0	0
15 Carmel Mountain Rd (E/W) / Sparren Ave (N/S)	Sb	0	0	0	0	0	0							16	19	0	0	0	0
	Wb	0	0	6	27	0	0							0	0	103	138	0	0
	Nb	0	0	0	0	0	0							0	0	0	0	0	0
	Eb	0	0	25	11	0	0							0	0	71	151	8	23
16 Carmel Mountain Rd/ Twin Trails Dr	Sb	0	0	0	0	0	0							8	9	0	0	0	0
	Wb	0	0	5	20	0	0							0	0	78	103	0	0
	Nb	0	0	0	0	1	7							0	0	0	0	17	26
	Eb	6	3	19	8	0	0							14	26	53	113	4	12
17 Black Mountain Rd / SR 56 WB Ramps	Sb	0	0	12	6	0	0							0	0	12	6	0	0
	Wb	3	7	0	0	0	0							3	7	0	0	0	0
	Nb	0	0	2	7	0	0							0	0	2	7	81	93
	Eb	0	0	0	0	0	0							0	0	0	0	0	0
		WB On	0	0	WB Off	3	7												
18 Black Mountain Rd / SR 56 EB Ramps	Sb	0	0	6	3	6	3							0	0	6	3	6	3
	Wb	0	0	0	0	0	0							0	0	0	0	0	0
	Nb	0	0	2	7	0	0							0	0	83	100	0	0
	Eb	0	0	0	0	0	0							39	117	0	0	0	0
		EB On	6	3	EB Off	0	0												
19 Black Mountain Rd / Park Village Rd	Sb	0	0	6	3	0	0							0	0	45	120	0	0
	Wb	0	0	0	0	0	0							0	0	0	0	0	0
	Nb	0	0	2	7	0	0							0	0	83	100	16	19
	Eb	0	0	0	0	0	0							8	23	0	0	0	0
20 Black Mountain Rd / Mercy Rd	Sb	0	0	1	1	5	2							0	0	17	48	36	95
	Wb	1	5	0	0	0	0							66	80	0	0	0	0
	Nb	0	0	1	2	0	0							0	0	33	39	0	0
	Eb	0	0	0	0	0	0							0	0	0	0	0	0
21 Camino Del Sur/ Northern Project Dwy/ Priv Dr M	Sb	0	0	0	0	6	26							0	0	8	32	**553**	**634**
	Wb	24	11	0	0	0	0							102	275	7	23	24	70
	Nb	0	0	0	0	0	0							31	32	97	112	0	0
	Eb	0	0	0	0	0	0							0	0	16	19	0	0
22 Camino Del Sur/ Southern Project Dwy	Sb			0	0					-8	-32	8	32	0	0	24	70	**8**	**32**
	Wb													0	0	0	0	0	0
	Nb			0	0					-8	-32			0	0	120	112	0	0
	Eb													0	0	0	0	0	0
23 Carmel Mountain Road/ Camino Del Sur	Sb	0	0	0	0	0	0					-8	-32	0	0	24	70	0	0
	Wb	0	0	0	0	0	0							0	0	0	0	23	70
	Nb	0	0	0	0	0	0							49	56	49	56	0	0
	Eb	0	0	0	0	0	0							0	0	0	0	0	0

	STREET SEGMENT	Opening Day				
		TOTAL CUMULATIVE ONLY	Merge 56 (With CDS and CMR)		Keith Rhodes KB Homes (With CDS and CMR)	
			19468	Dist %	940	Dist %
	Camino Del Sur					
1	Carmel Valley Rd to Wolverine Wy	1,750	1,750	9%	0	0%
2	Wolverine Wy to Torrey Meadows Dr	2,140	2,140	11%	0	0%
3	Torrey Meadows Dr to SR 56 WB Ramps	2,920	2,920	15%	0	0%
4	SR 56 EB Ramps to Torrey Santa Fe Rd	12,640	12,260	63%	380	40%
5	Torrey Santa Fe Rd to N Proj Drwy (FUTUR	13,810	13,430	69%	380	40%
6	N Proj Drwy to S Proj Drwy (FUTURE)	1,170	1,170	6%	0	0%
7	S Proj Drwy to Carmel Mtn Rd (FUTURE)	1,170	1,170	6%	0	0%
8	Carmel Mtn Rd to Dormouse Rd (FUTURE)	2,340	2,340	12%	0	0%
9	Dormouse Rd to Park Village Rd	1,560	1,560	8%	0	0%
	Carmel Mountain Road					
10	Camino Del Sur to Via Las Lenas (FUTURE)	1,170	1,170	6%	0	0%
11	Via Las Lenas to Sundance Ave	3,960	3,110	16%	850	90%
12	Sundance Ave to Sedorus St	3,120	2,730	14%	390	41%
13	Sedorus St to Entreken Way	3,120	2,730	14%	390	41%
14	Entreken Wy to Sparren Ave	3,120	2,730	14%	390	41%
15	Sparren Ave to Twin Trails Dr	2,730	2,340	12%	390	41%
	Sundance Avenue					
16	Carmel Mountain Rd to Twin Trails Dr	510	390	2%	120	13%
	Park Village Road					
17	Camino Del Sur to Ragweed St	970	970	5%	0	0%
18	Ragweed St to Black Mountain Rd	580	580	3%	0	0%
	Black Mountain Road					
19	SR 56 EB Ramps to Park Village Rd	2,040	1,950	10%	90	10%
20	Park Village Rd to Mercy Rd	2,430	2,340	12%	90	10%
	Mercy Road					
21	Black Mountain Rd to I-15 SB Ramps	1,640	1,560	8%	80	8%

APPENDIX H

SANDAG SERIES 12 SELECT ZONE ASSIGNMENT – YEAR 2035 AND YEAR 2050

SR12 2035_b_subtgmx
2035 RC RTP11
trip generation and land use by zone page 1

Note: Reported person and vehicle trips are only estimates. The difference between generated and loaded vehicle trips can be attributed to regional trip balancing, the mode choice model, and/or intrazonal trips.

Land Use					Trips		
Zone	Code	Name	Type	Amount	Person	Vehicle	
1812	108	SINGLE & MULTI- FAMILY	du	356.0	5091.	3553.	Rhodes Xing No's 2,3,8,11
1812	109	MULTI-FAMILY	du	342.0	2907.	2041.	
1812	5012	COMMERCIAL	ksf	7.2	732.	518.	
1812	6110	CHURCH	acre	7.7	1926.	1480.	
1812		TOTAL			10656.	7592.	
1827	108	SINGLE & MULTI- FAMILY	du	153.0	2188.	1527.	Rhodes Xing No 7
1827		TOTAL			2188.	1527.	
4683	107	SINGLE & MULTI- FAMILY	du	242.0	2710.	1892	Rhodes Xing No's 4,5,&6 (Merge 56)
4683	5011	COMMUNITY SHOPPING CTR	ksf	130.0	12857.	9098	
4683	6006	SMALL UPSTAIRS OFFICE	ksf	20.0	650.	501	
4683	6007	OFFICE	ksf	250.0	4250.	3273	
4683	7212	CINEMA	ksf	50.0	5860.	4000	
4683		TOTAL			26327.	18763	
4684	6008	COMMERCIAL OFFICE	ksf	450.0	6840.	5267	Preserve
4684		TOTAL			6840.	5267	

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subtgmx
2050 RC RTP11 - Merge 56
trip generation and land use by zone page 1

Note: Reported person and vehicle trips are only estimates. The difference between generated and loaded vehicle trips can be attributed to regional trip balancing, the mode choice model, and/or intrazonal trips.

Land Use					Trips		
Zone	Code	Name	Type	Amount	Person	Vehicle	
1812	108	SINGLE & MULTI- FAMILY	du	356.0	5091.	3553.	Rhodes Xing No's 2,3,8,11
1812	109	MULTI-FAMILY	du	342.0	2907.	2041.	
1812	5012	COMMERCIAL	ksf	7.2	732.	518.	
1812	6110	CHURCH	acre	7.7	1926.	1480.	
1812		TOTAL			10656.	7592.	
1827	108	SINGLE & MULTI- FAMILY	du	153.0	2188.	1527.	Rhodes Xing No 7
1827		TOTAL			2188.	1527.	
4683	107	SINGLE & MULTI- FAMILY	du	242.0	2710.	1892.	Rhodes Xing No's 4,5,&6 (Merge 56)
4683	5011	COMMUNITY SHOPPING CTR	ksf	130.0	12857.	9098.	
4683	6006	SMALL UPSTAIRS OFFICE	ksf	20.0	650.	501.	
4683	6007	OFFICE	ksf	250.0	4250.	3273.	
4683	7212	CINEMA	ksf	50.0	5860.	4000.	
4683		TOTAL			26327.	18763.	
4684	6008	COMMERCIAL OFFICE	ksf	450.0	6840.	5267.	Preserve
4684		TOTAL			6840.	5267.	

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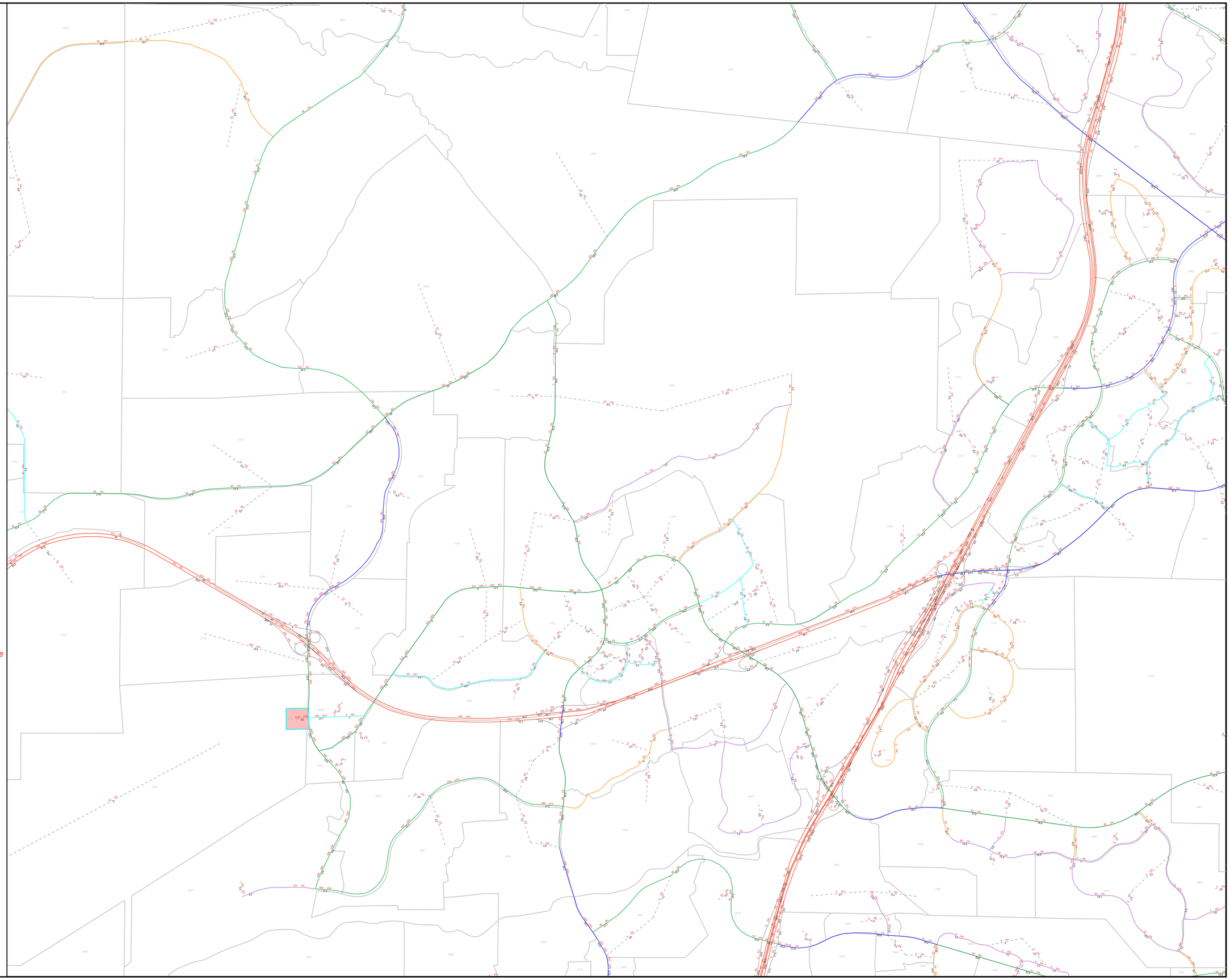
Series 12
2035rc11

Select Zone Plot

TAZ 4684



Functional Classifications

- Freeway
- Prime
- Major
- Collector
- Light Collector
- Rural Collector
- Local
- Freeway Ramp
- Local Ramp
- Zone Connector

Traffic Analysis Zones

Selz Volumes & Percentage

Unadjusted ADT(x1000)

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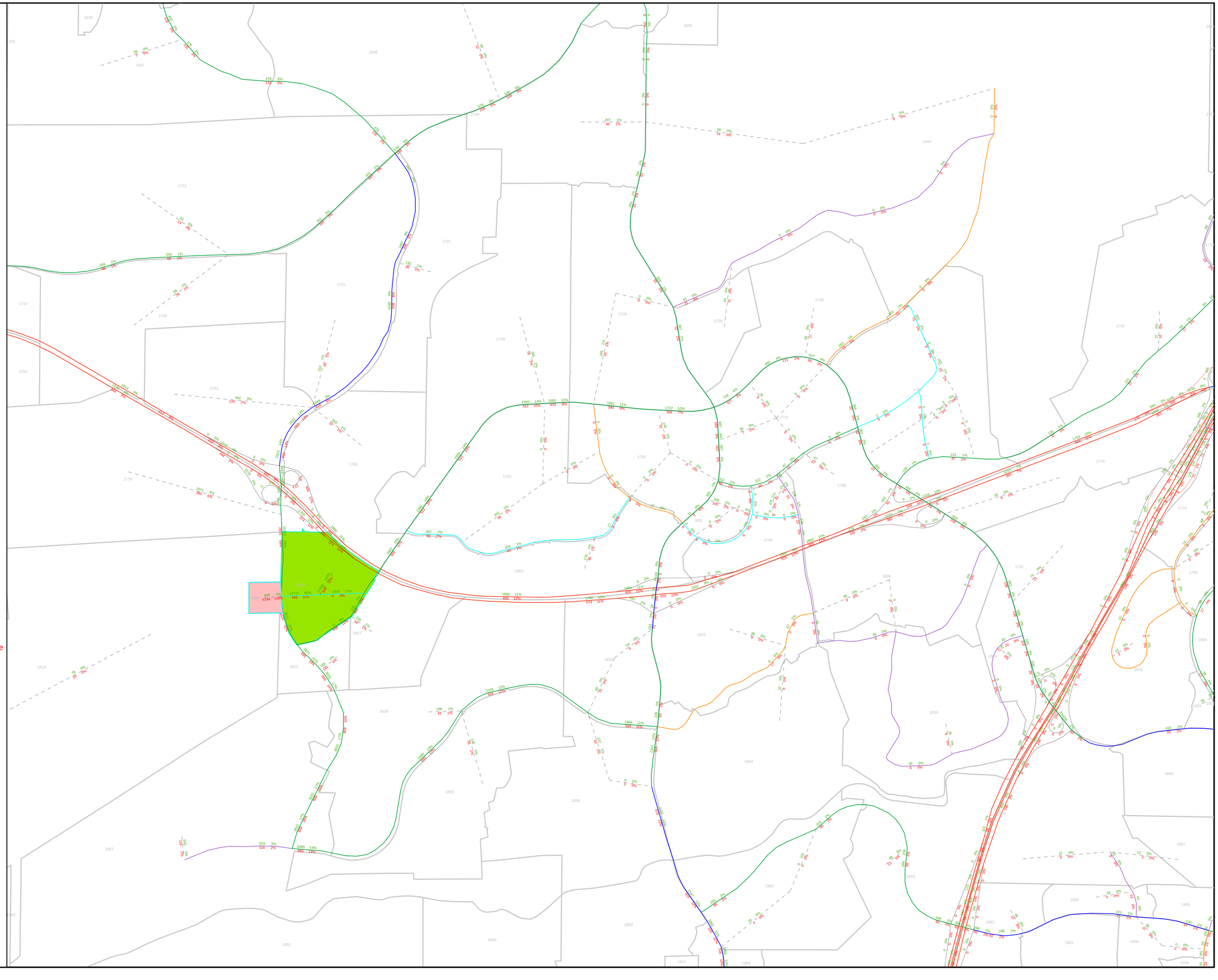
Series 12
2035rc11

Select Zone Plot

TAZ 4683
TAZ 4684



Functional Classifications

- Freeway
- Prime
- Major
- Collector
- Light Collector
- Rural Collector
- Local
- Freeway Ramp
- Local Ramp
- Zone Connector

Traffic Analysis Zones

\# Selz Volumes & Percentage

\# Unadjusted ADT(x1000)

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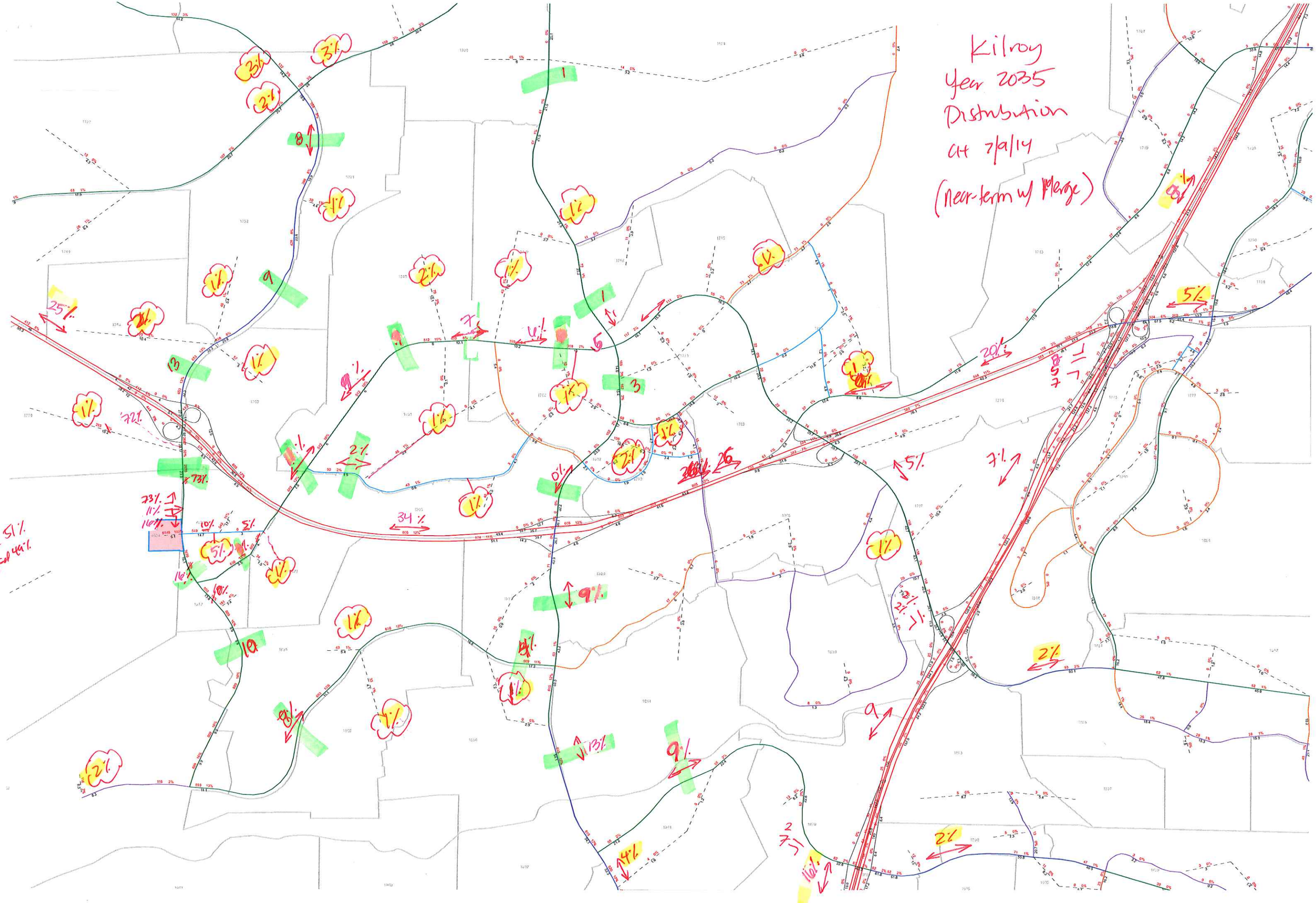
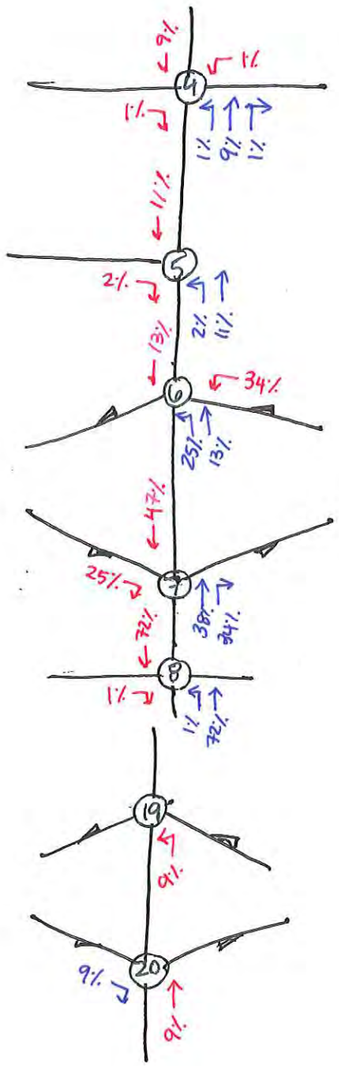

Kilroy
Year 2035
Distribution
at 7/9/14
(near-term w/ Merge)
Local 51%
Regional 49%

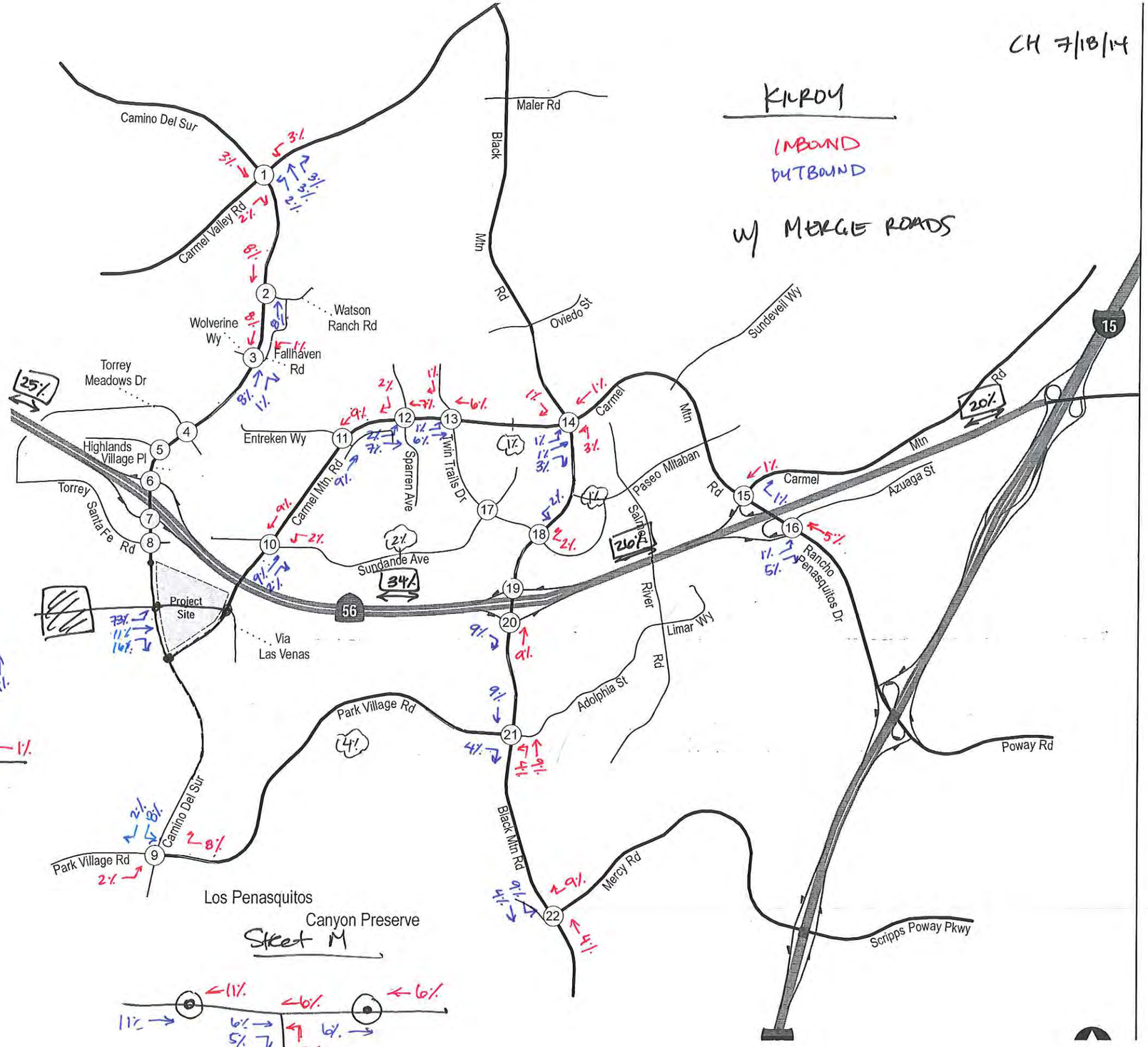
CH 7/18/14

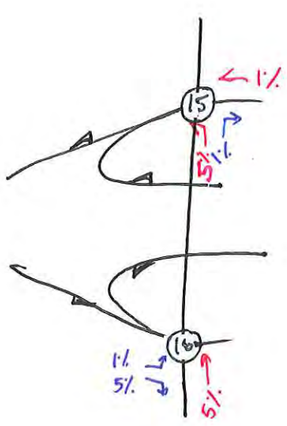
KILROY

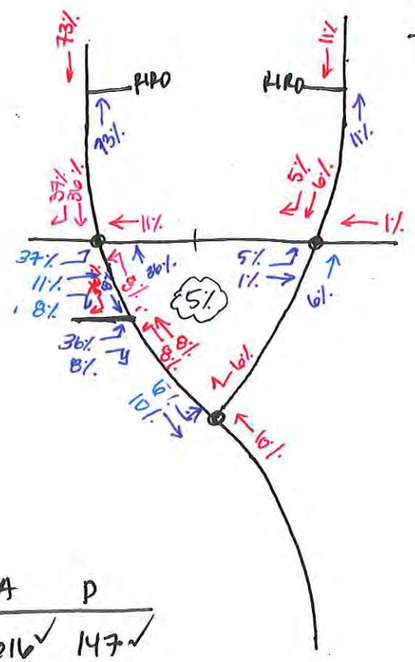
INBOUND
OUTBOUND

W/ MERGE ROADS



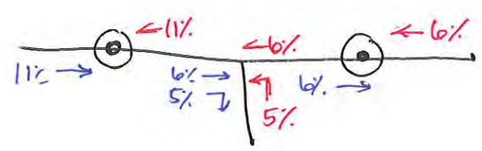






	A	P
1	616✓	147✓
0	68✓	589

Street M



APPENDIX I

PEAK HOUR INTERSECTION ANALYSIS WORKSHEETS
OPENING DAY WITHOUT PROJECT

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	111	177	105	395	512	179	109	501	93	176	491	186
Future Volume (vph)	111	177	105	395	512	179	109	501	93	176	491	186
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.3	6.3	4.4	6.2	6.2	4.4	6.0	6.0	4.4	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.98	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	3433	1863	1583	1770	3539	1547	1770	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	1863	1583	3433	1863	1583	1770	3539	1547	1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	121	192	114	429	557	195	118	545	101	191	534	202
RTOR Reduction (vph)	0	0	91	0	0	126	0	0	76	0	0	152
Lane Group Flow (vph)	121	192	23	429	557	69	118	545	25	191	534	50
Confl. Peds. (#/hr)									2			
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Actuated Green, G (s)	8.6	19.2	19.2	22.8	33.5	33.5	8.4	23.2	23.2	8.7	23.5	23.5
Effective Green, g (s)	8.6	19.2	19.2	22.8	33.5	33.5	8.4	23.2	23.2	8.7	23.5	23.5
Actuated g/C Ratio	0.09	0.20	0.20	0.24	0.35	0.35	0.09	0.24	0.24	0.09	0.25	0.25
Clearance Time (s)	4.4	6.3	6.3	4.4	6.2	6.2	4.4	6.0	6.0	4.4	6.0	6.0
Vehicle Extension (s)	2.0	4.9	4.9	2.0	5.1	5.1	2.0	5.9	5.9	2.0	5.6	5.6
Lane Grp Cap (vph)	160	376	319	823	656	558	156	864	377	162	875	391
v/s Ratio Prot	c0.07	0.10		0.12	c0.30		0.07	c0.15		c0.11	c0.15	
v/s Ratio Perm			0.01			0.04			0.02			0.03
v/c Ratio	0.76	0.51	0.07	0.52	0.85	0.12	0.76	0.63	0.07	1.18	0.61	0.13
Uniform Delay, d1	42.2	33.7	30.7	31.4	28.4	20.8	42.3	32.1	27.6	43.1	31.7	27.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	16.4	2.2	0.2	0.3	11.0	0.2	16.8	2.5	0.2	127.0	2.1	0.4
Delay (s)	58.6	36.0	30.9	31.6	39.5	21.0	59.1	34.5	27.8	170.1	33.7	28.2
Level of Service	E	D	C	C	D	C	E	C	C	F	C	C
Approach Delay (s)		41.0			33.6			37.4			60.6	
Approach LOS		D			C			D			E	

Intersection Summary				
HCM 2000 Control Delay	43.0	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.81			
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	21.1	
Intersection Capacity Utilization	75.1%	ICU Level of Service	D	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	0	0	0	35	0	26	102	0	677	12	27	938
Future Volume (vph)	0	0	0	35	0	26	102	0	677	12	27	938
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.4		4.4		5.7	6.0		4.4	6.0
Lane Util. Factor				1.00		1.00		1.00	0.95		1.00	0.95
Frpb, ped/bikes				1.00		0.96		1.00	1.00		1.00	1.00
Flpb, ped/bikes				1.00		1.00		1.00	1.00		1.00	1.00
Frt				1.00		0.85		1.00	1.00		1.00	1.00
Flt Protected				0.95		1.00		0.95	1.00		0.95	1.00
Satd. Flow (prot)				1770		1525		1770	3526		1770	3539
Flt Permitted				0.95		1.00		0.95	1.00		0.95	1.00
Satd. Flow (perm)				1770		1525		1770	3526		1770	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	38	0	28	111	0	736	13	29	1020
RTOR Reduction (vph)	0	0	0	0	0	19	0	0	1	0	0	0
Lane Group Flow (vph)	0	0	0	38	0	9	0	111	748	0	29	1020
Confl. Peds. (#/hr)						28				16		
Turn Type				Prot		Perm	Prot	Prot	NA		Prot	NA
Protected Phases				8			5	5	2		1	6
Permitted Phases						8						
Actuated Green, G (s)				32.0		32.0		11.5	43.4		4.5	36.4
Effective Green, g (s)				32.0		32.0		10.2	43.4		4.5	36.4
Actuated g/C Ratio				0.34		0.34		0.11	0.46		0.05	0.38
Clearance Time (s)				4.4		4.4		4.4	6.0		4.4	6.0
Vehicle Extension (s)				3.0		3.0		3.0	3.0		3.0	3.0
Lane Grp Cap (vph)				598		515		190	1615		84	1360
v/s Ratio Prot				c0.02				c0.06	0.21		0.02	c0.29
v/s Ratio Perm						0.01						
v/c Ratio				0.06		0.02		0.58	0.46		0.35	0.75
Uniform Delay, d1				21.2		20.9		40.2	17.6		43.7	25.2
Progression Factor				1.00		1.00		1.00	1.00		1.00	1.00
Incremental Delay, d2				0.2		0.1		4.5	0.2		2.5	2.4
Delay (s)				21.4		21.0		44.8	17.8		46.1	27.6
Level of Service				C		C		D	B		D	C
Approach Delay (s)		0.0			21.2				21.3			28.1
Approach LOS		A			C				C			C

Intersection Summary				
HCM 2000 Control Delay	24.9	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.45			
Actuated Cycle Length (s)	94.7	Sum of lost time (s)	16.1	
Intersection Capacity Utilization	53.6%	ICU Level of Service	A	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	0
Future Volume (vph)	0
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	0
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	12	0	53	86	2	17	117	94	762	18	29	19
Future Volume (vph)	12	0	53	86	2	17	117	94	762	18	29	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.4	4.4	4.4	4.4			4.4	6.0			4.4
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00			0.97	0.95			1.00
Frpb, ped/bikes	1.00	1.00	0.85	1.00	0.84			1.00	1.00			1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00			1.00	1.00			1.00
Frt	1.00	1.00	0.85	1.00	0.86			1.00	1.00			1.00
Flt Protected	0.95	0.95	1.00	0.95	1.00			0.95	1.00			0.95
Satd. Flow (prot)	1681	1681	1346	1770	1350			3433	3522			1770
Flt Permitted	0.95	0.95	1.00	0.95	1.00			0.95	1.00			0.95
Satd. Flow (perm)	1681	1681	1346	1770	1350			3433	3522			1770
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	13	0	58	93	2	18	127	102	828	20	32	21
RTOR Reduction (vph)	0	0	43	0	13	0	0	0	1	0	0	0
Lane Group Flow (vph)	6	7	15	93	7	0	0	229	847	0	0	53
Confl. Peds. (#/hr)			121			148				27		
Turn Type	Split	NA	Perm	Split	NA		Prot	Prot	NA		Prot	Prot
Protected Phases	4	4		8	8		5	5	2		1	1
Permitted Phases			4									
Actuated Green, G (s)	38.0	38.0	38.0	38.0	38.0			13.6	46.2			5.7
Effective Green, g (s)	38.0	38.0	38.0	38.0	38.0			13.6	46.2			5.7
Actuated g/C Ratio	0.26	0.26	0.26	0.26	0.26			0.09	0.31			0.04
Clearance Time (s)	4.4	4.4	4.4	4.4	4.4			4.4	6.0			4.4
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0	3.0			3.0
Lane Grp Cap (vph)	434	434	347	457	348			317	1106			68
v/s Ratio Prot	0.00	0.00		c0.05	0.00			c0.07	0.24			0.03
v/s Ratio Perm			c0.01									
v/c Ratio	0.01	0.02	0.04	0.20	0.02			0.72	0.77			0.78
Uniform Delay, d1	40.6	40.6	40.9	42.7	40.7			64.9	45.6			70.1
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00			1.00
Incremental Delay, d2	0.0	0.0	0.1	0.2	0.0			7.9	3.2			41.9
Delay (s)	40.6	40.6	41.0	42.9	40.7			72.8	48.8			112.0
Level of Service	D	D	D	D	D			E	D			F
Approach Delay (s)		40.9			42.5				53.9			
Approach LOS		D			D				D			

Intersection Summary			
HCM 2000 Control Delay	59.4	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	147.1	Sum of lost time (s)	19.2
Intersection Capacity Utilization	107.0%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

3: Camino Del Sur & Wolverine Way/Fallhaven Rd

3/15/2016

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	782	18
Future Volume (vph)	782	18
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.0	6.0
Lane Util. Factor	0.95	1.00
Frpb, ped/bikes	1.00	0.98
Flpb, ped/bikes	1.00	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	3539	1558
Flt Permitted	1.00	1.00
Satd. Flow (perm)	3539	1558
Peak-hour factor, PHF	0.92	0.92
Adj. Flow (vph)	850	20
RTOR Reduction (vph)	0	15
Lane Group Flow (vph)	850	5
Confl. Peds. (#/hr)		2
Turn Type	NA	Perm
Protected Phases	6	
Permitted Phases		6
Actuated Green, G (s)	38.3	38.3
Effective Green, g (s)	38.3	38.3
Actuated g/C Ratio	0.26	0.26
Clearance Time (s)	6.0	6.0
Vehicle Extension (s)	3.0	3.0
Lane Grp Cap (vph)	921	405
v/s Ratio Prot	c0.24	
v/s Ratio Perm		0.00
v/c Ratio	0.92	0.01
Uniform Delay, d1	53.0	40.4
Progression Factor	1.00	1.00
Incremental Delay, d2	14.4	0.0
Delay (s)	67.4	40.4
Level of Service	E	D
Approach Delay (s)	69.4	
Approach LOS	E	

Intersection Summary

4: Camino Del Sur & Torrey Meadows Dr/Torrey Gardens Pl

3/15/2016

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	71	6	89	97	2	29	69	900	62	30	888	18
Future Volume (vph)	71	6	89	97	2	29	69	900	62	30	888	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.3		4.4	4.9		4.4	6.0		4.4	6.0	
Lane Util. Factor	1.00	0.95		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.98		1.00	0.94		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.86		1.00	0.86		1.00	0.99		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	2970		1770	1509		1770	3499		1770	3527	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	2970		1770	1509		1770	3499		1770	3527	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	77	7	97	105	2	32	75	978	67	33	965	20
RTOR Reduction (vph)	0	79	0	0	26	0	0	3	0	0	1	0
Lane Group Flow (vph)	77	25	0	105	8	0	75	1042	0	33	984	0
Confl. Peds. (#/hr)			17			62			10			6
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	11.9	17.9		12.7	19.1		8.3	43.0		4.1	38.8	
Effective Green, g (s)	11.9	17.9		12.7	19.1		8.3	43.0		4.1	38.8	
Actuated g/C Ratio	0.12	0.18		0.13	0.20		0.08	0.44		0.04	0.40	
Clearance Time (s)	4.4	5.3		4.4	4.9		4.4	6.0		4.4	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	215	543		229	294		150	1538		74	1399	
v/s Ratio Prot	0.04	c0.01		c0.06	0.01		c0.04	c0.30		0.02	0.28	
v/s Ratio Perm												
v/c Ratio	0.36	0.05		0.46	0.03		0.50	0.68		0.45	0.70	
Uniform Delay, d1	39.4	32.9		39.4	31.8		42.8	21.9		45.7	24.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.0	0.0		1.5	0.0		2.6	1.2		4.2	1.6	
Delay (s)	40.5	32.9		40.8	31.9		45.4	23.1		50.0	26.3	
Level of Service	D	C		D	C		D	C		D	C	
Approach Delay (s)		36.1			38.6			24.6			27.1	
Approach LOS		D			D			C			C	

Intersection Summary

HCM 2000 Control Delay	27.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	97.8	Sum of lost time (s)	20.1
Intersection Capacity Utilization	71.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	100	287	244	931	974	100
Future Volume (vph)	100	287	244	931	974	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.9	5.4	5.4	7.0	7.0	
Lane Util. Factor	1.00	1.00	0.97	0.95	0.95	
Frpb, ped/bikes	1.00	0.98	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1550	3433	3539	3485	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1770	1550	3433	3539	3485	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	109	312	265	1012	1059	109
RTOR Reduction (vph)	0	31	0	0	5	0
Lane Group Flow (vph)	109	281	265	1012	1163	0
Confl. Peds. (#/hr)		47				3
Turn Type	Prot	pm+ov	Prot	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	14.2	27.7	13.5	55.1	37.2	
Effective Green, g (s)	13.2	25.7	12.5	54.1	36.2	
Actuated g/C Ratio	0.16	0.32	0.16	0.67	0.45	
Clearance Time (s)	4.9	4.4	4.4	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	291	496	535	2387	1573	
v/s Ratio Prot	0.06	c0.09	0.08	0.29	c0.33	
v/s Ratio Perm		0.09				
v/c Ratio	0.37	0.57	0.50	0.42	0.74	
Uniform Delay, d1	29.8	22.6	31.0	5.9	18.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.8	1.5	0.7	0.1	1.9	
Delay (s)	30.6	24.1	31.7	6.1	20.0	
Level of Service	C	C	C	A	B	
Approach Delay (s)	25.8			11.4	20.0	
Approach LOS	C			B	B	

Intersection Summary			
HCM 2000 Control Delay	17.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	80.2	Sum of lost time (s)	18.3
Intersection Capacity Utilization	78.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	612	9	829	501	426	0	0	885	396
Future Volume (vph)	0	0	0	612	9	829	501	426	0	0	885	396
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				5.3	5.3	5.3	4.2	6.3			6.3	6.3
Lane Util. Factor				0.95	0.95	0.88	0.97	0.95			0.95	0.88
Frpb, ped/bikes				1.00	1.00	0.97	1.00	1.00			1.00	1.00
Flpb, ped/bikes				1.00	1.00	1.00	1.00	1.00			1.00	1.00
Frt				1.00	1.00	0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95	0.95	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				1681	1688	2711	3433	3539			3539	2787
Flt Permitted				0.95	0.95	1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)				1681	1688	2711	3433	3539			3539	2787
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	665	10	901	545	463	0	0	962	430
RTOR Reduction (vph)	0	0	0	0	0	524	0	0	0	0	0	265
Lane Group Flow (vph)	0	0	0	339	336	377	545	463	0	0	962	165
Confl. Peds. (#/hr)						4						
Turn Type				Split	NA	Perm	Prot	NA			NA	Perm
Protected Phases				8	8		5	2			6	
Permitted Phases						8						6
Actuated Green, G (s)				28.2	28.2	28.2	20.7	65.2			40.3	40.3
Effective Green, g (s)				28.2	28.2	28.2	20.7	65.2			40.3	40.3
Actuated g/C Ratio				0.27	0.27	0.27	0.20	0.62			0.38	0.38
Clearance Time (s)				5.3	5.3	5.3	4.2	6.3			6.3	6.3
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)				451	453	728	676	2197			1358	1069
v/s Ratio Prot				c0.20	0.20		c0.16	0.13			c0.27	
v/s Ratio Perm						0.14						0.06
v/c Ratio				0.75	0.74	0.52	0.81	0.21			0.71	0.15
Uniform Delay, d1				35.2	35.1	32.6	40.2	8.7			27.4	21.2
Progression Factor				1.00	1.00	1.00	1.61	0.65			1.00	1.00
Incremental Delay, d2				6.9	6.4	0.6	6.1	0.2			3.1	0.3
Delay (s)				42.1	41.5	33.3	70.8	5.9			30.5	21.5
Level of Service				D	D	C	E	A			C	C
Approach Delay (s)		0.0			36.9			41.0			27.7	
Approach LOS		A			D			D			C	

Intersection Summary			
HCM 2000 Control Delay	34.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	15.8
Intersection Capacity Utilization	69.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	121	1	410	0	0	0	0	806	313	544	953	0
Future Volume (vph)	121	1	410	0	0	0	0	806	313	544	953	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6	4.6					6.3	6.3	4.2	6.3	
Lane Util. Factor	0.95	0.95	0.88					0.95	1.00	0.97	0.95	
Frpb, ped/bikes	1.00	1.00	0.99					1.00	0.98	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00					1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95	0.95	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1681	1687	2751					3539	1559	3433	3539	
Flt Permitted	0.95	0.95	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1681	1687	2751					3539	1559	3433	3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	132	1	446	0	0	0	0	876	340	591	1036	0
RTOR Reduction (vph)	0	0	99	0	0	0	0	0	192	0	0	0
Lane Group Flow (vph)	66	67	347	0	0	0	0	876	148	591	1036	0
Confl. Peds. (#/hr)			1						3			
Turn Type	Split	NA	Perm					NA	Perm	Prot	NA	
Protected Phases	4	4						2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	22.1	22.1	22.1					45.6	45.6	22.2	72.0	
Effective Green, g (s)	22.1	22.1	22.1					45.6	45.6	22.2	72.0	
Actuated g/C Ratio	0.21	0.21	0.21					0.43	0.43	0.21	0.69	
Clearance Time (s)	4.6	4.6	4.6					6.3	6.3	4.2	6.3	
Vehicle Extension (s)	3.0	3.0	3.0					3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	353	355	579					1536	677	725	2426	
v/s Ratio Prot	0.04	0.04						c0.25		c0.17	0.29	
v/s Ratio Perm			c0.13						0.09			
v/c Ratio	0.19	0.19	0.60					0.57	0.22	0.82	0.43	
Uniform Delay, d1	34.1	34.1	37.5					22.3	18.6	39.4	7.3	
Progression Factor	1.00	1.00	1.00					1.00	1.00	0.81	1.29	
Incremental Delay, d2	0.3	0.3	1.7					1.5	0.7	5.0	0.4	
Delay (s)	34.3	34.3	39.1					23.9	19.3	37.0	9.8	
Level of Service	C	C	D					C	B	D	A	
Approach Delay (s)		38.0			0.0			22.6			19.7	
Approach LOS		D			A			C			B	

Intersection Summary			
HCM 2000 Control Delay	23.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	69.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	361	15	47	0	13	99	23	659	0	104	612	647
Future Volume (vph)	361	15	47	0	13	99	23	659	0	104	612	647
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	4.9		4.9		4.0	4.0		4.4	4.4	4.9
Lane Util. Factor	0.95	0.95	1.00		1.00		1.00	0.91		1.00	0.91	1.00
Frt	1.00	1.00	0.85		0.88		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.96	1.00		1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1692	1583		1640		1770	5085		1770	5085	1583
Flt Permitted	0.95	0.96	1.00		1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1681	1692	1583		1640		1770	5085		1770	5085	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	392	16	51	0	14	108	25	716	0	113	665	703
RTOR Reduction (vph)	0	0	37	0	100	0	0	0	0	0	0	243
Lane Group Flow (vph)	204	204	14	0	22	0	25	716	0	113	665	460
Turn Type	Split	NA	Perm		NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	4	4		8	8		5	2		1	6	4
Permitted Phases			4									6
Actuated Green, G (s)	20.0	20.0	20.0		5.4		1.6	21.1		8.1	27.6	47.6
Effective Green, g (s)	20.0	20.0	20.0		5.4		1.6	21.1		8.1	27.6	47.6
Actuated g/C Ratio	0.27	0.27	0.27		0.07		0.02	0.29		0.11	0.38	0.65
Clearance Time (s)	4.9	4.9	4.9		4.9		4.0	4.0		4.4	4.4	4.9
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	461	464	434		121		38	1473		196	1927	1035
v/s Ratio Prot	0.12	0.12			c0.01		0.01	0.14		c0.06	0.13	c0.12
v/s Ratio Perm			0.01									0.17
v/c Ratio	0.44	0.44	0.03		0.18		0.66	0.49		0.58	0.35	0.44
Uniform Delay, d1	21.8	21.8	19.3		31.6		35.3	21.4		30.7	16.1	6.1
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.7	0.7	0.0		0.7		34.3	1.2		4.1	0.1	0.3
Delay (s)	22.5	22.4	19.3		32.4		69.6	22.5		34.8	16.3	6.5
Level of Service	C	C	B		C		E	C		C	B	A
Approach Delay (s)		22.1			32.4			24.1			13.0	
Approach LOS		C			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	18.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	72.8	Sum of lost time (s)	18.2
Intersection Capacity Utilization	61.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBU	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	70	1	236	37	196	63	20
Future Volume (vph)	70	1	236	37	196	63	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0			4.0	6.0	6.0	6.0
Lane Util. Factor	1.00			1.00	0.95	1.00	1.00
Frpb, ped/bikes	1.00			1.00	1.00	1.00	0.92
Flpb, ped/bikes	1.00			1.00	1.00	1.00	1.00
Frt	1.00			1.00	1.00	1.00	0.85
Flt Protected	0.95			0.95	1.00	1.00	1.00
Satd. Flow (prot)	1772			1770	3539	1863	1463
Flt Permitted	0.95			0.95	1.00	1.00	1.00
Satd. Flow (perm)	1772			1770	3539	1863	1463
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	76	1	257	40	213	68	22
RTOR Reduction (vph)	1	0	0	0	0	0	16
Lane Group Flow (vph)	76	0	0	297	213	68	6
Confl. Peds. (#/hr)	9			57			57
Turn Type	Prot		Prot	Prot	NA	NA	Perm
Protected Phases	4		5	5	2	6	
Permitted Phases							6
Actuated Green, G (s)	5.9			14.5	31.0	12.5	12.5
Effective Green, g (s)	5.9			14.5	31.0	12.5	12.5
Actuated g/C Ratio	0.12			0.30	0.65	0.26	0.26
Clearance Time (s)	5.0			4.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0			3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	218			535	2290	486	381
v/s Ratio Prot	c0.04			c0.17	0.06	c0.04	
v/s Ratio Perm							0.00
v/c Ratio	0.35			0.56	0.09	0.14	0.02
Uniform Delay, d1	19.2			14.0	3.2	13.6	13.1
Progression Factor	1.00			1.00	1.00	1.00	1.00
Incremental Delay, d2	1.0			1.3	0.0	0.1	0.0
Delay (s)	20.2			15.2	3.2	13.7	13.1
Level of Service	C			B	A	B	B
Approach Delay (s)	20.2				10.2	13.6	
Approach LOS	C				B	B	

Intersection Summary			
HCM 2000 Control Delay	11.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	47.9	Sum of lost time (s)	15.0
Intersection Capacity Utilization	41.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	152	307	11	33	70	172	5	7	8	226	8	59
Future Volume (vph)	152	307	11	33	70	172	5	7	8	226	8	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.5		4.4	6.0	6.0	4.4	4.9		4.4	4.9	
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	0.95		0.97	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.92	1.00	0.96		1.00	0.95	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.92		1.00	0.87	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3515		1770	1863	1455	1770	3131		3433	1538	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3515		1770	1863	1455	1770	3131		3433	1538	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	165	334	12	36	76	187	5	8	9	246	9	64
RTOR Reduction (vph)	0	2	0	0	0	0	0	8	0	0	50	0
Lane Group Flow (vph)	165	344	0	36	76	187	5	9	0	246	23	0
Confl. Peds. (#/hr)			25			95			88			30
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8						
Actuated Green, G (s)	12.5	29.5		2.5	19.0	19.0	0.7	4.7		10.8	14.8	
Effective Green, g (s)	12.5	29.5		2.5	19.0	19.0	0.7	4.7		10.8	14.8	
Actuated g/C Ratio	0.19	0.44		0.04	0.28	0.28	0.01	0.07		0.16	0.22	
Clearance Time (s)	4.4	5.5		4.4	6.0	6.0	4.4	4.9		4.4	4.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	331	1554		66	530	414	18	220		555	341	
v/s Ratio Prot	c0.09	0.10		0.02	0.04		0.00	0.00		c0.07	c0.02	
v/s Ratio Perm						c0.13						
v/c Ratio	0.50	0.22		0.55	0.14	0.45	0.28	0.04		0.44	0.07	
Uniform Delay, d1	24.3	11.5		31.5	17.8	19.6	32.7	28.9		25.2	20.5	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.2	0.1		8.9	0.1	0.8	8.3	0.1		0.6	0.1	
Delay (s)	25.5	11.6		40.4	17.9	20.4	41.0	29.0		25.8	20.6	
Level of Service	C	B		D	B	C	D	C		C	C	
Approach Delay (s)		16.1			22.2			31.7			24.6	
Approach LOS		B			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	20.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	66.7	Sum of lost time (s)	19.7
Intersection Capacity Utilization	65.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

MOVEMENT SUMMARY

Site: Street M / Carmel Mtn Rd AM

Near-Term AM
Roundabout

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Carmel Mountain Rd											
3	L2	53	2.0	0.106	5.3	LOS A	0.4	9.7	0.29	0.18	25.0
8	T1	36	2.0	0.106	5.3	LOS A	0.4	9.7	0.29	0.18	32.7
18	R2	1	2.0	0.106	5.3	LOS A	0.4	9.7	0.29	0.18	32.0
Approach		90	2.0	0.106	5.3	LOS A	0.4	9.7	0.29	0.18	28.5
East: Via Las Lenas											
1	L2	1	2.0	0.100	5.5	LOS A	0.4	9.0	0.35	0.25	32.4
6	T1	15	2.0	0.100	5.5	LOS A	0.4	9.0	0.35	0.25	20.8
16	R2	63	2.0	0.100	5.5	LOS A	0.4	9.0	0.35	0.25	30.5
Approach		79	2.0	0.100	5.5	LOS A	0.4	9.0	0.35	0.25	28.8
North: Carmel Mountain Rd											
7	L2	22	2.0	0.439	9.1	LOS A	2.4	60.9	0.29	0.15	28.9
4	T1	18	2.0	0.439	9.1	LOS A	2.4	60.9	0.29	0.15	31.9
14	R2	368	2.0	0.439	9.1	LOS A	2.4	60.9	0.29	0.15	18.4
Approach		409	2.0	0.439	9.1	LOS A	2.4	60.9	0.29	0.15	19.5
West: Street M											
5	L2	124	2.0	0.162	5.3	LOS A	0.6	15.9	0.15	0.06	28.8
2	T1	7	2.0	0.162	5.3	LOS A	0.6	15.9	0.15	0.06	28.9
12	R2	25	2.0	0.162	5.3	LOS A	0.6	15.9	0.15	0.06	28.1
Approach		155	2.0	0.162	5.3	LOS A	0.6	15.9	0.15	0.06	28.7
All Vehicles		734	2.0	0.439	7.4	LOS A	2.4	60.9	0.27	0.15	23.1

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	17	7	64	48	32	26	153	24	5	272	14
Future Volume (vph)	5	17	7	64	48	32	26	153	24	5	272	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9			4.9		4.4	5.2		4.4	5.4	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.97			0.97		1.00	0.98		1.00	0.99	
Flt Protected		0.99			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1776			1762		1770	3455		1770	3510	
Flt Permitted		0.94			0.84		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1684			1517		1770	3455		1770	3510	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	18	8	70	52	35	28	166	26	5	296	15
RTOR Reduction (vph)	0	6	0	0	15	0	0	12	0	0	4	0
Lane Group Flow (vph)	0	25	0	0	142	0	28	180	0	5	307	0
Confl. Peds. (#/hr)			12			1			6			3
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		9.5			9.5		0.9	16.4		0.7	16.0	
Effective Green, g (s)		9.5			9.5		0.9	16.4		0.7	16.0	
Actuated g/C Ratio		0.23			0.23		0.02	0.40		0.02	0.39	
Clearance Time (s)		4.9			4.9		4.4	5.2		4.4	5.4	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		389			350		38	1378		30	1366	
v/s Ratio Prot							c0.02	0.05		0.00	c0.09	
v/s Ratio Perm		0.01			c0.09							
v/c Ratio		0.06			0.41		0.74	0.13		0.17	0.22	
Uniform Delay, d1		12.3			13.4		20.0	7.8		19.9	8.4	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.1			0.8		53.2	0.0		2.6	0.1	
Delay (s)		12.4			14.2		73.2	7.9		22.5	8.5	
Level of Service		B			B		E	A		C	A	
Approach Delay (s)		12.4			14.2			16.2			8.7	
Approach LOS		B			B			B			A	

Intersection Summary			
HCM 2000 Control Delay	12.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	41.1	Sum of lost time (s)	14.7
Intersection Capacity Utilization	40.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	57	21	7	2	18	21	16	177	2	10	312	32
Future Volume (vph)	57	21	7	2	18	21	16	177	2	10	312	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		4.0	6.0		4.0	6.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00			0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.99			0.93		1.00	1.00		1.00	0.99	
Flt Protected		0.97			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1777			1718		1765	3533		1767	3481	
Flt Permitted		0.77			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1418			1688		1765	3533		1767	3481	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	62	23	8	2	20	23	17	192	2	11	339	35
RTOR Reduction (vph)	0	6	0	0	19	0	0	1	0	0	10	0
Lane Group Flow (vph)	0	87	0	0	26	0	17	193	0	11	364	0
Confl. Peds. (#/hr)	4		5	5		4	6		2	2		6
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		6.3			6.3		0.4	19.2		0.4	19.2	
Effective Green, g (s)		6.3			6.3		0.4	19.2		0.4	19.2	
Actuated g/C Ratio		0.15			0.15		0.01	0.47		0.01	0.47	
Clearance Time (s)		5.0			5.0		4.0	6.0		4.0	6.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		218			260		17	1658		17	1634	
v/s Ratio Prot							c0.01	0.05		0.01	c0.10	
v/s Ratio Perm		c0.06			0.02							
v/c Ratio		0.40			0.10		1.00	0.12		0.65	0.22	
Uniform Delay, d1		15.6			14.9		20.2	6.1		20.2	6.4	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.2			0.2		218.3	0.0		62.0	0.1	
Delay (s)		16.8			15.0		238.5	6.1		82.2	6.5	
Level of Service		B			B		F	A		F	A	
Approach Delay (s)		16.8			15.0			24.8			8.7	
Approach LOS		B			B			C			A	

Intersection Summary			
HCM 2000 Control Delay	14.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.28		
Actuated Cycle Length (s)	40.9	Sum of lost time (s)	15.0
Intersection Capacity Utilization	35.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	367	13	67	2	26	11	32	283	0	6	374	433
Future Volume (vph)	367	13	67	2	26	11	32	283	0	6	374	433
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.1		4.0	4.8		4.0	5.1	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	0.98	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.98			0.96		1.00	1.00		1.00	0.92	
Flt Protected		0.96			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1748			1778		1770	3539		1770	3198	
Flt Permitted		0.74			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1338			1758		1770	3539		1770	3198	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	399	14	73	2	28	12	35	308	0	7	407	471
RTOR Reduction (vph)	0	8	0	0	7	0	0	0	0	0	215	0
Lane Group Flow (vph)	0	478	0	0	35	0	35	308	0	7	663	0
Confl. Peds. (#/hr)			8			6			25			9
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		29.1			29.0		1.5	21.8		0.6	20.6	
Effective Green, g (s)		29.1			29.0		1.5	21.8		0.6	20.6	
Actuated g/C Ratio		0.45			0.45		0.02	0.34		0.01	0.32	
Clearance Time (s)		4.0			4.1		4.0	4.8		4.0	5.1	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		605			792		41	1199		16	1024	
v/s Ratio Prot							c0.02	0.09		0.00	c0.21	
v/s Ratio Perm		c0.36			0.02							
v/c Ratio		0.79			0.04		0.85	0.26		0.44	0.65	
Uniform Delay, d1		15.0			9.9		31.3	15.4		31.7	18.7	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		6.8			0.0		85.0	0.1		18.0	1.4	
Delay (s)		21.8			9.9		116.3	15.5		49.7	20.2	
Level of Service		C			A		F	B		D	C	
Approach Delay (s)		21.8			9.9			25.8			20.4	
Approach LOS		C			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	21.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	64.3	Sum of lost time (s)	13.2
Intersection Capacity Utilization	65.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	606	22	6	672	85	50	27	19	473	26	90
Future Volume (vph)	34	606	22	6	672	85	50	27	19	473	26	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.9		4.4	5.2			4.9		4.9	4.9	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.98			0.97		1.00	0.88	
Flt Protected	0.95	1.00		0.95	1.00			0.97		0.95	1.00	
Satd. Flow (prot)	1770	3518		1770	3467			1761		1770	1629	
Flt Permitted	0.95	1.00		0.95	1.00			0.83		0.69	1.00	
Satd. Flow (perm)	1770	3518		1770	3467			1499		1285	1629	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	37	659	24	7	730	92	54	29	21	514	28	98
RTOR Reduction (vph)	0	3	0	0	12	0	0	12	0	0	55	0
Lane Group Flow (vph)	37	680	0	7	810	0	0	92	0	514	71	0
Confl. Peds. (#/hr)			2			8			3			1
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	2.1	22.8		0.7	21.1			29.5		29.5	29.5	
Effective Green, g (s)	2.1	22.8		0.7	21.1			29.5		29.5	29.5	
Actuated g/C Ratio	0.03	0.34		0.01	0.31			0.44		0.44	0.44	
Clearance Time (s)	4.4	4.9		4.4	5.2			4.9		4.9	4.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	55	1193		18	1088			658		564	715	
v/s Ratio Prot	c0.02	0.19		0.00	c0.23						0.04	
v/s Ratio Perm								0.06		c0.40		
v/c Ratio	0.67	0.57		0.39	0.74			0.14		0.91	0.10	
Uniform Delay, d1	32.2	18.2		33.0	20.6			11.3		17.6	11.1	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	27.8	0.6		13.4	2.8			0.1		19.0	0.1	
Delay (s)	60.0	18.8		46.4	23.4			11.4		36.6	11.1	
Level of Service	E	B		D	C			B		D	B	
Approach Delay (s)		20.9			23.6			11.4			31.6	
Approach LOS		C			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	24.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	67.2	Sum of lost time (s)	14.5
Intersection Capacity Utilization	69.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	532	157	93	320	6	141	17	81	33	5	49
Future Volume (vph)	21	532	157	93	320	6	141	17	81	33	5	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.2		4.4	5.9		4.9	4.9			4.9	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00			1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	0.99			0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Frt	1.00	0.97		1.00	1.00		1.00	0.88			0.92	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.98	
Satd. Flow (prot)	1770	3398		1770	3529		1770	1613			1674	
Flt Permitted	0.95	1.00		0.95	1.00		0.75	1.00			0.88	
Satd. Flow (perm)	1770	3398		1770	3529		1394	1613			1507	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	23	578	171	101	348	7	153	18	88	36	5	53
RTOR Reduction (vph)	0	36	0	0	2	0	0	54	0	0	32	0
Lane Group Flow (vph)	23	713	0	101	353	0	153	52	0	0	62	0
Confl. Peds. (#/hr)			4						2			5
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	1.6	26.9		5.2	29.8		30.0	30.0			30.0	
Effective Green, g (s)	1.6	26.9		5.2	29.8		30.0	30.0			30.0	
Actuated g/C Ratio	0.02	0.35		0.07	0.39		0.39	0.39			0.39	
Clearance Time (s)	4.4	5.2		4.4	5.9		4.9	4.9			4.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)	36	1193		120	1372		545	631			590	
v/s Ratio Prot	0.01	c0.21		c0.06	c0.10			0.03				
v/s Ratio Perm							c0.11				0.04	
v/c Ratio	0.64	0.60		0.84	0.26		0.28	0.08			0.10	
Uniform Delay, d1	37.2	20.4		35.3	15.9		15.9	14.7			14.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	31.7	2.2		38.5	0.5		1.3	0.3			0.4	
Delay (s)	68.9	22.6		73.8	16.3		17.2	14.9			15.1	
Level of Service	E	C		E	B		B	B			B	
Approach Delay (s)		24.0			29.1			16.3			15.1	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	23.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	76.6	Sum of lost time (s)	15.2
Intersection Capacity Utilization	62.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

17: Black Mountain Rd & SR 56 WB Ramps

3/15/2016

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	458	24	273	533	582	0	0	1000	622
Future Volume (vph)	0	0	0	458	24	273	533	582	0	0	1000	622
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				8.6	8.6	8.6	7.2	9.3			9.3	
Lane Util. Factor				0.95	0.95	1.00	0.97	0.95			0.91	
Frt				1.00	1.00	0.85	1.00	1.00			0.94	
Flt Protected				0.95	0.96	1.00	0.95	1.00			1.00	
Satd. Flow (prot)				1681	1697	1583	3433	3539			4780	
Flt Permitted				0.95	0.96	1.00	0.95	1.00			1.00	
Satd. Flow (perm)				1681	1697	1583	3433	3539			4780	
Peak-hour factor, PHF	0.92	0.92	0.92	0.82	0.55	0.73	0.88	0.87	0.92	0.92	0.89	0.83
Adj. Flow (vph)	0	0	0	559	44	374	606	669	0	0	1124	749
RTOR Reduction (vph)	0	0	0	0	0	240	0	0	0	0	85	0
Lane Group Flow (vph)	0	0	0	302	301	134	606	669	0	0	1788	0
Turn Type				Split	NA	Perm	Prot	NA			NA	
Protected Phases				8	8		5	2			6	
Permitted Phases						8						
Actuated Green, G (s)				29.1	29.1	29.1	28.2	95.0			62.6	
Effective Green, g (s)				26.1	26.1	26.1	25.2	92.0			59.6	
Actuated g/C Ratio				0.19	0.19	0.19	0.19	0.68			0.44	
Clearance Time (s)				5.6	5.6	5.6	4.2	6.3			6.3	
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)				322	325	303	636	2394			2094	
v/s Ratio Prot				c0.18	0.18		c0.18	0.19			c0.37	
v/s Ratio Perm						0.08						
v/c Ratio				0.94	0.93	0.44	0.95	0.28			0.95dr	
Uniform Delay, d1				54.2	54.0	48.5	54.8	8.8			34.3	
Progression Factor				1.00	1.00	1.00	1.43	0.78			1.00	
Incremental Delay, d2				33.9	31.2	1.0	12.9	0.2			4.7	
Delay (s)				88.0	85.2	49.6	91.1	7.0			39.0	
Level of Service				F	F	D	F	A			D	
Approach Delay (s)		0.0			72.4			47.0			39.0	
Approach LOS		A			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	49.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	136.0	Sum of lost time (s)	25.1
Intersection Capacity Utilization	82.7%	ICU Level of Service	E
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

18: Black Mountain Rd & SR 56 EB Ramps

3/15/2016

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	137	0	372	0	0	0	0	978	335	362	1096	0
Future Volume (vph)	137	0	372	0	0	0	0	978	335	362	1096	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0					6.3	6.3	4.2	6.3	
Lane Util. Factor	0.95	0.95	0.88					0.95	1.00	0.97	0.91	
Frpb, ped/bikes	1.00	1.00	0.98					1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00					1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95	0.95	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1681	1681	2743					3539	1583	3433	5085	
Flt Permitted	0.95	0.95	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1681	1681	2743					3539	1583	3433	5085	
Peak-hour factor, PHF	0.81	0.82	0.80	0.92	0.92	0.92	0.92	0.86	0.76	0.94	0.98	0.92
Adj. Flow (vph)	169	0	465	0	0	0	0	1137	441	385	1118	0
RTOR Reduction (vph)	0	0	270	0	0	0	0	0	144	0	0	0
Lane Group Flow (vph)	84	85	195	0	0	0	0	1137	297	385	1118	0
Confl. Peds. (#/hr)			5									
Turn Type	Split	NA	Perm					NA	Perm	Prot	NA	
Protected Phases	4	4						2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	57.0	57.0	57.0					46.7	46.7	16.8	67.7	
Effective Green, g (s)	57.0	57.0	57.0					46.7	46.7	16.8	67.7	
Actuated g/C Ratio	0.42	0.42	0.42					0.34	0.34	0.12	0.50	
Clearance Time (s)	5.0	5.0	5.0					6.3	6.3	4.2	6.3	
Vehicle Extension (s)	3.0	3.0	3.0					3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	704	704	1149					1215	543	424	2531	
v/s Ratio Prot	0.05	0.05						c0.32		c0.11	0.22	
v/s Ratio Perm			c0.07						0.19			
v/c Ratio	0.12	0.12	0.17					0.94	0.55	0.91	0.44	
Uniform Delay, d1	24.2	24.2	24.7					43.2	36.1	58.8	22.0	
Progression Factor	1.00	1.00	1.00					1.00	1.00	1.37	1.19	
Incremental Delay, d2	0.3	0.4	0.3					14.4	3.9	14.9	0.3	
Delay (s)	24.5	24.5	25.0					57.6	40.0	95.4	26.4	
Level of Service	C	C	C					E	D	F	C	
Approach Delay (s)		24.9			0.0			52.7			44.1	
Approach LOS		C			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	44.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	136.0	Sum of lost time (s)	19.5
Intersection Capacity Utilization	82.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

19: Black Mountain Rd & Park Village Rd/Adolphia St

3/15/2016

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	429	65	291	145	34	101	95	725	50	130	1473	194
Future Volume (vph)	429	65	291	145	34	101	95	725	50	130	1473	194
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3	6.3	6.3	4.9	4.9		4.4	5.7		4.4	6.5	6.5
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95		0.97	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	0.99		1.00	1.00		1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.90		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	0.96	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1707	1556	1681	1569		3433	3505		1770	3539	1583
Flt Permitted	0.95	0.96	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1681	1707	1556	1681	1569		3433	3505		1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	466	71	316	158	37	110	103	788	54	141	1601	211
RTOR Reduction (vph)	0	0	182	0	55	0	0	3	0	0	0	54
Lane Group Flow (vph)	266	271	134	142	108	0	103	839	0	141	1601	157
Confl. Peds. (#/hr)			5			1						
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			4									6
Actuated Green, G (s)	26.5	26.5	26.5	17.6	17.6		4.7	45.1		14.2	53.8	53.8
Effective Green, g (s)	26.5	26.5	26.5	17.6	17.6		4.7	45.1		14.2	53.8	53.8
Actuated g/C Ratio	0.21	0.21	0.21	0.14	0.14		0.04	0.36		0.11	0.43	0.43
Clearance Time (s)	6.3	6.3	6.3	4.9	4.9		4.4	5.7		4.4	6.5	6.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	357	362	330	237	221		129	1267		201	1526	682
v/s Ratio Prot	0.16	c0.16		c0.08	0.07		0.03	0.24		c0.08	c0.45	
v/s Ratio Perm			0.09									0.10
v/c Ratio	0.75	0.75	0.41	0.60	0.49		0.80	0.66		0.70	1.05	0.23
Uniform Delay, d1	45.9	46.0	42.3	50.2	49.4		59.5	33.4		53.2	35.5	22.4
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	8.2	8.2	0.8	4.0	1.7		28.1	1.3		10.5	37.1	0.2
Delay (s)	54.1	54.2	43.1	54.3	51.1		87.6	34.7		63.7	72.6	22.6
Level of Service	D	D	D	D	D		F	C		E	E	C
Approach Delay (s)		50.1			52.6			40.5			66.5	
Approach LOS		D			D			D			E	

Intersection Summary				
HCM 2000 Control Delay	56.0	HCM 2000 Level of Service	E	
HCM 2000 Volume to Capacity ratio	0.89			
Actuated Cycle Length (s)	124.7	Sum of lost time (s)	22.1	
Intersection Capacity Utilization	86.9%	ICU Level of Service	E	
Analysis Period (min)	15			
c Critical Lane Group				

20: Black Mountain Rd & Dwy/Mercy Rd

3/15/2016

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	386	0	334	23	560	314	462	1382	1
Future Volume (vph)	0	0	0	386	0	334	23	560	314	462	1382	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0	4.0	4.0	6.1	4.0	4.0	5.8	
Lane Util. Factor				0.97	0.95	0.95	1.00	0.95	1.00	0.97	0.95	
Frpb, ped/bikes				1.00	0.98	0.98	1.00	1.00	0.99	1.00	1.00	
Flpb, ped/bikes				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt				1.00	0.85	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected				0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)				3433	1481	1481	1770	3539	1570	3433	3539	
Flt Permitted				0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)				3433	1481	1481	1770	3539	1570	3433	3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	420	0	363	25	609	341	502	1502	1
RTOR Reduction (vph)	0	0	0	0	140	139	0	0	128	0	0	0
Lane Group Flow (vph)	0	0	0	420	42	42	25	609	213	502	1503	0
Confl. Peds. (#/hr)			2			4			2			
Turn Type				Split	NA	Perm	Prot	NA	pm+ov	Prot	NA	
Protected Phases	4	4		8	8		5	2	8	1	6	
Permitted Phases						8			2			
Actuated Green, G (s)				21.3	21.3	21.3	1.5	36.5	57.8	11.8	47.1	
Effective Green, g (s)				21.3	21.3	21.3	1.5	36.5	57.8	11.8	47.1	
Actuated g/C Ratio				0.23	0.23	0.23	0.02	0.39	0.62	0.13	0.51	
Clearance Time (s)				4.0	4.0	4.0	4.0	6.1	4.0	4.0	5.8	
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)				789	340	340	28	1394	979	437	1800	
v/s Ratio Prot				c0.12	0.03		0.01	0.17	0.05	c0.15	c0.42	
v/s Ratio Perm						0.03			0.09			
v/c Ratio				0.53	0.12	0.12	0.89	0.44	0.22	1.15	0.83	
Uniform Delay, d1				31.3	28.2	28.2	45.5	20.5	7.6	40.4	19.4	
Progression Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2				0.7	0.2	0.2	123.8	0.2	0.1	90.5	3.5	
Delay (s)				32.0	28.4	28.4	169.2	20.7	7.7	130.9	22.9	
Level of Service				C	C	C	F	C	A	F	C	
Approach Delay (s)		0.0			30.3			20.0			50.0	
Approach LOS		A			C			B			D	

Intersection Summary				
HCM 2000 Control Delay	38.1	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.77			
Actuated Cycle Length (s)	92.6	Sum of lost time (s)	18.1	
Intersection Capacity Utilization	72.2%	ICU Level of Service	C	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	24	294	297	31	601	58
Future Volume (vph)	24	294	297	31	601	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	0.88	0.95		0.97	0.95
Frpb, ped/bikes	1.00	0.96	0.99		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	0.99		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	2683	3470		3433	3539
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	2683	3470		3433	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	26	320	323	34	653	63
RTOR Reduction (vph)	0	265	9	0	0	0
Lane Group Flow (vph)	26	55	348	0	653	63
Confl. Peds. (#/hr)		20		20		
Confl. Bikes (#/hr)		10		10		
Turn Type	Prot	Perm	NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8				
Actuated Green, G (s)	8.7	8.7	12.7		16.0	33.2
Effective Green, g (s)	8.7	8.7	12.7		16.0	33.2
Actuated g/C Ratio	0.17	0.17	0.25		0.31	0.65
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	302	458	865		1079	2308
v/s Ratio Prot	0.01		c0.10		c0.19	0.02
v/s Ratio Perm		c0.02				
v/c Ratio	0.09	0.12	0.40		0.61	0.03
Uniform Delay, d1	17.8	17.9	15.9		14.8	3.1
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.1	0.1	0.3		1.0	0.0
Delay (s)	17.9	18.0	16.2		15.7	3.1
Level of Service	B	B	B		B	A
Approach Delay (s)	18.0		16.2			14.6
Approach LOS	B		B			B

Intersection Summary			
HCM 2000 Control Delay	15.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	50.9	Sum of lost time (s)	13.5
Intersection Capacity Utilization	54.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	23	0	249	49	8	74
Future Volume (vph)	23	0	249	49	8	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5		4.5	4.5
Lane Util. Factor	1.00		0.95		1.00	0.95
Frpb, ped/bikes	1.00		0.99		1.00	1.00
Flpb, ped/bikes	1.00		1.00		1.00	1.00
Frt	1.00		0.98		1.00	1.00
Flt Protected	0.95		1.00		0.95	1.00
Satd. Flow (prot)	1770		3428		1770	3539
Flt Permitted	0.95		1.00		0.95	1.00
Satd. Flow (perm)	1770		3428		1770	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	25	0	271	53	9	80
RTOR Reduction (vph)	0	0	12	0	0	0
Lane Group Flow (vph)	25	0	312	0	9	80
Confl. Peds. (#/hr)		20		20		
Confl. Bikes (#/hr)		10		10		
Turn Type	Prot	Perm	NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8				
Actuated Green, G (s)	2.3		26.9		0.6	32.0
Effective Green, g (s)	2.3		26.9		0.6	32.0
Actuated g/C Ratio	0.05		0.62		0.01	0.74
Clearance Time (s)	4.5		4.5		4.5	4.5
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	94		2129		24	2615
v/s Ratio Prot	c0.01		c0.09		c0.01	0.02
v/s Ratio Perm						
v/c Ratio	0.27		0.15		0.38	0.03
Uniform Delay, d1	19.7		3.4		21.2	1.5
Progression Factor	1.00		1.00		1.00	1.00
Incremental Delay, d2	1.5		0.0		9.6	0.0
Delay (s)	21.2		3.4		30.7	1.5
Level of Service	C		A		C	A
Approach Delay (s)	21.2		3.4			4.5
Approach LOS	C		A			A

Intersection Summary			
HCM 2000 Control Delay	4.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.16		
Actuated Cycle Length (s)	43.3	Sum of lost time (s)	13.5
Intersection Capacity Utilization	33.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	215	399	165	112	138	115	153	566	280	139	505	70
Future Volume (vph)	215	399	165	112	138	115	153	566	280	139	505	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.3	6.3	4.4	6.2	6.2	4.4	6.0	6.0	4.4	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	3433	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	1863	1583	3433	1863	1583	1770	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	234	434	179	122	150	125	166	615	304	151	549	76
RTOR Reduction (vph)	0	0	120	0	0	97	0	0	227	0	0	57
Lane Group Flow (vph)	234	434	59	122	150	28	166	615	77	151	549	19
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Actuated Green, G (s)	18.5	33.0	33.0	7.6	22.2	22.2	14.2	25.5	25.5	13.5	24.8	24.8
Effective Green, g (s)	18.5	33.0	33.0	7.6	22.2	22.2	14.2	25.5	25.5	13.5	24.8	24.8
Actuated g/C Ratio	0.18	0.33	0.33	0.08	0.22	0.22	0.14	0.25	0.25	0.13	0.25	0.25
Clearance Time (s)	4.4	6.3	6.3	4.4	6.2	6.2	4.4	6.0	6.0	4.4	6.0	6.0
Vehicle Extension (s)	2.0	4.9	4.9	2.0	5.1	5.1	2.0	5.9	5.9	2.0	5.6	5.6
Lane Grp Cap (vph)	325	610	518	259	410	348	249	896	400	237	871	389
v/s Ratio Prot	c0.13	c0.23		0.04	0.08		c0.09	c0.17		0.09	0.16	
v/s Ratio Perm			0.04			0.02			0.05			0.01
v/c Ratio	0.72	0.71	0.11	0.47	0.37	0.08	0.67	0.69	0.19	0.64	0.63	0.05
Uniform Delay, d1	38.7	29.7	23.6	44.6	33.3	31.1	41.0	34.0	29.5	41.3	33.9	28.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	6.2	4.8	0.2	0.5	1.2	0.2	5.1	3.3	0.6	4.1	2.3	0.1
Delay (s)	44.9	34.4	23.8	45.1	34.5	31.4	46.2	37.3	30.2	45.4	36.2	29.1
Level of Service	D	C	C	D	C	C	D	D	C	D	D	C
Approach Delay (s)		35.1			36.8			36.6			37.3	
Approach LOS		D			D			D			D	

Intersection Summary				
HCM 2000 Control Delay	36.4	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.73			
Actuated Cycle Length (s)	100.7	Sum of lost time (s)	21.1	
Intersection Capacity Utilization	65.3%	ICU Level of Service	C	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	0	0	0	25	0	11	56	0	988	32	20	757
Future Volume (vph)	0	0	0	25	0	11	56	0	988	32	20	757
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.4		4.4		5.4	6.0		4.4	6.0
Lane Util. Factor				1.00		1.00		1.00	0.95		1.00	0.95
Frpb, ped/bikes				1.00		0.99		1.00	1.00		1.00	1.00
Flpb, ped/bikes				1.00		1.00		1.00	1.00		1.00	1.00
Frt				1.00		0.85		1.00	1.00		1.00	1.00
Flt Protected				0.95		1.00		0.95	1.00		0.95	1.00
Satd. Flow (prot)				1770		1561		1770	3520		1770	3539
Flt Permitted				0.95		1.00		0.95	1.00		0.95	1.00
Satd. Flow (perm)				1770		1561		1770	3520		1770	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	27	0	12	61	0	1074	35	22	823
RTOR Reduction (vph)	0	0	0	0	0	11	0	0	1	0	0	0
Lane Group Flow (vph)	0	0	0	27	0	1	0	61	1108	0	22	823
Confl. Peds. (#/hr)						4				3		
Turn Type				Prot		Perm	Prot	Prot	NA		Prot	NA
Protected Phases				8			5	5	2		1	6
Permitted Phases						8						
Actuated Green, G (s)				4.5		4.5		4.9	36.3		0.8	32.2
Effective Green, g (s)				4.5		4.5		3.9	36.3		0.8	32.2
Actuated g/C Ratio				0.08		0.08		0.07	0.64		0.01	0.57
Clearance Time (s)				4.4		4.4		4.4	6.0		4.4	6.0
Vehicle Extension (s)				3.0		3.0		3.0	3.0		3.0	3.0
Lane Grp Cap (vph)				141		124		122	2265		25	2020
v/s Ratio Prot				c0.02				c0.03	c0.31		0.01	0.23
v/s Ratio Perm						0.00						
v/c Ratio				0.19		0.01		0.50	0.49		0.88	0.41
Uniform Delay, d1				24.3		23.9		25.3	5.2		27.8	6.8
Progression Factor				1.00		1.00		1.00	1.00		1.00	1.00
Incremental Delay, d2				0.7		0.0		3.2	0.2		127.2	0.1
Delay (s)				24.9		23.9		28.5	5.4		154.9	6.9
Level of Service				C		C		C	A		F	A
Approach Delay (s)		0.0			24.6				6.6			10.8
Approach LOS		A			C				A			B

Intersection Summary				
HCM 2000 Control Delay	8.7	HCM 2000 Level of Service	A	
HCM 2000 Volume to Capacity ratio	0.49			
Actuated Cycle Length (s)	56.4	Sum of lost time (s)	15.8	
Intersection Capacity Utilization	47.3%	ICU Level of Service	A	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	0
Future Volume (vph)	0
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	0
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	28	1	43	13	0	6	71	73	1042	12	19	23
Future Volume (vph)	28	1	43	13	0	6	71	73	1042	12	19	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.4	4.4	4.4	4.4			4.4	6.0			4.4
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00			0.97	0.95			1.00
Frpb, ped/bikes	1.00	1.00	0.97	1.00	0.98			1.00	1.00			1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00			1.00	1.00			1.00
Frt	1.00	1.00	0.85	1.00	0.85			1.00	1.00			1.00
Flt Protected	0.95	0.96	1.00	0.95	1.00			0.95	1.00			0.95
Satd. Flow (prot)	1681	1691	1539	1770	1547			3433	3532			1770
Flt Permitted	0.95	0.96	1.00	0.95	1.00			0.95	1.00			0.95
Satd. Flow (perm)	1681	1691	1539	1770	1547			3433	3532			1770
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	30	1	47	14	0	7	77	79	1133	13	21	25
RTOR Reduction (vph)	0	0	43	0	7	0	0	0	0	0	0	0
Lane Group Flow (vph)	16	15	4	14	0	0	0	156	1146	0	0	46
Confl. Peds. (#/hr)			26			18				6		
Turn Type	Split	NA	Perm	Split	NA		Prot	Prot	NA		Prot	Prot
Protected Phases	4	4		8	8		5	5	2		1	1
Permitted Phases			4									
Actuated Green, G (s)	7.1	7.1	7.1	5.5	5.5			8.7	43.9			3.9
Effective Green, g (s)	7.1	7.1	7.1	5.5	5.5			8.7	43.9			3.9
Actuated g/C Ratio	0.09	0.09	0.09	0.07	0.07			0.11	0.55			0.05
Clearance Time (s)	4.4	4.4	4.4	4.4	4.4			4.4	6.0			4.4
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0	3.0			3.0
Lane Grp Cap (vph)	149	150	137	122	106			375	1947			86
v/s Ratio Prot	c0.01	0.01		c0.01	0.00			c0.05	c0.32			0.03
v/s Ratio Perm			0.00									
v/c Ratio	0.11	0.10	0.03	0.11	0.00			0.42	0.59			0.53
Uniform Delay, d1	33.3	33.3	33.1	34.8	34.5			33.1	11.9			37.0
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00			1.00
Incremental Delay, d2	0.3	0.3	0.1	0.4	0.0			0.8	0.5			6.3
Delay (s)	33.7	33.6	33.2	35.2	34.5			33.8	12.3			43.2
Level of Service	C	C	C	D	C			C	B			D
Approach Delay (s)		33.4			35.0				14.9			
Approach LOS		C			C				B			

Intersection Summary			
HCM 2000 Control Delay	15.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	79.6	Sum of lost time (s)	19.2
Intersection Capacity Utilization	76.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	703	24
Future Volume (vph)	703	24
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.0	6.0
Lane Util. Factor	0.95	1.00
Frpb, ped/bikes	1.00	0.98
Flpb, ped/bikes	1.00	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	3539	1556
Flt Permitted	1.00	1.00
Satd. Flow (perm)	3539	1556
Peak-hour factor, PHF	0.92	0.92
Adj. Flow (vph)	764	26
RTOR Reduction (vph)	0	13
Lane Group Flow (vph)	764	13
Confl. Peds. (#/hr)		5
Turn Type	NA	Perm
Protected Phases	6	
Permitted Phases		6
Actuated Green, G (s)	39.1	39.1
Effective Green, g (s)	39.1	39.1
Actuated g/C Ratio	0.49	0.49
Clearance Time (s)	6.0	6.0
Vehicle Extension (s)	3.0	3.0
Lane Grp Cap (vph)	1738	764
v/s Ratio Prot	0.22	
v/s Ratio Perm		0.01
v/c Ratio	0.44	0.02
Uniform Delay, d1	13.1	10.4
Progression Factor	1.00	1.00
Incremental Delay, d2	0.2	0.0
Delay (s)	13.3	10.4
Level of Service	B	B
Approach Delay (s)	14.9	
Approach LOS	B	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	42	3	50	65	1	22	105	1203	95	40	795	42
Future Volume (vph)	42	3	50	65	1	22	105	1203	95	40	795	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.3		4.4	4.9		4.4	6.0		4.4	6.0	
Lane Util. Factor	1.00	0.95		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.86		1.00	0.86		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3000		1770	1574		1770	3500		1770	3512	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3000		1770	1574		1770	3500		1770	3512	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	46	3	54	71	1	24	114	1308	103	43	864	46
RTOR Reduction (vph)	0	51	0	0	21	0	0	5	0	0	3	0
Lane Group Flow (vph)	46	6	0	71	4	0	114	1406	0	43	907	0
Confl. Peds. (#/hr)			1			2						
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	4.5	7.9		5.4	9.2		6.9	35.1		2.2	30.4	
Effective Green, g (s)	4.5	7.9		5.4	9.2		6.9	35.1		2.2	30.4	
Actuated g/C Ratio	0.06	0.11		0.08	0.13		0.10	0.50		0.03	0.43	
Clearance Time (s)	4.4	5.3		4.4	4.9		4.4	6.0		4.4	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	112	335		135	204		172	1737		55	1510	
v/s Ratio Prot	0.03	0.00		c0.04	c0.00		c0.06	c0.40		0.02	0.26	
v/s Ratio Perm												
v/c Ratio	0.41	0.02		0.53	0.02		0.66	0.81		0.78	0.60	
Uniform Delay, d1	31.8	28.0		31.4	26.8		30.8	15.0		34.0	15.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.4	0.0		3.7	0.0		9.2	2.9		50.5	0.7	
Delay (s)	34.3	28.0		35.1	26.9		40.0	17.9		84.5	16.2	
Level of Service	C	C		D	C		D	B		F	B	
Approach Delay (s)		30.8			32.9			19.5			19.2	
Approach LOS		C			C			B			B	

Intersection Summary

HCM 2000 Control Delay	20.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	70.7	Sum of lost time (s)	20.1
Intersection Capacity Utilization	64.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	139	199	286	1264	808	102
Future Volume (vph)	139	199	286	1264	808	102
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.4	4.4	6.0	6.0	
Lane Util. Factor	1.00	1.00	0.97	0.95	0.95	
Frpb, ped/bikes	1.00	0.99	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.98	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1570	3433	3539	3480	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1770	1570	3433	3539	3480	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	151	216	311	1374	878	111
RTOR Reduction (vph)	0	15	0	0	10	0
Lane Group Flow (vph)	151	201	311	1374	979	0
Confl. Peds. (#/hr)		3				
Turn Type	Prot	pm+ov	Prot	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	11.1	17.4	6.3	33.9	23.2	
Effective Green, g (s)	11.1	17.4	6.3	33.9	23.2	
Actuated g/C Ratio	0.20	0.31	0.11	0.61	0.42	
Clearance Time (s)	4.9	4.4	4.4	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	351	488	386	2146	1444	
v/s Ratio Prot	c0.09	0.05	0.09	c0.39	0.28	
v/s Ratio Perm		0.08				
v/c Ratio	0.43	0.41	0.81	0.64	0.68	
Uniform Delay, d1	19.6	15.2	24.2	7.1	13.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.8	0.6	11.6	0.7	1.3	
Delay (s)	20.5	15.8	35.8	7.7	14.6	
Level of Service	C	B	D	A	B	
Approach Delay (s)	17.7			12.9	14.6	
Approach LOS	B			B	B	

Intersection Summary			
HCM 2000 Control Delay	14.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	55.9	Sum of lost time (s)	15.3
Intersection Capacity Utilization	56.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	454	0	803	532	797	0	0	907	160
Future Volume (vph)	0	0	0	454	0	803	532	797	0	0	907	160
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				5.3	5.3	5.3	4.2	6.3			6.3	6.3
Lane Util. Factor				0.95	0.95	0.88	0.97	0.95			0.95	0.88
Frpb, ped/bikes				1.00	1.00	0.98	1.00	1.00			1.00	1.00
Flpb, ped/bikes				1.00	1.00	1.00	1.00	1.00			1.00	1.00
Frt				1.00	1.00	0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95	0.95	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				1681	1681	2726	3433	3539			3539	2787
Flt Permitted				0.95	0.95	1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)				1681	1681	2726	3433	3539			3539	2787
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	493	0	873	578	866	0	0	986	174
RTOR Reduction (vph)	0	0	0	0	0	213	0	0	0	0	0	108
Lane Group Flow (vph)	0	0	0	246	247	660	578	866	0	0	986	66
Confl. Peds. (#/hr)						1						
Turn Type				Split	NA	Perm	Prot	NA			NA	Perm
Protected Phases				8	8		5	2			6	
Permitted Phases						8						6
Actuated Green, G (s)				28.8	28.8	28.8	20.8	64.6			39.6	39.6
Effective Green, g (s)				28.8	28.8	28.8	20.8	64.6			39.6	39.6
Actuated g/C Ratio				0.27	0.27	0.27	0.20	0.62			0.38	0.38
Clearance Time (s)				5.3	5.3	5.3	4.2	6.3			6.3	6.3
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)				461	461	747	680	2177			1334	1051
v/s Ratio Prot				0.15	0.15		c0.17	0.24			c0.28	
v/s Ratio Perm						c0.24						0.02
v/c Ratio				0.53	0.54	0.88	0.85	0.40			0.74	0.06
Uniform Delay, d1				32.4	32.4	36.5	40.6	10.3			28.2	20.9
Progression Factor				1.00	1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2				1.2	1.2	12.0	9.8	0.5			3.7	0.1
Delay (s)				33.6	33.6	48.5	50.3	10.8			31.9	21.0
Level of Service				C	C	D	D	B			C	C
Approach Delay (s)		0.0			43.1			26.7			30.3	
Approach LOS		A			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	33.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	15.8
Intersection Capacity Utilization	91.5%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	409	1	626	0	0	0	0	920	803	571	790	0
Future Volume (vph)	409	1	626	0	0	0	0	920	803	571	790	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6	4.6					6.3	6.3	4.2	6.3	
Lane Util. Factor	0.95	0.95	0.88					0.95	1.00	0.97	0.95	
Frpb, ped/bikes	1.00	1.00	0.99					1.00	0.99	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00					1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95	0.95	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1681	1686	2747					3539	1562	3433	3539	
Flt Permitted	0.95	0.95	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1681	1686	2747					3539	1562	3433	3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	445	1	680	0	0	0	0	1000	873	621	859	0
RTOR Reduction (vph)	0	0	263	0	0	0	0	0	324	0	0	0
Lane Group Flow (vph)	222	224	417	0	0	0	0	1000	549	621	859	0
Confl. Peds. (#/hr)			2						1			
Turn Type	Split	NA	Perm					NA	Perm	Prot	NA	
Protected Phases	4	4						2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	30.6	30.6	30.6					69.1	69.1	30.2	103.5	
Effective Green, g (s)	30.6	30.6	30.6					69.1	69.1	30.2	103.5	
Actuated g/C Ratio	0.21	0.21	0.21					0.48	0.48	0.21	0.71	
Clearance Time (s)	4.6	4.6	4.6					6.3	6.3	4.2	6.3	
Vehicle Extension (s)	3.0	3.0	3.0					3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	354	355	579					1686	744	715	2526	
v/s Ratio Prot	0.13	0.13						0.28		c0.18	0.24	
v/s Ratio Perm			c0.15						c0.35			
v/c Ratio	0.63	0.63	0.72					0.59	0.74	0.87	0.34	
Uniform Delay, d1	52.0	52.1	53.2					27.7	30.6	55.5	7.8	
Progression Factor	1.00	1.00	1.00					1.00	1.00	1.00	1.00	
Incremental Delay, d2	3.5	3.6	4.4					1.5	6.5	10.9	0.4	
Delay (s)	55.5	55.7	57.6					29.2	37.1	66.4	8.2	
Level of Service	E	E	E					C	D	E	A	
Approach Delay (s)		56.8			0.0			32.9			32.6	
Approach LOS		E			A			C			C	

Intersection Summary				
HCM 2000 Control Delay	38.8	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.76			
Actuated Cycle Length (s)	145.0	Sum of lost time (s)	15.1	
Intersection Capacity Utilization	91.5%	ICU Level of Service	F	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	582	35	55	0	17	174	70	967	0	156	981	279
Future Volume (vph)	582	35	55	0	17	174	70	967	0	156	981	279
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	4.9		4.9		4.4	4.9		4.4	4.9	4.9
Lane Util. Factor	0.95	0.95	1.00		1.00		1.00	0.91		1.00	0.91	1.00
Frt	1.00	1.00	0.85		0.88		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.96	1.00		1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1694	1583		1633		1770	5085		1770	5085	1583
Flt Permitted	0.95	0.96	1.00		1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1681	1694	1583		1633		1770	5085		1770	5085	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	633	38	60	0	18	189	76	1051	0	170	1066	303
RTOR Reduction (vph)	0	0	44	0	173	0	0	0	0	0	0	109
Lane Group Flow (vph)	335	336	16	0	34	0	76	1051	0	170	1066	194
Turn Type	Split	NA	Perm		NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	4	4		8	8		5	2		1	6	4
Permitted Phases			4									6
Actuated Green, G (s)	26.7	26.7	26.7		8.3		7.7	29.2		14.5	36.0	62.7
Effective Green, g (s)	26.7	26.7	26.7		8.3		7.7	29.2		14.5	36.0	62.7
Actuated g/C Ratio	0.27	0.27	0.27		0.08		0.08	0.30		0.15	0.37	0.64
Clearance Time (s)	4.9	4.9	4.9		4.9		4.4	4.9		4.4	4.9	4.9
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	458	462	432		138		139	1518		262	1871	1094
v/s Ratio Prot	c0.20	0.20			c0.02		0.04	c0.21		c0.10	0.21	0.05
v/s Ratio Perm			0.01									0.07
v/c Ratio	0.73	0.73	0.04		0.25		0.55	0.69		0.65	0.57	0.18
Uniform Delay, d1	32.3	32.2	26.1		41.8		43.4	30.3		39.3	24.7	7.1
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	5.9	5.6	0.0		0.9		4.3	1.4		5.4	0.4	0.1
Delay (s)	38.2	37.9	26.2		42.8		47.7	31.7		44.7	25.1	7.2
Level of Service	D	D	C		D		D	C		D	C	A
Approach Delay (s)		37.1			42.8			32.8			23.7	
Approach LOS		D			D			C			C	

Intersection Summary				
HCM 2000 Control Delay	30.4	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.65			
Actuated Cycle Length (s)	97.8	Sum of lost time (s)	19.1	
Intersection Capacity Utilization	71.9%	ICU Level of Service	C	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBR	NBU	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	30	14	145	96	179	240	15
Future Volume (vph)	30	14	145	96	179	240	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0			4.0	6.0	6.0	6.0
Lane Util. Factor	1.00			1.00	0.95	1.00	1.00
Frpb, ped/bikes	1.00			1.00	1.00	1.00	0.97
Flpb, ped/bikes	1.00			1.00	1.00	1.00	1.00
Frt	0.96			1.00	1.00	1.00	0.85
Flt Protected	0.97			0.95	1.00	1.00	1.00
Satd. Flow (prot)	1718			1770	3539	1863	1543
Flt Permitted	0.97			0.95	1.00	1.00	1.00
Satd. Flow (perm)	1718			1770	3539	1863	1543
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	15	158	104	195	261	16
RTOR Reduction (vph)	13	0	0	0	0	0	11
Lane Group Flow (vph)	35	0	0	262	195	261	5
Confl. Peds. (#/hr)		1		5			5
Turn Type	Prot		Prot	Prot	NA	NA	Perm
Protected Phases	4		5	5	2	6	
Permitted Phases							6
Actuated Green, G (s)	5.6			13.7	34.9	17.2	17.2
Effective Green, g (s)	5.6			13.7	34.9	17.2	17.2
Actuated g/C Ratio	0.11			0.27	0.68	0.33	0.33
Clearance Time (s)	5.0			4.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0			3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	186			470	2398	622	515
v/s Ratio Prot	c0.02			c0.15	0.06	c0.14	
v/s Ratio Perm							0.00
v/c Ratio	0.19			0.56	0.08	0.42	0.01
Uniform Delay, d1	20.9			16.3	2.8	13.3	11.5
Progression Factor	1.00			1.00	1.00	1.00	1.00
Incremental Delay, d2	0.5			1.4	0.0	0.5	0.0
Delay (s)	21.4			17.7	2.8	13.7	11.5
Level of Service	C			B	A	B	B
Approach Delay (s)	21.4				11.4	13.6	
Approach LOS	C				B	B	

Intersection Summary			
HCM 2000 Control Delay	12.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	51.5	Sum of lost time (s)	15.0
Intersection Capacity Utilization	43.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	89	101	2	69	247	151	8	3	27	123	1	131
Future Volume (vph)	89	101	2	69	247	151	8	3	27	123	1	131
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.5		4.4	6.0	6.0	4.4	4.9		4.4	4.9	
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	0.95		0.97	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.98	1.00	0.99		1.00	0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00	0.85	1.00	0.86		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3528		1770	1863	1556	1770	3017		3433	1549	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3528		1770	1863	1556	1770	3017		3433	1549	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	97	110	2	75	268	164	9	3	29	134	1	142
RTOR Reduction (vph)	0	1	0	0	0	110	0	29	0	0	117	0
Lane Group Flow (vph)	97	111	0	75	268	54	9	3	0	134	26	0
Confl. Peds. (#/hr)			9			8			5			3
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8						
Actuated Green, G (s)	7.9	22.5		4.9	19.0	19.0	0.7	4.6		6.1	10.0	
Effective Green, g (s)	7.9	22.5		4.9	19.0	19.0	0.7	4.6		6.1	10.0	
Actuated g/C Ratio	0.14	0.39		0.09	0.33	0.33	0.01	0.08		0.11	0.17	
Clearance Time (s)	4.4	5.5		4.4	6.0	6.0	4.4	4.9		4.4	4.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	244	1385		151	617	515	21	242		365	270	
v/s Ratio Prot	c0.05	c0.03		0.04	c0.14		0.01	0.00		c0.04	c0.02	
v/s Ratio Perm						0.03						
v/c Ratio	0.40	0.08		0.50	0.43	0.11	0.43	0.01		0.37	0.10	
Uniform Delay, d1	22.5	10.9		25.0	15.0	13.3	28.1	24.3		23.8	19.9	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.1	0.0		2.6	0.5	0.1	13.4	0.0		0.6	0.2	
Delay (s)	23.6	10.9		27.6	15.4	13.4	41.5	24.3		24.4	20.0	
Level of Service	C	B		C	B	B	D	C		C	C	
Approach Delay (s)		16.8			16.6			28.1			22.1	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	18.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	57.3	Sum of lost time (s)	19.7
Intersection Capacity Utilization	44.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

MOVEMENT SUMMARY

Site: Street M / Carmel Mtn Rd PM

Near-Term PM
Roundabout

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Carmel Mountain Rd											
3	L2	61	2.0	0.125	7.8	LOS A	0.4	10.8	0.52	0.50	23.5
8	T1	10	2.0	0.125	7.8	LOS A	0.4	10.8	0.52	0.50	31.1
18	R2	1	2.0	0.125	7.8	LOS A	0.4	10.8	0.52	0.50	30.5
Approach		72	2.0	0.125	7.8	LOS A	0.4	10.8	0.52	0.50	24.9
East: Via Las Lenas											
1	L2	1	2.0	0.080	7.4	LOS A	0.3	6.7	0.52	0.48	31.7
6	T1	13	2.0	0.080	7.4	LOS A	0.3	6.7	0.52	0.48	20.4
16	R2	30	2.0	0.080	7.4	LOS A	0.3	6.7	0.52	0.48	29.9
Approach		45	2.0	0.080	7.4	LOS A	0.3	6.7	0.52	0.48	27.4
North: Carmel Mountain Rd											
7	L2	27	2.0	0.361	7.9	LOS A	1.8	44.6	0.27	0.14	29.2
4	T1	38	2.0	0.361	7.9	LOS A	1.8	44.6	0.27	0.14	32.3
14	R2	268	2.0	0.361	7.9	LOS A	1.8	44.6	0.27	0.14	18.6
Approach		334	2.0	0.361	7.9	LOS A	1.8	44.6	0.27	0.14	21.0
West: Street M											
5	L2	452	2.0	0.587	12.1	LOS B	4.1	105.3	0.36	0.20	25.2
2	T1	21	2.0	0.587	12.1	LOS B	4.1	105.3	0.36	0.20	25.4
12	R2	76	2.0	0.587	12.1	LOS B	4.1	105.3	0.36	0.20	24.7
Approach		549	2.0	0.587	12.1	LOS B	4.1	105.3	0.36	0.20	25.2
All Vehicles		999	2.0	0.587	10.2	LOS B	4.1	105.3	0.35	0.21	23.6

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	46	18	51	34	17	13	345	75	24	253	15
Future Volume (vph)	19	46	18	51	34	17	13	345	75	24	253	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9			4.9		4.4	5.2		4.4	5.4	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00			1.00		1.00	0.99		1.00	1.00	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.97			0.98		1.00	0.97		1.00	0.99	
Flt Protected		0.99			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1782			1773		1770	3425		1770	3510	
Flt Permitted		0.89			0.80		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1602			1445		1770	3425		1770	3510	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	21	50	20	55	37	18	14	375	82	26	275	16
RTOR Reduction (vph)	0	16	0	0	11	0	0	15	0	0	4	0
Lane Group Flow (vph)	0	75	0	0	99	0	14	442	0	26	287	0
Confl. Peds. (#/hr)			1			4			10			
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		7.0			7.0		0.8	18.6		0.8	18.4	
Effective Green, g (s)		7.0			7.0		0.8	18.6		0.8	18.4	
Actuated g/C Ratio		0.17			0.17		0.02	0.45		0.02	0.45	
Clearance Time (s)		4.9			4.9		4.4	5.2		4.4	5.4	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		274			247		34	1557		34	1579	
v/s Ratio Prot							0.01	c0.13		c0.01	0.08	
v/s Ratio Perm		0.05			c0.07							
v/c Ratio		0.27			0.40		0.41	0.28		0.76	0.18	
Uniform Delay, d1		14.7			15.1		19.8	7.0		20.0	6.7	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.5			1.1		7.9	0.1		66.1	0.1	
Delay (s)		15.3			16.2		27.7	7.1		86.1	6.8	
Level of Service		B			B		C	A		F	A	
Approach Delay (s)		15.3			16.2			7.7			13.3	
Approach LOS		B			B			A			B	

Intersection Summary			
HCM 2000 Control Delay	11.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	40.9	Sum of lost time (s)	14.7
Intersection Capacity Utilization	41.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	1	2	0	1	8	2	374	4	20	301	48
Future Volume (vph)	25	1	2	0	1	8	2	374	4	20	301	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		4.0	6.0		4.0	6.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00			0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00		0.99	1.00		1.00	1.00	
Frt		0.99			0.88		1.00	1.00		1.00	0.98	
Flt Protected		0.96			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1762			1616		1760	3533		1763	3452	
Flt Permitted		0.95			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1749			1616		1760	3533		1763	3452	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	1	2	0	1	9	2	407	4	22	327	52
RTOR Reduction (vph)	0	2	0	0	8	0	0	1	0	0	13	0
Lane Group Flow (vph)	0	28	0	0	2	0	2	410	0	22	366	0
Confl. Peds. (#/hr)	3		4	4		3	11		7	7		11
Turn Type	Perm	NA			NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		4.0			4.0		0.5	24.8		0.5	24.8	
Effective Green, g (s)		4.0			4.0		0.5	24.8		0.5	24.8	
Actuated g/C Ratio		0.09			0.09		0.01	0.56		0.01	0.56	
Clearance Time (s)		5.0			5.0		4.0	6.0		4.0	6.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		157			145		19	1977		19	1932	
v/s Ratio Prot					0.00		0.00	c0.12		c0.01	0.11	
v/s Ratio Perm		c0.02										
v/c Ratio		0.18			0.01		0.11	0.21		1.16	0.19	
Uniform Delay, d1		18.6			18.4		21.7	4.9		21.9	4.8	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.6			0.0		2.4	0.1		260.5	0.0	
Delay (s)		19.2			18.4		24.1	4.9		282.4	4.8	
Level of Service		B			B		C	A		F	A	
Approach Delay (s)		19.2			18.4			5.0			20.1	
Approach LOS		B			B			A			C	

Intersection Summary			
HCM 2000 Control Delay	12.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.22		
Actuated Cycle Length (s)	44.3	Sum of lost time (s)	15.0
Intersection Capacity Utilization	36.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	115	5	20	0	1	11	38	364	0	10	307	138
Future Volume (vph)	115	5	20	0	1	11	38	364	0	10	307	138
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.1		4.0	4.8		4.0	5.1	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00			0.99		1.00	1.00		1.00	0.99	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.98			0.88		1.00	1.00		1.00	0.95	
Flt Protected		0.96			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1751			1609		1770	3539		1770	3347	
Flt Permitted		0.76			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1376			1609		1770	3539		1770	3347	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	125	5	22	0	1	12	41	396	0	11	334	150
RTOR Reduction (vph)	0	9	0	0	9	0	0	0	0	0	52	0
Lane Group Flow (vph)	0	143	0	0	4	0	41	396	0	11	432	0
Confl. Peds. (#/hr)			3			5			8			7
Turn Type	Perm	NA			NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		10.0			9.9		1.8	20.6		0.7	19.2	
Effective Green, g (s)		10.0			9.9		1.8	20.6		0.7	19.2	
Actuated g/C Ratio		0.23			0.22		0.04	0.47		0.02	0.44	
Clearance Time (s)		4.0			4.1		4.0	4.8		4.0	5.1	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		312			361		72	1653		28	1457	
v/s Ratio Prot					0.00		c0.02	0.11		0.01	c0.13	
v/s Ratio Perm		c0.10										
v/c Ratio		0.46			0.01		0.57	0.24		0.39	0.30	
Uniform Delay, d1		14.7			13.3		20.8	7.1		21.5	8.1	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.1			0.0		9.9	0.1		8.9	0.1	
Delay (s)		15.8			13.3		30.7	7.1		30.4	8.2	
Level of Service		B			B		C	A		C	A	
Approach Delay (s)		15.8			13.3			9.3			8.7	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	10.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	44.1	Sum of lost time (s)	13.2
Intersection Capacity Utilization	44.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	67	382	42	16	392	174	20	7	7	145	14	43
Future Volume (vph)	67	382	42	16	392	174	20	7	7	145	14	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.9		4.4	5.2			4.9		4.9	4.9	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	0.99			1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.95			0.97		1.00	0.89	
Flt Protected	0.95	1.00		0.95	1.00			0.97		0.95	1.00	
Satd. Flow (prot)	1770	3478		1770	3342			1759		1770	1634	
Flt Permitted	0.95	1.00		0.95	1.00			0.83		0.73	1.00	
Satd. Flow (perm)	1770	3478		1770	3342			1507		1364	1634	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	73	415	46	17	426	189	22	8	8	158	15	47
RTOR Reduction (vph)	0	9	0	0	58	0	0	6	0	0	37	0
Lane Group Flow (vph)	73	452	0	17	557	0	0	32	0	158	25	0
Confl. Peds. (#/hr)			3			11						3
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	2.4	22.7		0.9	20.9			10.8		10.8	10.8	
Effective Green, g (s)	2.4	22.7		0.9	20.9			10.8		10.8	10.8	
Actuated g/C Ratio	0.05	0.47		0.02	0.43			0.22		0.22	0.22	
Clearance Time (s)	4.4	4.9		4.4	5.2			4.9		4.9	4.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	87	1624		32	1437			334		303	363	
v/s Ratio Prot	c0.04	0.13		0.01	c0.17						0.02	
v/s Ratio Perm								0.02		c0.12		
v/c Ratio	0.84	0.28		0.53	0.39			0.10		0.52	0.07	
Uniform Delay, d1	22.9	7.9		23.6	9.5			15.0		16.6	14.9	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	47.4	0.1		15.9	0.2			0.1		1.6	0.1	
Delay (s)	70.4	8.0		39.5	9.6			15.1		18.2	15.0	
Level of Service	E	A		D	A			B		B	B	
Approach Delay (s)		16.5			10.5			15.1			17.3	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	13.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	48.6	Sum of lost time (s)	14.5
Intersection Capacity Utilization	46.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	58	376	197	25	469	27	192	12	17	20	10	28
Future Volume (vph)	58	376	197	25	469	27	192	12	17	20	10	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.2		4.4	5.9		4.9	4.9			4.9	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00			1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	0.99			0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Frt	1.00	0.95		1.00	0.99		1.00	0.91			0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.98	
Satd. Flow (prot)	1770	3330		1770	3511		1770	1687			1702	
Flt Permitted	0.95	1.00		0.95	1.00		0.72	1.00			0.91	
Satd. Flow (perm)	1770	3330		1770	3511		1334	1687			1583	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	63	409	214	27	510	29	209	13	18	22	11	30
RTOR Reduction (vph)	0	79	0	0	5	0	0	13	0	0	21	0
Lane Group Flow (vph)	63	544	0	27	534	0	209	18	0	0	42	0
Confl. Peds. (#/hr)			3						3			3
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	2.2	21.7		0.7	19.5		15.0	15.0			15.0	
Effective Green, g (s)	2.2	21.7		0.7	19.5		15.0	15.0			15.0	
Actuated g/C Ratio	0.04	0.42		0.01	0.38		0.29	0.29			0.29	
Clearance Time (s)	4.4	5.2		4.4	5.9		4.9	4.9			4.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)	75	1392		23	1319		385	487			457	
v/s Ratio Prot	c0.04	c0.16		0.02	0.15			0.01				
v/s Ratio Perm							c0.16				0.03	
v/c Ratio	0.84	0.39		1.17	0.40		0.54	0.04			0.09	
Uniform Delay, d1	24.7	10.5		25.6	11.9		15.6	13.3			13.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	52.9	0.2		246.2	0.2		1.6	0.0			0.1	
Delay (s)	77.6	10.7		271.8	12.1		17.1	13.3			13.6	
Level of Service	E	B		F	B		B	B			B	
Approach Delay (s)		16.8			24.5			16.6			13.6	
Approach LOS		B			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	19.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	51.9	Sum of lost time (s)	15.2
Intersection Capacity Utilization	50.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	594	1	464	339	1110	0	0	833	198
Future Volume (vph)	0	0	0	594	1	464	339	1110	0	0	833	198
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				5.6	5.6	5.6	4.2	6.3			6.3	
Lane Util. Factor				0.95	0.95	1.00	0.97	0.95			0.91	
Frpb, ped/bikes				1.00	1.00	1.00	1.00	1.00			1.00	
Flpb, ped/bikes				1.00	1.00	1.00	1.00	1.00			1.00	
Frt				1.00	1.00	0.85	1.00	1.00			0.97	
Flt Protected				0.95	0.95	1.00	0.95	1.00			1.00	
Satd. Flow (prot)				1681	1686	1583	3433	3539			4908	
Flt Permitted				0.95	0.95	1.00	0.95	1.00			1.00	
Satd. Flow (perm)				1681	1686	1583	3433	3539			4908	
Peak-hour factor, PHF	0.92	0.92	0.92	0.73	0.25	0.98	0.86	0.93	0.92	0.92	0.97	0.87
Adj. Flow (vph)	0	0	0	814	4	473	394	1194	0	0	859	228
RTOR Reduction (vph)	0	0	0	0	0	45	0	0	0	0	35	0
Lane Group Flow (vph)	0	0	0	407	411	428	394	1194	0	0	1052	0
Confl. Peds. (#/hr)												3
Turn Type				Split	NA	Perm	Prot	NA			NA	
Protected Phases				8	8		5	2			6	
Permitted Phases						8						
Actuated Green, G (s)				41.2	41.2	41.2	18.4	66.9			44.3	
Effective Green, g (s)				41.2	41.2	41.2	18.4	66.9			44.3	
Actuated g/C Ratio				0.34	0.34	0.34	0.15	0.56			0.37	
Clearance Time (s)				5.6	5.6	5.6	4.2	6.3			6.3	
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)				577	578	543	526	1972			1811	
v/s Ratio Prot				0.24	0.24		c0.11	c0.34			0.21	
v/s Ratio Perm						c0.27						
v/c Ratio				0.71	0.71	0.79	0.75	0.61			0.58	
Uniform Delay, d1				34.1	34.2	35.5	48.6	17.7			30.4	
Progression Factor				1.00	1.00	1.00	1.00	1.00			1.00	
Incremental Delay, d2				3.9	4.1	7.5	5.8	1.4			1.4	
Delay (s)				38.1	38.3	43.0	54.4	19.1			31.8	
Level of Service				D	D	D	D	B			C	
Approach Delay (s)		0.0			39.9			27.9			31.8	
Approach LOS		A			D			C			C	

Intersection Summary				
HCM 2000 Control Delay	32.9	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.72			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.1	
Intersection Capacity Utilization	69.3%	ICU Level of Service	C	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	95	0	418	0	0	0	0	1354	367	359	1068	0
Future Volume (vph)	95	0	418	0	0	0	0	1354	367	359	1068	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0					6.3	6.3	4.2	6.3	
Lane Util. Factor	0.95	0.95	0.88					0.95	1.00	0.97	0.91	
Frpb, ped/bikes	1.00	1.00	0.94					1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00					1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95	0.95	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1681	1681	2629					3539	1583	3433	5085	
Flt Permitted	0.95	0.95	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1681	1681	2629					3539	1583	3433	5085	
Peak-hour factor, PHF	0.67	0.92	0.85	0.92	0.92	0.92	0.92	0.93	0.82	0.82	0.92	0.92
Adj. Flow (vph)	142	0	492	0	0	0	0	1456	448	438	1161	0
RTOR Reduction (vph)	0	0	446	0	0	0	0	0	100	0	0	0
Lane Group Flow (vph)	71	71	46	0	0	0	0	1456	348	438	1161	0
Confl. Peds. (#/hr)			14									
Turn Type	Split	NA	Perm					NA	Perm	Prot	NA	
Protected Phases	4	4						2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	12.6	12.6	12.6					59.8	59.8	28.1	92.1	
Effective Green, g (s)	12.6	12.6	12.6					59.8	59.8	28.1	92.1	
Actuated g/C Ratio	0.09	0.09	0.09					0.44	0.44	0.21	0.68	
Clearance Time (s)	5.0	5.0	5.0					6.3	6.3	4.2	6.3	
Vehicle Extension (s)	3.0	3.0	3.0					3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	155	155	243					1556	696	709	3443	
v/s Ratio Prot	c0.04	0.04						c0.41		c0.13	0.23	
v/s Ratio Perm			0.02						0.22			
v/c Ratio	0.46	0.46	0.19					0.94	0.50	0.62	0.34	
Uniform Delay, d1	58.5	58.5	57.0					36.3	27.4	49.1	9.2	
Progression Factor	1.00	1.00	1.00					1.00	1.00	1.00	1.00	
Incremental Delay, d2	2.1	2.1	0.4					11.9	2.6	1.6	0.3	
Delay (s)	60.6	60.6	57.3					48.2	29.9	50.7	9.4	
Level of Service	E	E	E					D	C	D	A	
Approach Delay (s)		58.1			0.0			43.9			20.7	
Approach LOS		E			A			D			C	

Intersection Summary				
HCM 2000 Control Delay	37.1	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.68			
Actuated Cycle Length (s)	136.0	Sum of lost time (s)	19.5	
Intersection Capacity Utilization	69.3%	ICU Level of Service	C	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	207	9	146	59	22	44	465	1317	136	85	1107	358
Future Volume (vph)	207	9	146	59	22	44	465	1317	136	85	1107	358
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3	6.3	6.3	4.9	4.9		4.4	5.7		4.4	6.5	6.5
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95		0.97	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	0.99		1.00	1.00		1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.91		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	0.96	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1692	1583	1681	1587		3433	3482		1770	3539	1583
Flt Permitted	0.95	0.96	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1681	1692	1583	1681	1587		3433	3482		1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	225	10	159	64	24	48	505	1432	148	92	1203	389
RTOR Reduction (vph)	0	0	136	0	43	0	0	4	0	0	0	132
Lane Group Flow (vph)	117	118	23	58	35	0	505	1576	0	92	1203	257
Confl. Peds. (#/hr)						2			1			
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			4									6
Actuated Green, G (s)	14.5	14.5	14.5	10.3	10.3		12.1	48.0		5.8	40.9	40.9
Effective Green, g (s)	14.5	14.5	14.5	10.3	10.3		12.1	48.0		5.8	40.9	40.9
Actuated g/C Ratio	0.15	0.15	0.15	0.10	0.10		0.12	0.48		0.06	0.41	0.41
Clearance Time (s)	6.3	6.3	6.3	4.9	4.9		4.4	5.7		4.4	6.5	6.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	243	245	229	173	163		415	1673		102	1448	648
v/s Ratio Prot	0.07	c0.07		c0.03	0.02		c0.15	c0.45		0.05	0.34	
v/s Ratio Perm			0.01									0.16
v/c Ratio	0.48	0.48	0.10	0.34	0.21		1.22	0.94		0.90	0.83	0.40
Uniform Delay, d1	39.2	39.2	37.0	41.6	41.1		43.9	24.6		46.8	26.4	20.8
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1.5	1.5	0.2	1.2	0.7		117.8	11.1		58.6	4.2	0.4
Delay (s)	40.7	40.7	37.2	42.8	41.8		161.7	35.7		105.4	30.6	21.2
Level of Service	D	D	D	D	D		F	D		F	C	C
Approach Delay (s)		39.3			42.2			66.2			32.5	
Approach LOS		D			D			E			C	

Intersection Summary			
HCM 2000 Control Delay	49.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	99.9	Sum of lost time (s)	22.1
Intersection Capacity Utilization	71.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	1	0	358	1	528	19	1188	432	399	722	0
Future Volume (vph)	1	1	0	358	1	528	19	1188	432	399	722	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0	4.0	4.0	6.1	4.0	4.0	5.8	
Lane Util. Factor		1.00		0.97	0.95	0.95	1.00	0.95	1.00	0.97	0.95	
Frpb, ped/bikes		1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		1.00		1.00	0.85	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.98		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1817		3433	1505	1504	1770	3539	1583	3433	3539	
Flt Permitted		0.98		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1817		3433	1505	1504	1770	3539	1583	3433	3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1	1	0	389	1	574	21	1291	470	434	785	0
RTOR Reduction (vph)	0	0	0	0	225	225	0	0	150	0	0	0
Lane Group Flow (vph)	0	2	0	389	63	62	21	1291	320	434	785	0
Confl. Peds. (#/hr)			1									
Turn Type	Split	NA		Split	NA	Perm	Prot	NA	pm+ov	Prot	NA	
Protected Phases	4	4		8	8		5	2	8	1	6	
Permitted Phases						8			2			
Actuated Green, G (s)		5.7		26.8	26.8	26.8	2.2	57.2	84.0	15.4	70.7	
Effective Green, g (s)		5.7		26.8	26.8	26.8	2.2	57.2	84.0	15.4	70.7	
Actuated g/C Ratio		0.05		0.22	0.22	0.22	0.02	0.46	0.68	0.12	0.57	
Clearance Time (s)		4.0		4.0	4.0	4.0	4.0	6.1	4.0	4.0	5.8	
Vehicle Extension (s)		3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		84		746	327	327	31	1643	1079	429	2030	
v/s Ratio Prot		c0.00		c0.11	0.04		0.01	c0.36	0.06	c0.13	0.22	
v/s Ratio Perm						0.04			0.14			
v/c Ratio		0.02		0.52	0.19	0.19	0.68	0.79	0.30	1.01	0.39	
Uniform Delay, d1		56.1		42.5	39.4	39.3	60.1	27.8	7.8	53.9	14.4	
Progression Factor		1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.1		0.7	0.3	0.3	45.6	2.6	0.2	46.4	0.1	
Delay (s)		56.2		43.2	39.7	39.6	105.8	30.4	8.0	100.3	14.5	
Level of Service		E		D	D	D	F	C	A	F	B	
Approach Delay (s)		56.2			41.1			25.4			45.0	
Approach LOS		E			D			C			D	

Intersection Summary			
HCM 2000 Control Delay	35.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	123.2	Sum of lost time (s)	18.1
Intersection Capacity Utilization	72.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	70	365	242	32	844	192
Future Volume (vph)	70	365	242	32	844	192
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	0.88	0.95		0.97	0.95
Frpb, ped/bikes	1.00	0.96	0.99		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	0.98		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	2678	3452		3433	3539
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	2678	3452		3433	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	76	397	263	35	917	209
RTOR Reduction (vph)	0	328	11	0	0	0
Lane Group Flow (vph)	76	69	287	0	917	209
Confl. Peds. (#/hr)		20		20		
Confl. Bikes (#/hr)		10		10		
Turn Type	Prot	Perm	NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8				
Actuated Green, G (s)	10.1	10.1	12.7		22.1	39.3
Effective Green, g (s)	10.1	10.1	12.7		22.1	39.3
Actuated g/C Ratio	0.17	0.17	0.22		0.38	0.67
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	306	463	750		1299	2381
v/s Ratio Prot	c0.04		c0.08		c0.27	0.06
v/s Ratio Perm		0.03				
v/c Ratio	0.25	0.15	0.38		0.71	0.09
Uniform Delay, d1	20.9	20.5	19.5		15.4	3.3
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.4	0.1	0.3		1.8	0.0
Delay (s)	21.3	20.6	19.8		17.2	3.3
Level of Service	C	C	B		B	A
Approach Delay (s)	20.8		19.8			14.6
Approach LOS	C		B			B

Intersection Summary			
HCM 2000 Control Delay	17.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	58.4	Sum of lost time (s)	13.5
Intersection Capacity Utilization	60.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	70	0	186	56	32	230
Future Volume (vph)	70	0	186	56	32	230
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5		4.5	4.5
Lane Util. Factor	1.00		0.95		1.00	0.95
Frpb, ped/bikes	1.00		0.99		1.00	1.00
Flpb, ped/bikes	1.00		1.00		1.00	1.00
Frt	1.00		0.97		1.00	1.00
Flt Protected	0.95		1.00		0.95	1.00
Satd. Flow (prot)	1770		3381		1770	3539
Flt Permitted	0.95		1.00		0.95	1.00
Satd. Flow (perm)	1770		3381		1770	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	76	0	202	61	35	250
RTOR Reduction (vph)	0	0	23	0	0	0
Lane Group Flow (vph)	76	0	240	0	35	250
Confl. Peds. (#/hr)		20		20		
Confl. Bikes (#/hr)		10		10		
Turn Type	Prot	Perm	NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8				
Actuated Green, G (s)	5.9		23.7		0.9	29.1
Effective Green, g (s)	5.9		23.7		0.9	29.1
Actuated g/C Ratio	0.13		0.54		0.02	0.66
Clearance Time (s)	4.5		4.5		4.5	4.5
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	237		1821		36	2340
v/s Ratio Prot	c0.04		c0.07		c0.02	0.07
v/s Ratio Perm						
v/c Ratio	0.32		0.13		0.97	0.11
Uniform Delay, d1	17.2		5.0		21.5	2.7
Progression Factor	1.00		1.00		1.00	1.00
Incremental Delay, d2	0.8		0.0		138.2	0.0
Delay (s)	18.0		5.1		159.7	2.7
Level of Service	B		A		F	A
Approach Delay (s)	18.0		5.1			22.0
Approach LOS	B		A			C

Intersection Summary			
HCM 2000 Control Delay	14.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.19		
Actuated Cycle Length (s)	44.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	39.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

APPENDIX J

PEAK HOUR INTERSECTION ANALYSIS WORKSHEETS
OPENING DAY WITH PROJECT

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	111	177	118	413	512	179	110	503	95	176	509	186
Future Volume (vph)	111	177	118	413	512	179	110	503	95	176	509	186
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.3	6.3	4.4	6.2	6.2	4.4	6.0	6.0	4.4	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.98	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	3433	1863	1583	1770	3539	1547	1770	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	1863	1583	3433	1863	1583	1770	3539	1547	1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	121	192	128	449	557	195	120	547	103	191	553	202
RTOR Reduction (vph)	0	0	102	0	0	126	0	0	78	0	0	152
Lane Group Flow (vph)	121	192	26	449	557	69	120	547	25	191	553	50
Confl. Peds. (#/hr)									2			
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Actuated Green, G (s)	8.6	19.2	19.2	22.8	33.5	33.5	8.6	23.2	23.2	8.8	23.4	23.4
Effective Green, g (s)	8.6	19.2	19.2	22.8	33.5	33.5	8.6	23.2	23.2	8.8	23.4	23.4
Actuated g/C Ratio	0.09	0.20	0.20	0.24	0.35	0.35	0.09	0.24	0.24	0.09	0.25	0.25
Clearance Time (s)	4.4	6.3	6.3	4.4	6.2	6.2	4.4	6.0	6.0	4.4	6.0	6.0
Vehicle Extension (s)	2.0	4.9	4.9	2.0	5.1	5.1	2.0	5.9	5.9	2.0	5.6	5.6
Lane Grp Cap (vph)	160	376	319	823	656	557	160	863	377	163	870	389
v/s Ratio Prot	c0.07	0.10		0.13	c0.30		0.07	c0.15		c0.11	c0.16	
v/s Ratio Perm			0.02			0.04			0.02			0.03
v/c Ratio	0.76	0.51	0.08	0.55	0.85	0.12	0.75	0.63	0.07	1.17	0.64	0.13
Uniform Delay, d1	42.2	33.8	30.8	31.6	28.5	20.9	42.2	32.2	27.6	43.1	32.0	27.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	16.4	2.2	0.2	0.4	11.0	0.2	16.0	2.5	0.2	124.2	2.4	0.4
Delay (s)	58.6	36.0	31.0	32.0	39.5	21.1	58.2	34.7	27.8	167.3	34.4	28.3
Level of Service	E	D	C	C	D	C	E	C	C	F	C	C
Approach Delay (s)		40.8			33.7			37.4			59.9	
Approach LOS		D			C			D			E	

Intersection Summary			
HCM 2000 Control Delay	42.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	95.1	Sum of lost time (s)	21.1
Intersection Capacity Utilization	75.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	0	0	0	35	0	26	102	0	682	12	27	987
Future Volume (vph)	0	0	0	35	0	26	102	0	682	12	27	987
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.4		4.4		5.7	6.0		4.4	6.0
Lane Util. Factor				1.00		1.00		1.00	0.95		1.00	0.95
Frpb, ped/bikes				1.00		0.96		1.00	1.00		1.00	1.00
Flpb, ped/bikes				1.00		1.00		1.00	1.00		1.00	1.00
Frt				1.00		0.85		1.00	1.00		1.00	1.00
Flt Protected				0.95		1.00		0.95	1.00		0.95	1.00
Satd. Flow (prot)				1770		1524		1770	3526		1770	3539
Flt Permitted				0.95		1.00		0.95	1.00		0.95	1.00
Satd. Flow (perm)				1770		1524		1770	3526		1770	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	38	0	28	111	0	741	13	29	1073
RTOR Reduction (vph)	0	0	0	0	0	19	0	0	1	0	0	0
Lane Group Flow (vph)	0	0	0	38	0	9	0	111	753	0	29	1073
Confl. Peds. (#/hr)						28				16		
Turn Type				Prot		Perm	Prot	Prot	NA		Prot	NA
Protected Phases				8			5	5	2		1	6
Permitted Phases						8						
Actuated Green, G (s)				32.0		32.0		11.7	45.7		4.6	38.6
Effective Green, g (s)				32.0		32.0		10.4	45.7		4.6	38.6
Actuated g/C Ratio				0.33		0.33		0.11	0.47		0.05	0.40
Clearance Time (s)				4.4		4.4		4.4	6.0		4.4	6.0
Vehicle Extension (s)				3.0		3.0		3.0	3.0		3.0	3.0
Lane Grp Cap (vph)				583		502		189	1659		83	1406
v/s Ratio Prot				c0.02				c0.06	0.21		0.02	c0.30
v/s Ratio Perm						0.01						
v/c Ratio				0.07		0.02		0.59	0.45		0.35	0.76
Uniform Delay, d1				22.3		22.0		41.3	17.3		44.8	25.3
Progression Factor				1.00		1.00		1.00	1.00		1.00	1.00
Incremental Delay, d2				0.2		0.1		4.6	0.2		2.5	2.5
Delay (s)				22.5		22.0		45.9	17.5		47.3	27.8
Level of Service				C		C		D	B		D	C
Approach Delay (s)		0.0			22.3				21.1			28.3
Approach LOS		A			C				C			C

Intersection Summary			
HCM 2000 Control Delay	25.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	97.1	Sum of lost time (s)	16.1
Intersection Capacity Utilization	53.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	0
Future Volume (vph)	0
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	0
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	12	0	53	92	2	17	117	94	767	19	29	19
Future Volume (vph)	12	0	53	92	2	17	117	94	767	19	29	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.4	4.4	4.4	4.4			4.4	6.0			4.4
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00			0.97	0.95			1.00
Frpb, ped/bikes	1.00	1.00	0.85	1.00	0.84			1.00	1.00			1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00			1.00	1.00			1.00
Frt	1.00	1.00	0.85	1.00	0.86			1.00	1.00			1.00
Flt Protected	0.95	0.95	1.00	0.95	1.00			0.95	1.00			0.95
Satd. Flow (prot)	1681	1681	1343	1770	1346			3433	3521			1770
Flt Permitted	0.95	0.95	1.00	0.95	1.00			0.95	1.00			0.95
Satd. Flow (perm)	1681	1681	1343	1770	1346			3433	3521			1770
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	13	0	58	100	2	18	127	102	834	21	32	21
RTOR Reduction (vph)	0	0	43	0	13	0	0	0	1	0	0	0
Lane Group Flow (vph)	6	7	15	100	7	0	0	229	854	0	0	53
Confl. Peds. (#/hr)			121			148				27		
Turn Type	Split	NA	Perm	Split	NA		Prot	Prot	NA		Prot	Prot
Protected Phases	4	4		8	8		5	5	2		1	1
Permitted Phases			4									
Actuated Green, G (s)	38.0	38.0	38.0	38.0	38.0			13.1	48.5			5.7
Effective Green, g (s)	38.0	38.0	38.0	38.0	38.0			13.1	48.5			5.7
Actuated g/C Ratio	0.25	0.25	0.25	0.25	0.25			0.09	0.32			0.04
Clearance Time (s)	4.4	4.4	4.4	4.4	4.4			4.4	6.0			4.4
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0	3.0			3.0
Lane Grp Cap (vph)	427	427	341	450	342			301	1143			67
v/s Ratio Prot	0.00	0.00		c0.06	0.00			c0.07	0.24			0.03
v/s Ratio Perm			c0.01									
v/c Ratio	0.01	0.02	0.04	0.22	0.02			0.76	0.75			0.79
Uniform Delay, d1	41.7	41.7	42.0	44.0	41.7			66.6	45.0			71.3
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00			1.00
Incremental Delay, d2	0.0	0.0	0.1	0.3	0.0			10.8	2.7			45.6
Delay (s)	41.7	41.7	42.0	44.3	41.8			77.4	47.7			116.9
Level of Service	D	D	D	D	D			E	D			F
Approach Delay (s)		42.0			43.9				54.0			
Approach LOS		D			D				D			

Intersection Summary			
HCM 2000 Control Delay	59.7	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	149.4	Sum of lost time (s)	19.2
Intersection Capacity Utilization	108.3%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	831	18
Future Volume (vph)	831	18
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.0	6.0
Lane Util. Factor	0.95	1.00
Frpb, ped/bikes	1.00	0.98
Flpb, ped/bikes	1.00	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	3539	1558
Flt Permitted	1.00	1.00
Satd. Flow (perm)	3539	1558
Peak-hour factor, PHF	0.92	0.92
Adj. Flow (vph)	903	20
RTOR Reduction (vph)	0	14
Lane Group Flow (vph)	903	6
Confl. Peds. (#/hr)		2
Turn Type	NA	Perm
Protected Phases	6	
Permitted Phases		6
Actuated Green, G (s)	41.1	41.1
Effective Green, g (s)	41.1	41.1
Actuated g/C Ratio	0.28	0.28
Clearance Time (s)	6.0	6.0
Vehicle Extension (s)	3.0	3.0
Lane Grp Cap (vph)	973	428
v/s Ratio Prot	c0.26	
v/s Ratio Perm		0.00
v/c Ratio	0.93	0.01
Uniform Delay, d1	52.7	39.4
Progression Factor	1.00	1.00
Incremental Delay, d2	14.4	0.0
Delay (s)	67.1	39.4
Level of Service	E	D
Approach Delay (s)	69.2	
Approach LOS	E	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	71	6	96	103	2	29	70	906	63	30	943	18
Future Volume (vph)	71	6	96	103	2	29	70	906	63	30	943	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.3		4.4	4.9		4.4	6.0		4.4	6.0	
Lane Util. Factor	1.00	0.95		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.98		1.00	0.94		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.86		1.00	0.86		1.00	0.99		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	2966		1770	1506		1770	3499		1770	3528	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	2966		1770	1506		1770	3499		1770	3528	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	77	7	104	112	2	32	76	985	68	33	1025	20
RTOR Reduction (vph)	0	86	0	0	26	0	0	3	0	0	1	0
Lane Group Flow (vph)	77	25	0	112	8	0	76	1050	0	33	1044	0
Confl. Peds. (#/hr)			17			62			10			6
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	12.0	17.9		13.2	19.5		8.4	46.3		4.1	42.0	
Effective Green, g (s)	12.0	17.9		13.2	19.5		8.4	46.3		4.1	42.0	
Actuated g/C Ratio	0.12	0.18		0.13	0.19		0.08	0.46		0.04	0.41	
Clearance Time (s)	4.4	5.3		4.4	4.9		4.4	6.0		4.4	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	209	522		229	289		146	1594		71	1458	
v/s Ratio Prot	0.04	c0.01		c0.06	0.01		c0.04	c0.30		0.02	c0.30	
v/s Ratio Perm												
v/c Ratio	0.37	0.05		0.49	0.03		0.52	0.66		0.46	0.72	
Uniform Delay, d1	41.3	34.8		41.1	33.4		44.7	21.5		47.7	24.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.1	0.0		1.6	0.0		3.3	1.0		4.7	1.7	
Delay (s)	42.4	34.8		42.7	33.4		48.0	22.5		52.4	26.5	
Level of Service	D	C		D	C		D	C		D	C	
Approach Delay (s)		37.9			40.5			24.2			27.3	
Approach LOS		D			D			C			C	

Intersection Summary

HCM 2000 Control Delay	27.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	101.6	Sum of lost time (s)	20.1
Intersection Capacity Utilization	71.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	100	299	245	939	1042	100
Future Volume (vph)	100	299	245	939	1042	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.9	5.4	5.4	7.0	7.0	
Lane Util. Factor	1.00	1.00	0.97	0.95	0.95	
Frpb, ped/bikes	1.00	0.98	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1549	3433	3539	3488	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1770	1549	3433	3539	3488	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	109	325	266	1021	1133	109
RTOR Reduction (vph)	0	25	0	0	5	0
Lane Group Flow (vph)	109	300	266	1021	1237	0
Confl. Peds. (#/hr)		47				3
Turn Type	Prot	pm+ov	Prot	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	14.5	28.4	13.9	58.7	40.4	
Effective Green, g (s)	13.5	26.4	12.9	57.7	39.4	
Actuated g/C Ratio	0.16	0.31	0.15	0.69	0.47	
Clearance Time (s)	4.9	4.4	4.4	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	284	486	526	2428	1634	
v/s Ratio Prot	0.06	c0.09	0.08	0.29	c0.35	
v/s Ratio Perm		0.10				
v/c Ratio	0.38	0.62	0.51	0.42	0.76	
Uniform Delay, d1	31.6	24.5	32.7	5.8	18.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.9	2.3	0.8	0.1	2.1	
Delay (s)	32.4	26.9	33.4	5.9	20.5	
Level of Service	C	C	C	A	C	
Approach Delay (s)	28.3			11.6	20.5	
Approach LOS	C			B	C	

Intersection Summary			
HCM 2000 Control Delay	17.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	84.1	Sum of lost time (s)	18.3
Intersection Capacity Utilization	80.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	822	9	829	518	435	0	0	965	396
Future Volume (vph)	0	0	0	822	9	829	518	435	0	0	965	396
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				5.3	5.3	5.3	4.2	6.3			6.3	6.3
Lane Util. Factor				0.95	0.95	0.88	0.97	0.95			0.95	0.88
Frpb, ped/bikes				1.00	1.00	0.97	1.00	1.00			1.00	1.00
Flpb, ped/bikes				1.00	1.00	1.00	1.00	1.00			1.00	1.00
Frt				1.00	1.00	0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95	0.95	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				1681	1687	2712	3433	3539			3539	2787
Flt Permitted				0.95	0.95	1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)				1681	1687	2712	3433	3539			3539	2787
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	893	10	901	563	473	0	0	1049	430
RTOR Reduction (vph)	0	0	0	0	0	503	0	0	0	0	0	272
Lane Group Flow (vph)	0	0	0	455	448	398	563	473	0	0	1049	158
Confl. Peds. (#/hr)						4						
Turn Type				Split	NA	Perm	Prot	NA			NA	Perm
Protected Phases				8	8		5	2			6	
Permitted Phases						8						6
Actuated Green, G (s)				29.7	29.7	29.7	21.0	63.7			38.5	38.5
Effective Green, g (s)				29.7	29.7	29.7	21.0	63.7			38.5	38.5
Actuated g/C Ratio				0.28	0.28	0.28	0.20	0.61			0.37	0.37
Clearance Time (s)				5.3	5.3	5.3	4.2	6.3			6.3	6.3
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)				475	477	767	686	2146			1297	1021
v/s Ratio Prot				c0.27	0.27		c0.16	0.13			c0.30	
v/s Ratio Perm						0.15						0.06
v/c Ratio				0.96	0.94	0.52	0.82	0.22			0.81	0.15
Uniform Delay, d1				37.0	36.8	31.6	40.2	9.4			29.9	22.3
Progression Factor				1.00	1.00	1.00	1.59	0.62			1.00	1.00
Incremental Delay, d2				30.4	26.4	0.6	6.2	0.2			5.5	0.3
Delay (s)				67.5	63.1	32.2	70.0	6.0			35.5	22.6
Level of Service				E	E	C	E	A			D	C
Approach Delay (s)		0.0			48.8			40.8			31.7	
Approach LOS		A			D			D			C	

Intersection Summary			
HCM 2000 Control Delay	41.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	15.8
Intersection Capacity Utilization	77.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	121	1	564	0	0	0	0	832	336	544	1243	0
Future Volume (vph)	121	1	564	0	0	0	0	832	336	544	1243	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6	4.6					6.3	6.3	4.2	6.3	
Lane Util. Factor	0.95	0.95	0.88					0.95	1.00	0.97	0.95	
Frpb, ped/bikes	1.00	1.00	0.99					1.00	0.98	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00					1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95	0.95	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1681	1687	2751					3539	1559	3433	3539	
Flt Permitted	0.95	0.95	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1681	1687	2751					3539	1559	3433	3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	132	1	613	0	0	0	0	904	365	591	1351	0
RTOR Reduction (vph)	0	0	56	0	0	0	0	0	230	0	0	0
Lane Group Flow (vph)	66	67	557	0	0	0	0	904	135	591	1351	0
Confl. Peds. (#/hr)			1						3			
Turn Type	Split	NA	Perm					NA	Perm	Prot	NA	
Protected Phases	4	4						2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	29.0	29.0	29.0					38.7	38.7	22.2	65.1	
Effective Green, g (s)	29.0	29.0	29.0					38.7	38.7	22.2	65.1	
Actuated g/C Ratio	0.28	0.28	0.28					0.37	0.37	0.21	0.62	
Clearance Time (s)	4.6	4.6	4.6					6.3	6.3	4.2	6.3	
Vehicle Extension (s)	3.0	3.0	3.0					3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	464	465	759					1304	574	725	2194	
v/s Ratio Prot	0.04	0.04						c0.26		c0.17	0.38	
v/s Ratio Perm			c0.20						0.09			
v/c Ratio	0.14	0.14	0.73					0.69	0.23	0.82	0.62	
Uniform Delay, d1	28.6	28.6	34.5					28.1	22.9	39.4	12.3	
Progression Factor	1.00	1.00	1.00					1.00	1.00	0.86	1.29	
Incremental Delay, d2	0.1	0.1	3.7					3.1	1.0	3.4	0.6	
Delay (s)	28.8	28.8	38.2					31.2	23.9	37.4	16.4	
Level of Service	C	C	D					C	C	D	B	
Approach Delay (s)		36.5			0.0			29.1			22.8	
Approach LOS		D			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	27.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	77.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	361	15	53	0	13	99	24	708	0	104	1056	647
Future Volume (vph)	361	15	53	0	13	99	24	708	0	104	1056	647
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	4.9		4.9		4.0	4.0		4.4	4.4	4.9
Lane Util. Factor	0.95	0.95	1.00		1.00		1.00	0.91		1.00	0.91	1.00
Frt	1.00	1.00	0.85		0.88		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.96	1.00		1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1692	1583		1640		1770	5085		1770	5085	1583
Flt Permitted	0.95	0.96	1.00		1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1681	1692	1583		1640		1770	5085		1770	5085	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	392	16	58	0	14	108	26	770	0	113	1148	703
RTOR Reduction (vph)	0	0	42	0	100	0	0	0	0	0	0	240
Lane Group Flow (vph)	204	204	16	0	22	0	26	770	0	113	1148	463
Turn Type	Split	NA	Perm		NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	4	4		8	8		5	2		1	6	4
Permitted Phases			4									6
Actuated Green, G (s)	20.1	20.1	20.1		5.4		1.6	22.0		8.1	28.5	48.6
Effective Green, g (s)	20.1	20.1	20.1		5.4		1.6	22.0		8.1	28.5	48.6
Actuated g/C Ratio	0.27	0.27	0.27		0.07		0.02	0.30		0.11	0.39	0.66
Clearance Time (s)	4.9	4.9	4.9		4.9		4.0	4.0		4.4	4.4	4.9
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	457	460	431		120		38	1515		194	1963	1042
v/s Ratio Prot	c0.12	0.12			c0.01		0.01	0.15		c0.06	c0.23	0.12
v/s Ratio Perm			0.01									0.17
v/c Ratio	0.45	0.44	0.04		0.18		0.68	0.51		0.58	0.58	0.44
Uniform Delay, d1	22.2	22.2	19.7		32.1		35.8	21.4		31.2	18.0	6.1
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.7	0.7	0.0		0.7		40.6	1.2		4.4	0.4	0.3
Delay (s)	22.9	22.9	19.8		32.9		76.4	22.6		35.6	18.4	6.4
Level of Service	C	C	B		C		E	C		D	B	A
Approach Delay (s)		22.5			32.9			24.4			15.1	
Approach LOS		C			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	19.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	73.8	Sum of lost time (s)	18.2
Intersection Capacity Utilization	61.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBU	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	70	1	236	37	257	70	20
Future Volume (vph)	70	1	236	37	257	70	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0			4.0	6.0	6.0	6.0
Lane Util. Factor	1.00			1.00	0.95	1.00	1.00
Frpb, ped/bikes	1.00			1.00	1.00	1.00	0.92
Flpb, ped/bikes	1.00			1.00	1.00	1.00	1.00
Frt	1.00			1.00	1.00	1.00	0.85
Flt Protected	0.95			0.95	1.00	1.00	1.00
Satd. Flow (prot)	1772			1770	3539	1863	1463
Flt Permitted	0.95			0.95	1.00	1.00	1.00
Satd. Flow (perm)	1772			1770	3539	1863	1463
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	76	1	257	40	279	76	22
RTOR Reduction (vph)	1	0	0	0	0	0	16
Lane Group Flow (vph)	76	0	0	297	279	76	6
Confl. Peds. (#/hr)	9			57			57
Turn Type	Prot		Prot	Prot	NA	NA	Perm
Protected Phases	4		5	5	2	6	
Permitted Phases							6
Actuated Green, G (s)	5.9			14.4	31.0	12.6	12.6
Effective Green, g (s)	5.9			14.4	31.0	12.6	12.6
Actuated g/C Ratio	0.12			0.30	0.65	0.26	0.26
Clearance Time (s)	5.0			4.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0			3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	218			532	2290	490	384
v/s Ratio Prot	c0.04			c0.17	0.08	c0.04	
v/s Ratio Perm							0.00
v/c Ratio	0.35			0.56	0.12	0.16	0.02
Uniform Delay, d1	19.2			14.1	3.2	13.6	13.1
Progression Factor	1.00			1.00	1.00	1.00	1.00
Incremental Delay, d2	1.0			1.3	0.0	0.1	0.0
Delay (s)	20.2			15.4	3.3	13.7	13.1
Level of Service	C			B	A	B	B
Approach Delay (s)	20.2				9.5	13.6	
Approach LOS	C				A	B	

Intersection Summary			
HCM 2000 Control Delay	11.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	47.9	Sum of lost time (s)	15.0
Intersection Capacity Utilization	41.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	164	307	11	33	70	221	5	7	8	231	8	61
Future Volume (vph)	164	307	11	33	70	221	5	7	8	231	8	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.5		4.4	6.0	6.0	4.4	4.9		4.4	4.9	
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	0.95		0.97	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.92	1.00	0.96		1.00	0.95	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.92		1.00	0.87	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3515		1770	1863	1458	1770	3134		3433	1538	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3515		1770	1863	1458	1770	3134		3433	1538	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	178	334	12	36	76	240	5	8	9	251	9	66
RTOR Reduction (vph)	0	2	0	0	0	178	0	8	0	0	51	0
Lane Group Flow (vph)	178	344	0	36	76	62	5	9	0	251	24	0
Confl. Peds. (#/hr)			25			95			88			30
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8						
Actuated Green, G (s)	13.1	27.9		2.5	16.8	16.8	0.6	4.7		10.4	14.5	
Effective Green, g (s)	13.1	27.9		2.5	16.8	16.8	0.6	4.7		10.4	14.5	
Actuated g/C Ratio	0.20	0.43		0.04	0.26	0.26	0.01	0.07		0.16	0.22	
Clearance Time (s)	4.4	5.5		4.4	6.0	6.0	4.4	4.9		4.4	4.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	358	1515		68	483	378	16	227		551	344	
v/s Ratio Prot	c0.10	c0.10		0.02	0.04		0.00	0.00		c0.07	c0.02	
v/s Ratio Perm						0.04						
v/c Ratio	0.50	0.23		0.53	0.16	0.16	0.31	0.04		0.46	0.07	
Uniform Delay, d1	22.9	11.6		30.5	18.5	18.5	31.8	27.9		24.6	19.8	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.1	0.1		7.3	0.2	0.2	10.9	0.1		0.6	0.1	
Delay (s)	24.0	11.7		37.8	18.6	18.7	42.7	28.0		25.2	19.9	
Level of Service	C	B		D	B	B	D	C		C	B	
Approach Delay (s)		15.9			20.7			31.3			24.0	
Approach LOS		B			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	19.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	64.7	Sum of lost time (s)	19.7
Intersection Capacity Utilization	66.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

MOVEMENT SUMMARY

Site: Street M / Carmel Mtn Rd AM

Near-Term + Project AM
Roundabout

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Carmel Mountain Rd											
3	L2	53	2.0	0.112	5.4	LOS A	0.4	10.2	0.30	0.19	25.0
8	T1	40	2.0	0.112	5.4	LOS A	0.4	10.2	0.30	0.19	32.7
18	R2	1	2.0	0.112	5.4	LOS A	0.4	10.2	0.30	0.19	32.0
Approach		95	2.0	0.112	5.4	LOS A	0.4	10.2	0.30	0.19	28.7
East: Via Las Lenas											
1	L2	1	2.0	0.109	5.7	LOS A	0.4	9.8	0.36	0.26	32.5
6	T1	22	2.0	0.109	5.7	LOS A	0.4	9.8	0.36	0.26	20.9
16	R2	63	2.0	0.109	5.7	LOS A	0.4	9.8	0.36	0.26	30.5
Approach		86	2.0	0.109	5.7	LOS A	0.4	9.8	0.36	0.26	28.3
North: Carmel Mountain Rd											
7	L2	22	2.0	0.521	10.7	LOS B	3.2	81.8	0.34	0.19	28.3
4	T1	59	2.0	0.521	10.7	LOS B	3.2	81.8	0.34	0.19	31.2
14	R2	401	2.0	0.521	10.7	LOS B	3.2	81.8	0.34	0.19	18.0
Approach		482	2.0	0.521	10.7	LOS B	3.2	81.8	0.34	0.19	20.0
West: Street M											
5	L2	127	2.0	0.174	5.6	LOS A	0.7	17.2	0.22	0.12	28.6
2	T1	8	2.0	0.174	5.6	LOS A	0.7	17.2	0.22	0.12	28.7
12	R2	25	2.0	0.174	5.6	LOS A	0.7	17.2	0.22	0.12	27.9
Approach		160	2.0	0.174	5.6	LOS A	0.7	17.2	0.22	0.12	28.5
All Vehicles		822	2.0	0.521	8.6	LOS A	3.2	81.8	0.32	0.19	23.0

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	17	7	76	48	32	26	159	25	5	327	14
Future Volume (vph)	5	17	7	76	48	32	26	159	25	5	327	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9			4.9		4.4	5.2		4.4	5.4	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.97			0.97		1.00	0.98		1.00	0.99	
Flt Protected		0.99			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1776			1763		1770	3455		1770	3514	
Flt Permitted		0.94			0.83		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1684			1498		1770	3455		1770	3514	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	18	8	83	52	35	28	173	27	5	355	15
RTOR Reduction (vph)	0	6	0	0	13	0	0	12	0	0	3	0
Lane Group Flow (vph)	0	25	0	0	157	0	28	188	0	5	367	0
Confl. Peds. (#/hr)			12			1			6			3
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		9.9			9.9		0.9	16.4		0.7	16.0	
Effective Green, g (s)		9.9			9.9		0.9	16.4		0.7	16.0	
Actuated g/C Ratio		0.24			0.24		0.02	0.40		0.02	0.39	
Clearance Time (s)		4.9			4.9		4.4	5.2		4.4	5.4	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		401			357		38	1365		29	1354	
v/s Ratio Prot							c0.02	0.05		0.00	c0.10	
v/s Ratio Perm		0.01			c0.10							
v/c Ratio		0.06			0.44		0.74	0.14		0.17	0.27	
Uniform Delay, d1		12.2			13.4		20.2	8.0		20.1	8.7	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.1			0.9		53.2	0.0		2.8	0.1	
Delay (s)		12.3			14.3		73.4	8.1		22.9	8.9	
Level of Service		B			B		E	A		C	A	
Approach Delay (s)		12.3			14.3			16.1			9.0	
Approach LOS		B			B			B			A	

Intersection Summary			
HCM 2000 Control Delay	12.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	41.5	Sum of lost time (s)	14.7
Intersection Capacity Utilization	41.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

13: Carmel Mountain Rd & Sedorus St

3/15/2016

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	57	21	7	2	18	21	16	183	2	10	367	32
Future Volume (vph)	57	21	7	2	18	21	16	183	2	10	367	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		4.0	6.0		4.0	6.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00			0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.99			0.93		1.00	1.00		1.00	0.99	
Flt Protected		0.97			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1777			1718		1765	3533		1767	3489	
Flt Permitted		0.77			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1418			1688		1765	3533		1767	3489	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	62	23	8	2	20	23	17	199	2	11	399	35
RTOR Reduction (vph)	0	6	0	0	20	0	0	1	0	0	8	0
Lane Group Flow (vph)	0	87	0	0	25	0	17	200	0	11	426	0
Confl. Peds. (#/hr)	4		5	5		4	6		2	2		6
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		6.3			6.3		0.4	19.8		0.4	19.8	
Effective Green, g (s)		6.3			6.3		0.4	19.8		0.4	19.8	
Actuated g/C Ratio		0.15			0.15		0.01	0.48		0.01	0.48	
Clearance Time (s)		5.0			5.0		4.0	6.0		4.0	6.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		215			256		17	1685		17	1664	
v/s Ratio Prot							c0.01	0.06		0.01	c0.12	
v/s Ratio Perm		c0.06			0.02							
v/c Ratio		0.40			0.10		1.00	0.12		0.65	0.26	
Uniform Delay, d1		15.9			15.2		20.6	6.0		20.5	6.5	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.2			0.2		218.3	0.0		62.0	0.1	
Delay (s)		17.2			15.3		238.8	6.0		82.5	6.5	
Level of Service		B			B		F	A		F	A	
Approach Delay (s)		17.2			15.3			24.2			8.4	
Approach LOS		B			B			C			A	

Intersection Summary			
HCM 2000 Control Delay	14.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.30		
Actuated Cycle Length (s)	41.5	Sum of lost time (s)	15.0
Intersection Capacity Utilization	35.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

14: Carmel Mountain Rd & Entreken Way

3/15/2016

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	367	13	67	2	26	11	32	289	0	6	429	433
Future Volume (vph)	367	13	67	2	26	11	32	289	0	6	429	433
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.1		4.0	4.8		4.0	5.1	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	0.98	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.98			0.96		1.00	1.00		1.00	0.92	
Flt Protected		0.96			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1748			1778		1770	3539		1770	3219	
Flt Permitted		0.74			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1338			1758		1770	3539		1770	3219	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	399	14	73	2	28	12	35	314	0	7	466	471
RTOR Reduction (vph)	0	8	0	0	7	0	0	0	0	0	183	0
Lane Group Flow (vph)	0	478	0	0	35	0	35	314	0	7	754	0
Confl. Peds. (#/hr)			8			6			25			9
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		29.4			29.3		1.5	23.5		0.6	22.3	
Effective Green, g (s)		29.4			29.3		1.5	23.5		0.6	22.3	
Actuated g/C Ratio		0.44			0.44		0.02	0.35		0.01	0.34	
Clearance Time (s)		4.0			4.1		4.0	4.8		4.0	5.1	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		593			776		40	1254		16	1082	
v/s Ratio Prot							c0.02	0.09		0.00	c0.23	
v/s Ratio Perm		c0.36			0.02							
v/c Ratio		0.81			0.05		0.88	0.25		0.44	0.70	
Uniform Delay, d1		16.0			10.5		32.3	15.2		32.7	19.1	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		7.8			0.0		93.6	0.1		18.0	2.0	
Delay (s)		23.8			10.6		125.9	15.3		50.7	21.0	
Level of Service		C			B		F	B		D	C	
Approach Delay (s)		23.8			10.6			26.4			21.3	
Approach LOS		C			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	22.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	66.3	Sum of lost time (s)	13.2
Intersection Capacity Utilization	65.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	611	22	6	715	85	50	27	19	473	26	102
Future Volume (vph)	35	611	22	6	715	85	50	27	19	473	26	102
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.9		4.4	5.2			4.9		4.9	4.9	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.98			0.97		1.00	0.88	
Flt Protected	0.95	1.00		0.95	1.00			0.97		0.95	1.00	
Satd. Flow (prot)	1770	3518		1770	3471			1761		1770	1623	
Flt Permitted	0.95	1.00		0.95	1.00			0.82		0.69	1.00	
Satd. Flow (perm)	1770	3518		1770	3471			1489		1285	1623	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	38	664	24	7	777	92	54	29	21	514	28	111
RTOR Reduction (vph)	0	3	0	0	12	0	0	12	0	0	63	0
Lane Group Flow (vph)	38	685	0	7	857	0	0	92	0	514	76	0
Confl. Peds. (#/hr)			2			8			3			1
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	2.1	23.3		0.7	21.6			29.6		29.6	29.6	
Effective Green, g (s)	2.1	23.3		0.7	21.6			29.6		29.6	29.6	
Actuated g/C Ratio	0.03	0.34		0.01	0.32			0.44		0.44	0.44	
Clearance Time (s)	4.4	4.9		4.4	5.2			4.9		4.9	4.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	54	1208		18	1105			650		561	708	
v/s Ratio Prot	c0.02	0.19		0.00	c0.25						0.05	
v/s Ratio Perm								0.06		c0.40		
v/c Ratio	0.70	0.57		0.39	0.78			0.14		0.92	0.11	
Uniform Delay, d1	32.5	18.1		33.3	20.9			11.5		17.9	11.3	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	34.1	0.6		13.4	3.5			0.1		19.7	0.1	
Delay (s)	66.6	18.8		46.7	24.4			11.6		37.7	11.4	
Level of Service	E	B		D	C			B		D	B	
Approach Delay (s)		21.3			24.6			11.6			32.1	
Approach LOS		C			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	25.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	67.8	Sum of lost time (s)	14.5
Intersection Capacity Utilization	74.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	22	536	157	93	357	6	141	17	81	33	5	55
Future Volume (vph)	22	536	157	93	357	6	141	17	81	33	5	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.2		4.4	5.9		4.9	4.9			4.9	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00			1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	0.99			0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Frt	1.00	0.97		1.00	1.00		1.00	0.88			0.92	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.98	
Satd. Flow (prot)	1770	3398		1770	3530		1770	1613			1668	
Flt Permitted	0.95	1.00		0.95	1.00		0.74	1.00			0.89	
Satd. Flow (perm)	1770	3398		1770	3530		1379	1613			1511	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	24	583	171	101	388	7	153	18	88	36	5	60
RTOR Reduction (vph)	0	36	0	0	2	0	0	54	0	0	37	0
Lane Group Flow (vph)	24	718	0	101	393	0	153	52	0	0	64	0
Confl. Peds. (#/hr)			4						2			5
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	1.6	26.9		5.2	29.8		30.0	30.0			30.0	
Effective Green, g (s)	1.6	26.9		5.2	29.8		30.0	30.0			30.0	
Actuated g/C Ratio	0.02	0.35		0.07	0.39		0.39	0.39			0.39	
Clearance Time (s)	4.4	5.2		4.4	5.9		4.9	4.9			4.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)	36	1193		120	1373		540	631			591	
v/s Ratio Prot	0.01	c0.21		c0.06	c0.11			0.03				
v/s Ratio Perm							c0.11				0.04	
v/c Ratio	0.67	0.60		0.84	0.29		0.28	0.08			0.11	
Uniform Delay, d1	37.2	20.4		35.3	16.1		15.9	14.7			14.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	38.0	2.3		38.5	0.5		1.3	0.3			0.4	
Delay (s)	75.2	22.7		73.8	16.6		17.3	14.9			15.2	
Level of Service	E	C		E	B		B	B			B	
Approach Delay (s)		24.3			28.3			16.3			15.2	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	23.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	76.6	Sum of lost time (s)	15.2
Intersection Capacity Utilization	62.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	458	24	273	588	582	0	0	1000	622
Future Volume (vph)	0	0	0	458	24	273	588	582	0	0	1000	622
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				8.6	8.6	8.6	7.2	9.3			9.3	
Lane Util. Factor				0.95	0.95	1.00	0.97	0.95			0.91	
Frt				1.00	1.00	0.85	1.00	1.00			0.94	
Flt Protected				0.95	0.96	1.00	0.95	1.00			1.00	
Satd. Flow (prot)				1681	1697	1583	3433	3539			4780	
Flt Permitted				0.95	0.96	1.00	0.95	1.00			1.00	
Satd. Flow (perm)				1681	1697	1583	3433	3539			4780	
Peak-hour factor, PHF	0.92	0.92	0.92	0.82	0.55	0.73	0.88	0.87	0.92	0.92	0.89	0.83
Adj. Flow (vph)	0	0	0	559	44	374	668	669	0	0	1124	749
RTOR Reduction (vph)	0	0	0	0	0	240	0	0	0	0	86	0
Lane Group Flow (vph)	0	0	0	302	301	134	668	669	0	0	1787	0
Turn Type				Split	NA	Perm	Prot	NA			NA	
Protected Phases				8	8		5	2			6	
Permitted Phases						8						
Actuated Green, G (s)				29.1	29.1	29.1	30.4	95.0			60.4	
Effective Green, g (s)				26.1	26.1	26.1	27.4	92.0			57.4	
Actuated g/C Ratio				0.19	0.19	0.19	0.20	0.68			0.42	
Clearance Time (s)				5.6	5.6	5.6	4.2	6.3			6.3	
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)				322	325	303	691	2394			2017	
v/s Ratio Prot				c0.18	0.18		c0.19	0.19			c0.37	
v/s Ratio Perm						0.08						
v/c Ratio				0.94	0.93	0.44	0.97	0.28			0.98dr	
Uniform Delay, d1				54.2	54.0	48.5	53.8	8.8			36.3	
Progression Factor				1.00	1.00	1.00	1.43	0.89			1.00	
Incremental Delay, d2				33.9	31.2	1.0	11.8	0.2			6.2	
Delay (s)				88.0	85.2	49.6	88.7	8.0			42.5	
Level of Service				F	F	D	F	A			D	
Approach Delay (s)		0.0			72.4			48.3			42.5	
Approach LOS		A			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	51.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	136.0	Sum of lost time (s)	25.1
Intersection Capacity Utilization	84.3%	ICU Level of Service	E
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	137	0	378	0	0	0	0	1033	335	362	1096	0
Future Volume (vph)	137	0	378	0	0	0	0	1033	335	362	1096	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0					6.3	6.3	4.2	6.3	
Lane Util. Factor	0.95	0.95	0.88					0.95	1.00	0.97	0.91	
Frpb, ped/bikes	1.00	1.00	0.98					1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00					1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95	0.95	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1681	1681	2743					3539	1583	3433	5085	
Flt Permitted	0.95	0.95	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1681	1681	2743					3539	1583	3433	5085	
Peak-hour factor, PHF	0.81	0.81	0.80	0.92	0.92	0.92	0.92	0.86	0.76	0.94	0.98	0.92
Adj. Flow (vph)	169	0	472	0	0	0	0	1201	441	385	1118	0
RTOR Reduction (vph)	0	0	275	0	0	0	0	0	137	0	0	0
Lane Group Flow (vph)	84	85	198	0	0	0	0	1201	304	385	1118	0
Confl. Peds. (#/hr)			5									
Turn Type	Split	NA	Perm					NA	Perm	Prot	NA	
Protected Phases	4	4						2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	57.0	57.0	57.0					46.7	46.7	16.8	67.7	
Effective Green, g (s)	57.0	57.0	57.0					46.7	46.7	16.8	67.7	
Actuated g/C Ratio	0.42	0.42	0.42					0.34	0.34	0.12	0.50	
Clearance Time (s)	5.0	5.0	5.0					6.3	6.3	4.2	6.3	
Vehicle Extension (s)	3.0	3.0	3.0					3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	704	704	1149					1215	543	424	2531	
v/s Ratio Prot	0.05	0.05						c0.34		c0.11	0.22	
v/s Ratio Perm			c0.07						0.19			
v/c Ratio	0.12	0.12	0.17					0.99	0.56	0.91	0.44	
Uniform Delay, d1	24.2	24.2	24.7					44.4	36.3	58.8	22.0	
Progression Factor	1.00	1.00	1.00					1.00	1.00	1.37	1.22	
Incremental Delay, d2	0.3	0.4	0.3					23.2	4.1	13.7	0.2	
Delay (s)	24.5	24.5	25.1					67.6	40.5	94.5	27.2	
Level of Service	C	C	C					E	D	F	C	
Approach Delay (s)		24.9			0.0			60.3			44.4	
Approach LOS		C			A			E			D	

Intersection Summary			
HCM 2000 Control Delay	48.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	136.0	Sum of lost time (s)	19.5
Intersection Capacity Utilization	84.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	429	66	294	145	40	101	120	780	50	130	1479	194
Future Volume (vph)	429	66	294	145	40	101	120	780	50	130	1479	194
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3	6.3	6.3	4.9	4.9		4.4	5.7		4.4	6.5	6.5
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95		0.97	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	0.99		1.00	1.00		1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.90		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	0.96	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1707	1555	1681	1576		3433	3507		1770	3539	1583
Flt Permitted	0.95	0.96	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1681	1707	1555	1681	1576		3433	3507		1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	466	72	320	158	43	110	130	848	54	141	1608	211
RTOR Reduction (vph)	0	0	180	0	50	0	0	3	0	0	0	54
Lane Group Flow (vph)	266	272	140	142	119	0	130	899	0	141	1608	157
Confl. Peds. (#/hr)			5			1						
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4									6
Actuated Green, G (s)	26.5	26.5	26.5	17.8	17.8		4.7	46.9		14.2	55.6	55.6
Effective Green, g (s)	26.5	26.5	26.5	17.8	17.8		4.7	46.9		14.2	55.6	55.6
Actuated g/C Ratio	0.21	0.21	0.21	0.14	0.14		0.04	0.37		0.11	0.44	0.44
Clearance Time (s)	6.3	6.3	6.3	4.9	4.9		4.4	5.7		4.4	6.5	6.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	351	357	325	236	221		127	1298		198	1553	694
v/s Ratio Prot	0.16	c0.16		c0.08	0.08		c0.04	0.26		0.08	c0.45	
v/s Ratio Perm			0.09									0.10
v/c Ratio	0.76	0.76	0.43	0.60	0.54		1.02	0.69		0.71	1.04	0.23
Uniform Delay, d1	47.1	47.1	43.6	51.1	50.6		61.0	33.8		54.3	35.6	22.2
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	9.0	9.3	0.9	4.3	2.5		86.3	1.6		11.4	32.5	0.2
Delay (s)	56.1	56.4	44.5	55.4	53.2		147.3	35.4		65.7	68.1	22.3
Level of Service	E	E	D	E	D		F	D		E	E	C
Approach Delay (s)		51.9			54.2			49.5			63.0	
Approach LOS		D			D			D			E	

Intersection Summary				
HCM 2000 Control Delay	56.7	HCM 2000 Level of Service	E	
HCM 2000 Volume to Capacity ratio	0.89			
Actuated Cycle Length (s)	126.7	Sum of lost time (s)	22.1	
Intersection Capacity Utilization	87.3%	ICU Level of Service	E	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	386	0	389	23	585	314	468	1385	1
Future Volume (vph)	0	0	0	386	0	389	23	585	314	468	1385	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0	4.0	4.0	6.1	4.0	4.0	5.8	
Lane Util. Factor				0.97	0.95	0.95	1.00	0.95	1.00	0.97	0.95	
Frpb, ped/bikes				1.00	0.98	0.98	1.00	1.00	0.99	1.00	1.00	
Flpb, ped/bikes				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt				1.00	0.85	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected				0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)				3433	1481	1481	1770	3539	1570	3433	3539	
Flt Permitted				0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)				3433	1481	1481	1770	3539	1570	3433	3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	420	0	423	25	636	341	509	1505	1
RTOR Reduction (vph)	0	0	0	0	162	161	0	0	127	0	0	0
Lane Group Flow (vph)	0	0	0	420	50	50	25	636	214	509	1506	0
Confl. Peds. (#/hr)			2			4			2			
Turn Type				Split	NA	Perm	Prot	NA	pm+ov	Prot	NA	
Protected Phases	4	4		8	8		5	2	8	1	6	
Permitted Phases						8			2			
Actuated Green, G (s)				22.0	22.0	22.0	1.5	36.4	58.4	11.8	47.0	
Effective Green, g (s)				22.0	22.0	22.0	1.5	36.4	58.4	11.8	47.0	
Actuated g/C Ratio				0.24	0.24	0.24	0.02	0.39	0.63	0.13	0.50	
Clearance Time (s)				4.0	4.0	4.0	4.0	6.1	4.0	4.0	5.8	
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)				810	349	349	28	1382	983	434	1784	
v/s Ratio Prot				c0.12	0.03		0.01	0.18	0.05	c0.15	c0.43	
v/s Ratio Perm						0.03			0.08			
v/c Ratio				0.52	0.14	0.14	0.89	0.46	0.22	1.17	0.84	
Uniform Delay, d1				31.0	28.1	28.1	45.8	21.1	7.5	40.7	19.9	
Progression Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2				0.6	0.2	0.2	123.8	0.2	0.1	99.7	3.9	
Delay (s)				31.6	28.3	28.3	169.5	21.3	7.6	140.4	23.8	
Level of Service				C	C	C	F	C	A	F	C	
Approach Delay (s)		0.0			29.9			20.4			53.3	
Approach LOS		A			C			C			D	

Intersection Summary				
HCM 2000 Control Delay	39.6	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.78			
Actuated Cycle Length (s)	93.2	Sum of lost time (s)	18.1	
Intersection Capacity Utilization	72.3%	ICU Level of Service	C	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	16	1	86	13	294	12	342	38	601	465	43
Future Volume (vph)	5	16	1	86	13	294	12	342	38	601	465	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.5	4.5	4.0	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	0.95	0.95	1.00	0.95		0.97	0.91	
Frpb, ped/bikes	1.00	1.00		1.00	0.96	0.96	1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.86	0.85	1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1840		1770	1470	1443	1770	3466		3433	4998	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1840		1770	1470	1443	1770	3466		3433	4998	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	17	1	93	14	320	13	372	41	653	505	47
RTOR Reduction (vph)	0	1	0	0	129	139	0	9	0	0	10	0
Lane Group Flow (vph)	5	17	0	93	39	27	13	404	0	653	542	0
Confl. Peds. (#/hr)			20			20			20			20
Confl. Bikes (#/hr)			10			10			10			10
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8						
Actuated Green, G (s)	0.5	4.0		6.8	9.8	9.8	0.5	17.2		16.3	33.5	
Effective Green, g (s)	0.5	4.0		6.8	9.8	9.8	0.5	17.2		16.3	33.5	
Actuated g/C Ratio	0.01	0.07		0.11	0.16	0.16	0.01	0.28		0.27	0.55	
Clearance Time (s)	4.0	4.0		4.0	4.5	4.5	4.0	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	14	120		196	235	230	14	972		912	2731	
v/s Ratio Prot	0.00	0.01		c0.05	c0.03		0.01	c0.12		c0.19	0.11	
v/s Ratio Perm						0.02						
v/c Ratio	0.36	0.14		0.47	0.16	0.12	0.93	0.42		0.72	0.20	
Uniform Delay, d1	30.2	27.0		25.6	22.2	22.0	30.4	18.0		20.4	7.1	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.01	1.00		1.00	1.00	
Incremental Delay, d2	14.9	0.5		1.8	0.3	0.2	201.0	0.3		2.7	0.0	
Delay (s)	45.2	27.6		27.4	22.5	22.3	231.8	18.2		23.1	7.1	
Level of Service	D	C		C	C	C	F	B		C	A	
Approach Delay (s)		31.4			23.5			24.7			15.8	
Approach LOS		C			C			C			B	

Intersection Summary				
HCM 2000 Control Delay	19.4	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.53			
Actuated Cycle Length (s)	61.3	Sum of lost time (s)	17.5	
Intersection Capacity Utilization	59.3%	ICU Level of Service	B	
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (veh/h)	52	10	86	332	8	75	469
Future Volume (Veh/h)	52	10	86	332	8	75	469
Sign Control	Stop			Free		Free	
Grade	0%			0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	57	11	93	361	0	82	510
Pedestrians	20			20			
Lane Width (ft)	12.0			12.0			
Walking Speed (ft/s)	4.0			4.0			
Percent Blockage	2			2			
Right turn flare (veh)							
Median type				None		None	
Median storage veh)							
Upstream signal (ft)				920		480	
pX, platoon unblocked					0.00		
vC, conflicting volume	468	81	612		0		
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	468	81	612		0		
tC, single (s)	6.8	6.9	4.1		0.0		
tC, 2 stage (s)							
tF (s)	3.5	3.3	2.2		0.0		
p0 queue free %	88	99	90		0		
cM capacity (veh/h)	464	931	947		0		

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3	SB 4
Volume Total	38	30	93	180	180	41	41	510	0
Volume Left	38	19	93	0	0	0	0	0	0
Volume Right	0	11	0	0	0	0	0	510	0
cSH	464	569	947	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.08	0.05	0.10	0.11	0.11	0.02	0.02	0.30	0.00
Queue Length 95th (ft)	7	4	8	0	0	0	0	0	0
Control Delay (s)	13.4	11.7	9.2	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B	B	A						
Approach Delay (s)	12.7		1.9			0.0			
Approach LOS	B								

Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	42.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	23	37	310	49	4	81
Future Volume (vph)	23	37	310	49	4	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frpb, ped/bikes	1.00	0.96	0.99		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	0.98		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1518	3446		1770	3539
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1518	3446		1770	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	25	40	337	53	4	88
RTOR Reduction (vph)	0	35	11	0	0	0
Lane Group Flow (vph)	25	5	379	0	4	88
Confl. Peds. (#/hr)		20		20		
Confl. Bikes (#/hr)		10		10		
Turn Type	Prot	Perm	NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8				
Actuated Green, G (s)	5.3	5.3	24.6		0.7	29.8
Effective Green, g (s)	5.3	5.3	24.6		0.7	29.8
Actuated g/C Ratio	0.12	0.12	0.56		0.02	0.68
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	212	182	1922		28	2391
v/s Ratio Prot	c0.01		c0.11		c0.00	0.02
v/s Ratio Perm		0.00				
v/c Ratio	0.12	0.03	0.20		0.14	0.04
Uniform Delay, d1	17.3	17.1	4.8		21.4	2.4
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.2	0.1	0.1		2.3	0.0
Delay (s)	17.6	17.2	4.9		23.7	2.4
Level of Service	B	B	A		C	A
Approach Delay (s)	17.3		4.9			3.3
Approach LOS	B		A			A

Intersection Summary			
HCM 2000 Control Delay	6.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.18		
Actuated Cycle Length (s)	44.1	Sum of lost time (s)	13.5
Intersection Capacity Utilization	34.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	215	399	169	116	138	115	165	584	297	139	509	70
Future Volume (vph)	215	399	169	116	138	115	165	584	297	139	509	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.3	6.3	4.4	6.2	6.2	4.4	6.0	6.0	4.4	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	3433	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	1863	1583	3433	1863	1583	1770	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	234	434	184	126	150	125	179	635	323	151	553	76
RTOR Reduction (vph)	0	0	124	0	0	98	0	0	240	0	0	58
Lane Group Flow (vph)	234	434	60	126	150	27	179	635	83	151	553	18
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Actuated Green, G (s)	18.6	33.2	33.2	7.6	22.3	22.3	14.9	26.0	26.0	13.5	24.6	24.6
Effective Green, g (s)	18.6	33.2	33.2	7.6	22.3	22.3	14.9	26.0	26.0	13.5	24.6	24.6
Actuated g/C Ratio	0.18	0.33	0.33	0.07	0.22	0.22	0.15	0.26	0.26	0.13	0.24	0.24
Clearance Time (s)	4.4	6.3	6.3	4.4	6.2	6.2	4.4	6.0	6.0	4.4	6.0	6.0
Vehicle Extension (s)	2.0	4.9	4.9	2.0	5.1	5.1	2.0	5.9	5.9	2.0	5.6	5.6
Lane Grp Cap (vph)	324	609	518	257	409	348	260	907	405	235	858	384
v/s Ratio Prot	c0.13	c0.23		0.04	0.08		c0.10	c0.18		0.09	0.16	
v/s Ratio Perm			0.04			0.02			0.05			0.01
v/c Ratio	0.72	0.71	0.12	0.49	0.37	0.08	0.69	0.70	0.20	0.64	0.64	0.05
Uniform Delay, d1	39.0	29.9	23.8	45.0	33.6	31.4	41.0	34.2	29.6	41.7	34.5	29.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	6.6	4.8	0.2	0.5	1.2	0.2	5.9	3.6	0.7	4.4	2.5	0.1
Delay (s)	45.6	34.7	24.0	45.6	34.8	31.6	47.0	37.7	30.3	46.1	37.0	29.6
Level of Service	D	C	C	D	C	C	D	D	C	D	D	C
Approach Delay (s)		35.4			37.2			37.1			38.1	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	36.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	101.4	Sum of lost time (s)	21.1
Intersection Capacity Utilization	65.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	0	0	0	25	0	11	56	0	1035	32	20	769
Future Volume (vph)	0	0	0	25	0	11	56	0	1035	32	20	769
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.4		4.4		5.4	6.0		4.4	6.0
Lane Util. Factor				1.00		1.00		1.00	0.95		1.00	0.95
Frpb, ped/bikes				1.00		0.99		1.00	1.00		1.00	1.00
Flpb, ped/bikes				1.00		1.00		1.00	1.00		1.00	1.00
Frt				1.00		0.85		1.00	1.00		1.00	1.00
Flt Protected				0.95		1.00		0.95	1.00		0.95	1.00
Satd. Flow (prot)				1770		1561		1770	3521		1770	3539
Flt Permitted				0.95		1.00		0.95	1.00		0.95	1.00
Satd. Flow (perm)				1770		1561		1770	3521		1770	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	27	0	12	61	0	1125	35	22	836
RTOR Reduction (vph)	0	0	0	0	0	11	0	0	1	0	0	0
Lane Group Flow (vph)	0	0	0	27	0	1	0	61	1159	0	22	836
Confl. Peds. (#/hr)						4				3		
Turn Type				Prot		Perm	Prot	Prot	NA		Prot	NA
Protected Phases				8			5	5	2		1	6
Permitted Phases						8						
Actuated Green, G (s)				6.2		6.2		4.8	36.7		0.9	32.8
Effective Green, g (s)				6.2		6.2		3.8	36.7		0.9	32.8
Actuated g/C Ratio				0.11		0.11		0.06	0.63		0.02	0.56
Clearance Time (s)				4.4		4.4		4.4	6.0		4.4	6.0
Vehicle Extension (s)				3.0		3.0		3.0	3.0		3.0	3.0
Lane Grp Cap (vph)				187		165		114	2205		27	1980
v/s Ratio Prot				c0.02				c0.03	c0.33		0.01	0.24
v/s Ratio Perm						0.00						
v/c Ratio				0.14		0.01		0.54	0.53		0.81	0.42
Uniform Delay, d1				23.8		23.4		26.5	6.1		28.8	7.4
Progression Factor				1.00		1.00		1.00	1.00		1.00	1.00
Incremental Delay, d2				0.4		0.0		4.8	0.2		95.3	0.1
Delay (s)				24.1		23.5		31.3	6.3		124.0	7.6
Level of Service				C		C		C	A		F	A
Approach Delay (s)		0.0			23.9				7.6			10.6
Approach LOS		A			C				A			B

Intersection Summary			
HCM 2000 Control Delay	9.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	58.6	Sum of lost time (s)	15.8
Intersection Capacity Utilization	48.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	0
Future Volume (vph)	0
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	0
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	28	1	43	14	0	6	71	73	1089	18	19	23
Future Volume (vph)	28	1	43	14	0	6	71	73	1089	18	19	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.4	4.4	4.4	4.4			4.4	6.0			4.4
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00			0.97	0.95			1.00
Frpb, ped/bikes	1.00	1.00	0.97	1.00	0.98			1.00	1.00			1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00			1.00	1.00			1.00
Frt	1.00	1.00	0.85	1.00	0.85			1.00	1.00			1.00
Flt Protected	0.95	0.96	1.00	0.95	1.00			0.95	1.00			0.95
Satd. Flow (prot)	1681	1691	1539	1770	1547			3433	3529			1770
Flt Permitted	0.95	0.96	1.00	0.95	1.00			0.95	1.00			0.95
Satd. Flow (perm)	1681	1691	1539	1770	1547			3433	3529			1770
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	30	1	47	15	0	7	77	79	1184	20	21	25
RTOR Reduction (vph)	0	0	43	0	7	0	0	0	0	0	0	0
Lane Group Flow (vph)	16	15	4	15	0	0	0	156	1204	0	0	46
Confl. Peds. (#/hr)			26			18				6		
Turn Type	Split	NA	Perm	Split	NA		Prot	Prot	NA		Prot	Prot
Protected Phases	4	4		8	8		5	5	2		1	1
Permitted Phases			4									
Actuated Green, G (s)	7.1	7.1	7.1	5.5	5.5			8.7	43.9			3.9
Effective Green, g (s)	7.1	7.1	7.1	5.5	5.5			8.7	43.9			3.9
Actuated g/C Ratio	0.09	0.09	0.09	0.07	0.07			0.11	0.55			0.05
Clearance Time (s)	4.4	4.4	4.4	4.4	4.4			4.4	6.0			4.4
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0	3.0			3.0
Lane Grp Cap (vph)	149	150	137	122	106			375	1946			86
v/s Ratio Prot	c0.01	0.01		c0.01	0.00			c0.05	c0.34			0.03
v/s Ratio Perm			0.00									
v/c Ratio	0.11	0.10	0.03	0.12	0.00			0.42	0.62			0.53
Uniform Delay, d1	33.3	33.3	33.1	34.8	34.5			33.1	12.1			37.0
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00			1.00
Incremental Delay, d2	0.3	0.3	0.1	0.5	0.0			0.8	0.6			6.3
Delay (s)	33.7	33.6	33.2	35.2	34.5			33.8	12.7			43.2
Level of Service	C	C	C	D	C			C	B			D
Approach Delay (s)		33.4			35.0				15.2			
Approach LOS		C			D				B			

Intersection Summary			
HCM 2000 Control Delay	15.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	79.6	Sum of lost time (s)	19.2
Intersection Capacity Utilization	76.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	715	24
Future Volume (vph)	715	24
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.0	6.0
Lane Util. Factor	0.95	1.00
Frpb, ped/bikes	1.00	0.98
Flpb, ped/bikes	1.00	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	3539	1556
Flt Permitted	1.00	1.00
Satd. Flow (perm)	3539	1556
Peak-hour factor, PHF	0.92	0.92
Adj. Flow (vph)	777	26
RTOR Reduction (vph)	0	13
Lane Group Flow (vph)	777	13
Confl. Peds. (#/hr)		5
Turn Type	NA	Perm
Protected Phases	6	
Permitted Phases		6
Actuated Green, G (s)	39.1	39.1
Effective Green, g (s)	39.1	39.1
Actuated g/C Ratio	0.49	0.49
Clearance Time (s)	6.0	6.0
Vehicle Extension (s)	3.0	3.0
Lane Grp Cap (vph)	1738	764
v/s Ratio Prot	0.22	
v/s Ratio Perm		0.01
v/c Ratio	0.45	0.02
Uniform Delay, d1	13.2	10.4
Progression Factor	1.00	1.00
Incremental Delay, d2	0.2	0.0
Delay (s)	13.4	10.4
Level of Service	B	B
Approach Delay (s)	14.9	
Approach LOS	B	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	42	3	52	66	1	22	111	1256	101	40	808	42
Future Volume (vph)	42	3	52	66	1	22	111	1256	101	40	808	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.3		4.4	4.9		4.4	6.0		4.4	6.0	
Lane Util. Factor	1.00	0.95		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.86		1.00	0.86		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	2999		1770	1574		1770	3500		1770	3513	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	2999		1770	1574		1770	3500		1770	3513	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	46	3	57	72	1	24	121	1365	110	43	878	46
RTOR Reduction (vph)	0	53	0	0	21	0	0	5	0	0	3	0
Lane Group Flow (vph)	46	7	0	72	4	0	121	1470	0	43	921	0
Confl. Peds. (#/hr)			1			2						
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	4.5	7.9		5.4	9.2		6.9	35.1		2.2	30.4	
Effective Green, g (s)	4.5	7.9		5.4	9.2		6.9	35.1		2.2	30.4	
Actuated g/C Ratio	0.06	0.11		0.08	0.13		0.10	0.50		0.03	0.43	
Clearance Time (s)	4.4	5.3		4.4	4.9		4.4	6.0		4.4	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	112	335		135	204		172	1737		55	1510	
v/s Ratio Prot	0.03	0.00		c0.04	c0.00		c0.07	c0.42		0.02	0.26	
v/s Ratio Perm												
v/c Ratio	0.41	0.02		0.53	0.02		0.70	0.85		0.78	0.61	
Uniform Delay, d1	31.8	28.0		31.4	26.8		30.9	15.5		34.0	15.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.4	0.0		4.0	0.0		12.3	4.0		50.5	0.7	
Delay (s)	34.3	28.0		35.4	26.9		43.2	19.5		84.5	16.3	
Level of Service	C	C		D	C		D	B		F	B	
Approach Delay (s)		30.7			33.2			21.3			19.3	
Approach LOS		C			C			C			B	

Intersection Summary

HCM 2000 Control Delay	21.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	70.7	Sum of lost time (s)	20.1
Intersection Capacity Utilization	65.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	139	202	298	1329	824	102
Future Volume (vph)	139	202	298	1329	824	102
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.4	4.4	6.0	6.0	
Lane Util. Factor	1.00	1.00	0.97	0.95	0.95	
Frpb, ped/bikes	1.00	0.99	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.98	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1570	3433	3539	3481	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1770	1570	3433	3539	3481	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	151	220	324	1445	896	111
RTOR Reduction (vph)	0	15	0	0	9	0
Lane Group Flow (vph)	151	205	324	1445	998	0
Confl. Peds. (#/hr)		3				
Turn Type	Prot	pm+ov	Prot	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	11.1	17.4	6.3	34.4	23.7	
Effective Green, g (s)	11.1	17.4	6.3	34.4	23.7	
Actuated g/C Ratio	0.20	0.31	0.11	0.61	0.42	
Clearance Time (s)	4.9	4.4	4.4	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	348	484	383	2158	1462	
v/s Ratio Prot	c0.09	0.05	0.09	c0.41	0.29	
v/s Ratio Perm		0.08				
v/c Ratio	0.43	0.42	0.85	0.67	0.68	
Uniform Delay, d1	19.9	15.5	24.6	7.3	13.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.9	0.6	15.7	0.8	1.3	
Delay (s)	20.8	16.1	40.2	8.1	14.6	
Level of Service	C	B	D	A	B	
Approach Delay (s)	18.0			13.9	14.6	
Approach LOS	B			B	B	

Intersection Summary			
HCM 2000 Control Delay	14.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	56.4	Sum of lost time (s)	15.3
Intersection Capacity Utilization	57.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	504	0	803	679	874	0	0	926	160
Future Volume (vph)	0	0	0	504	0	803	679	874	0	0	926	160
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				5.3	5.3	5.3	4.2	6.3			6.3	6.3
Lane Util. Factor				0.95	0.95	0.88	0.97	0.95			0.95	0.88
Frpb, ped/bikes				1.00	1.00	0.98	1.00	1.00			1.00	1.00
Flpb, ped/bikes				1.00	1.00	1.00	1.00	1.00			1.00	1.00
Frt				1.00	1.00	0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95	0.95	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				1681	1681	2726	3433	3539			3539	2787
Flt Permitted				0.95	0.95	1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)				1681	1681	2726	3433	3539			3539	2787
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	548	0	873	738	950	0	0	1007	174
RTOR Reduction (vph)	0	0	0	0	0	191	0	0	0	0	0	114
Lane Group Flow (vph)	0	0	0	274	274	682	738	950	0	0	1007	60
Confl. Peds. (#/hr)						1						
Turn Type				Split	NA	Perm	Prot	NA			NA	Perm
Protected Phases				8	8		5	2			6	
Permitted Phases						8						6
Actuated Green, G (s)				27.7	27.7	27.7	25.1	65.7			36.4	36.4
Effective Green, g (s)				27.7	27.7	27.7	25.1	65.7			36.4	36.4
Actuated g/C Ratio				0.26	0.26	0.26	0.24	0.63			0.35	0.35
Clearance Time (s)				5.3	5.3	5.3	4.2	6.3			6.3	6.3
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)				443	443	719	820	2214			1226	966
v/s Ratio Prot				0.16	0.16		c0.21	0.27			c0.28	
v/s Ratio Perm						c0.25						0.02
v/c Ratio				0.62	0.62	0.95	0.90	0.43			0.82	0.06
Uniform Delay, d1				34.0	34.0	37.9	38.7	10.1			31.3	22.9
Progression Factor				1.00	1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2				2.6	2.6	21.5	12.9	0.6			6.3	0.1
Delay (s)				36.6	36.6	59.4	51.6	10.7			37.6	23.0
Level of Service				D	D	E	D	B			D	C
Approach Delay (s)		0.0			50.6			28.6			35.4	
Approach LOS		A			D			C			D	

Intersection Summary			
HCM 2000 Control Delay	37.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	15.8
Intersection Capacity Utilization	104.0%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	409	1	663	0	0	0	0	1144	1004	571	859	0
Future Volume (vph)	409	1	663	0	0	0	0	1144	1004	571	859	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6	4.6					6.3	6.3	4.2	6.3	
Lane Util. Factor	0.95	0.95	0.88					0.95	1.00	0.97	0.95	
Frpb, ped/bikes	1.00	1.00	0.99					1.00	0.99	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00					1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95	0.95	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1681	1686	2747					3539	1562	3433	3539	
Flt Permitted	0.95	0.95	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1681	1686	2747					3539	1562	3433	3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	445	1	721	0	0	0	0	1243	1091	621	934	0
RTOR Reduction (vph)	0	0	216	0	0	0	0	0	367	0	0	0
Lane Group Flow (vph)	222	224	505	0	0	0	0	1243	724	621	934	0
Confl. Peds. (#/hr)			2						1			
Turn Type	Split	NA	Perm					NA	Perm	Prot	NA	
Protected Phases	4	4						2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	34.5	34.5	34.5					65.2	65.2	30.2	99.6	
Effective Green, g (s)	34.5	34.5	34.5					65.2	65.2	30.2	99.6	
Actuated g/C Ratio	0.24	0.24	0.24					0.45	0.45	0.21	0.69	
Clearance Time (s)	4.6	4.6	4.6					6.3	6.3	4.2	6.3	
Vehicle Extension (s)	3.0	3.0	3.0					3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	399	401	653					1591	702	715	2430	
v/s Ratio Prot	0.13	0.13						0.35		c0.18	0.26	
v/s Ratio Perm			c0.18						c0.46			
v/c Ratio	0.56	0.56	0.77					0.78	1.03	0.87	0.38	
Uniform Delay, d1	48.5	48.6	51.6					33.9	39.9	55.5	9.7	
Progression Factor	1.00	1.00	1.00					1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.7	1.7	5.7					3.9	42.2	10.9	0.5	
Delay (s)	50.2	50.2	57.3					37.7	82.1	66.4	10.1	
Level of Service	D	D	E					D	F	E	B	
Approach Delay (s)		54.6			0.0			58.5			32.6	
Approach LOS		D			A			E			C	

Intersection Summary			
HCM 2000 Control Delay	49.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	145.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	104.0%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	582	35	56	0	17	174	76	1392	0	156	1087	279
Future Volume (vph)	582	35	56	0	17	174	76	1392	0	156	1087	279
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	4.9		4.9		4.4	4.9		4.4	4.9	4.9
Lane Util. Factor	0.95	0.95	1.00		1.00		1.00	0.91		1.00	0.91	1.00
Frt	1.00	1.00	0.85		0.88		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.96	1.00		1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1694	1583		1633		1770	5085		1770	5085	1583
Flt Permitted	0.95	0.96	1.00		1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1681	1694	1583		1633		1770	5085		1770	5085	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	633	38	61	0	18	189	83	1513	0	170	1182	303
RTOR Reduction (vph)	0	0	46	0	160	0	0	0	0	0	0	102
Lane Group Flow (vph)	335	336	15	0	47	0	83	1513	0	170	1182	201
Turn Type	Split	NA	Perm		NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	4	4		8	8		5	2		1	6	4
Permitted Phases			4									6
Actuated Green, G (s)	27.1	27.1	27.1		8.9		8.1	38.0		14.1	44.0	71.1
Effective Green, g (s)	27.1	27.1	27.1		8.9		8.1	38.0		14.1	44.0	71.1
Actuated g/C Ratio	0.25	0.25	0.25		0.08		0.08	0.35		0.13	0.41	0.66
Clearance Time (s)	4.9	4.9	4.9		4.9		4.4	4.9		4.4	4.9	4.9
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	424	428	400		135		133	1802		232	2087	1122
v/s Ratio Prot	c0.20	0.20			c0.03		0.05	c0.30		c0.10	0.23	0.05
v/s Ratio Perm			0.01									0.08
v/c Ratio	0.79	0.79	0.04		0.34		0.62	0.84		0.73	0.57	0.18
Uniform Delay, d1	37.4	37.3	30.2		46.4		48.1	31.8		44.7	24.3	6.9
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	9.7	9.1	0.0		1.5		8.8	3.6		11.3	0.4	0.1
Delay (s)	47.0	46.5	30.3		47.9		56.9	35.4		56.1	24.6	7.0
Level of Service	D	D	C		D		E	D		E	C	A
Approach Delay (s)		45.4			47.9			36.5			24.6	
Approach LOS		D			D			D			C	

Intersection Summary			
HCM 2000 Control Delay	33.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	107.2	Sum of lost time (s)	19.1
Intersection Capacity Utilization	80.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBU	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	30	14	145	96	194	299	15
Future Volume (vph)	30	14	145	96	194	299	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0			4.0	6.0	6.0	6.0
Lane Util. Factor	1.00			1.00	0.95	1.00	1.00
Frpb, ped/bikes	1.00			1.00	1.00	1.00	0.97
Flpb, ped/bikes	1.00			1.00	1.00	1.00	1.00
Frt	0.96			1.00	1.00	1.00	0.85
Flt Protected	0.97			0.95	1.00	1.00	1.00
Satd. Flow (prot)	1718			1770	3539	1863	1543
Flt Permitted	0.97			0.95	1.00	1.00	1.00
Satd. Flow (perm)	1718			1770	3539	1863	1543
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	15	158	104	211	325	16
RTOR Reduction (vph)	13	0	0	0	0	0	10
Lane Group Flow (vph)	35	0	0	262	211	325	6
Confl. Peds. (#/hr)		1		5			5
Turn Type	Prot		Prot	Prot	NA	NA	Perm
Protected Phases	4		5	5	2	6	
Permitted Phases							6
Actuated Green, G (s)	5.6			14.0	37.2	19.2	19.2
Effective Green, g (s)	5.6			14.0	37.2	19.2	19.2
Actuated g/C Ratio	0.10			0.26	0.69	0.36	0.36
Clearance Time (s)	5.0			4.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0			3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	178			460	2447	664	550
v/s Ratio Prot	c0.02			c0.15	0.06	c0.17	
v/s Ratio Perm							0.00
v/c Ratio	0.19			0.57	0.09	0.49	0.01
Uniform Delay, d1	22.0			17.3	2.7	13.5	11.2
Progression Factor	1.00			1.00	1.00	1.00	1.00
Incremental Delay, d2	0.5			1.6	0.0	0.6	0.0
Delay (s)	22.6			18.9	2.7	14.1	11.2
Level of Service	C			B	A	B	B
Approach Delay (s)	22.6				11.7	13.9	
Approach LOS	C				B	B	

Intersection Summary			
HCM 2000 Control Delay	13.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	53.8	Sum of lost time (s)	15.0
Intersection Capacity Utilization	46.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	92	101	2	69	247	163	8	3	27	170	1	143
Future Volume (vph)	92	101	2	69	247	163	8	3	27	170	1	143
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.5		4.4	6.0	6.0	4.4	4.9		4.4	4.9	
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	0.95		0.97	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.98	1.00	0.99		1.00	0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00	0.85	1.00	0.86		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3528		1770	1863	1556	1770	3016		3433	1549	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3528		1770	1863	1556	1770	3016		3433	1549	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	100	110	2	75	268	177	9	3	29	185	1	155
RTOR Reduction (vph)	0	1	0	0	0	123	0	29	0	0	121	0
Lane Group Flow (vph)	100	111	0	75	268	54	9	3	0	185	35	0
Confl. Peds. (#/hr)			9			8			5			3
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8						
Actuated Green, G (s)	7.4	20.9		5.0	18.0	18.0	0.7	4.7		8.8	12.8	
Effective Green, g (s)	7.4	20.9		5.0	18.0	18.0	0.7	4.7		8.8	12.8	
Actuated g/C Ratio	0.13	0.36		0.09	0.31	0.31	0.01	0.08		0.15	0.22	
Clearance Time (s)	4.4	5.5		4.4	6.0	6.0	4.4	4.9		4.4	4.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	223	1258		151	572	477	21	241		515	338	
v/s Ratio Prot	c0.06	0.03		0.04	c0.14		0.01	0.00		c0.05	c0.02	
v/s Ratio Perm						0.03						
v/c Ratio	0.45	0.09		0.50	0.47	0.11	0.43	0.01		0.36	0.10	
Uniform Delay, d1	23.7	12.5		25.6	16.4	14.6	28.8	24.8		22.4	18.3	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.4	0.0		2.6	0.6	0.1	13.4	0.0		0.4	0.1	
Delay (s)	25.1	12.6		28.2	17.0	14.7	42.2	24.8		22.8	18.4	
Level of Service	C	B		C	B	B	D	C		C	B	
Approach Delay (s)		18.5			17.8			28.6			20.8	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	19.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	58.6	Sum of lost time (s)	19.7
Intersection Capacity Utilization	45.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

MOVEMENT SUMMARY

Site: Street M / Carmel Mtn Rd PM

Near-Term + Project PM
Roundabout

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Carmel Mountain Rd											
3	L2	61	2.0	0.200	9.2	LOS A	0.7	17.8	0.56	0.56	23.4
8	T1	48	2.0	0.200	9.2	LOS A	0.7	17.8	0.56	0.56	31.0
18	R2	1	2.0	0.200	9.2	LOS A	0.7	17.8	0.56	0.56	30.4
Approach		110	2.0	0.200	9.2	LOS A	0.7	17.8	0.56	0.56	27.2
East: Via Las Lenas											
1	L2	1	2.0	0.088	8.1	LOS A	0.3	7.3	0.54	0.54	31.5
6	T1	14	2.0	0.088	8.1	LOS A	0.3	7.3	0.54	0.54	20.2
16	R2	30	2.0	0.088	8.1	LOS A	0.3	7.3	0.54	0.54	29.6
Approach		46	2.0	0.088	8.1	LOS A	0.3	7.3	0.54	0.54	27.0
North: Carmel Mountain Rd											
7	L2	27	2.0	0.380	8.2	LOS A	1.9	48.2	0.28	0.15	29.1
4	T1	48	2.0	0.380	8.2	LOS A	1.9	48.2	0.28	0.15	32.2
14	R2	276	2.0	0.380	8.2	LOS A	1.9	48.2	0.28	0.15	18.6
Approach		351	2.0	0.380	8.2	LOS A	1.9	48.2	0.28	0.15	21.2
West: Street M											
5	L2	485	2.0	0.636	13.6	LOS B	4.9	124.2	0.43	0.25	24.6
2	T1	27	2.0	0.636	13.6	LOS B	4.9	124.2	0.43	0.25	24.7
12	R2	76	2.0	0.636	13.6	LOS B	4.9	124.2	0.43	0.25	24.1
Approach		588	2.0	0.636	13.6	LOS B	4.9	124.2	0.43	0.25	24.5
All Vehicles		1095	2.0	0.636	11.2	LOS B	4.9	124.2	0.40	0.26	23.7

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	46	18	54	34	17	13	398	87	24	266	15
Future Volume (vph)	19	46	18	54	34	17	13	398	87	24	266	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9			4.9		4.4	5.2		4.4	5.4	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00			1.00		1.00	0.99		1.00	1.00	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.97			0.98		1.00	0.97		1.00	0.99	
Flt Protected		0.99			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1782			1773		1770	3424		1770	3511	
Flt Permitted		0.89			0.79		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1605			1436		1770	3424		1770	3511	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	21	50	20	59	37	18	14	433	95	26	289	16
RTOR Reduction (vph)	0	16	0	0	11	0	0	14	0	0	3	0
Lane Group Flow (vph)	0	75	0	0	103	0	14	514	0	26	302	0
Confl. Peds. (#/hr)			1			4			10			
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		7.1			7.1		0.7	19.4		0.8	19.3	
Effective Green, g (s)		7.1			7.1		0.7	19.4		0.8	19.3	
Actuated g/C Ratio		0.17			0.17		0.02	0.46		0.02	0.46	
Clearance Time (s)		4.9			4.9		4.4	5.2		4.4	5.4	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		272			243		29	1589		33	1621	
v/s Ratio Prot							0.01	c0.15		c0.01	0.09	
v/s Ratio Perm		0.05			c0.07							
v/c Ratio		0.28			0.42		0.48	0.32		0.79	0.19	
Uniform Delay, d1		15.1			15.5		20.4	7.1		20.4	6.6	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.6			1.2		12.1	0.1		74.3	0.1	
Delay (s)		15.7			16.7		32.5	7.2		94.7	6.7	
Level of Service		B			B		C	A		F	A	
Approach Delay (s)		15.7			16.7			7.8			13.6	
Approach LOS		B			B			A			B	

Intersection Summary			
HCM 2000 Control Delay	11.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	41.8	Sum of lost time (s)	14.7
Intersection Capacity Utilization	41.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	1	2	0	1	8	2	427	4	20	314	48
Future Volume (vph)	25	1	2	0	1	8	2	427	4	20	314	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		4.0	6.0		4.0	6.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00			0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00		0.99	1.00		1.00	1.00	
Frt		0.99			0.88		1.00	1.00		1.00	0.98	
Flt Protected		0.96			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1762			1616		1760	3534		1764	3455	
Flt Permitted		0.95			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1749			1616		1760	3534		1764	3455	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	1	2	0	1	9	2	464	4	22	341	52
RTOR Reduction (vph)	0	2	0	0	8	0	0	0	0	0	12	0
Lane Group Flow (vph)	0	28	0	0	2	0	2	468	0	22	381	0
Confl. Peds. (#/hr)	3		4	4		3	11		7	7		11
Turn Type	Perm	NA			NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		4.0			4.0		0.5	25.1		0.5	25.1	
Effective Green, g (s)		4.0			4.0		0.5	25.1		0.5	25.1	
Actuated g/C Ratio		0.09			0.09		0.01	0.56		0.01	0.56	
Clearance Time (s)		5.0			5.0		4.0	6.0		4.0	6.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		156			144		19	1988		19	1944	
v/s Ratio Prot					0.00		0.00	c0.13		c0.01	0.11	
v/s Ratio Perm		c0.02										
v/c Ratio		0.18			0.01		0.11	0.24		1.16	0.20	
Uniform Delay, d1		18.8			18.5		21.8	4.9		22.1	4.8	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.6			0.0		2.4	0.1		260.5	0.0	
Delay (s)		19.3			18.5		24.3	5.0		282.6	4.8	
Level of Service		B			B		C	A		F	A	
Approach Delay (s)		19.3			18.5			5.1			19.6	
Approach LOS		B			B			A			B	

Intersection Summary			
HCM 2000 Control Delay	12.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.24		
Actuated Cycle Length (s)	44.6	Sum of lost time (s)	15.0
Intersection Capacity Utilization	36.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	115	5	20	0	1	11	38	417	0	10	320	138
Future Volume (vph)	115	5	20	0	1	11	38	417	0	10	320	138
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.1		4.0	4.8		4.0	5.1	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00			0.99		1.00	1.00		1.00	0.99	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.98			0.88		1.00	1.00		1.00	0.95	
Flt Protected		0.96			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1751			1609		1770	3539		1770	3352	
Flt Permitted		0.76			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1376			1609		1770	3539		1770	3352	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	125	5	22	0	1	12	41	453	0	11	348	150
RTOR Reduction (vph)	0	9	0	0	9	0	0	0	0	0	48	0
Lane Group Flow (vph)	0	143	0	0	4	0	41	453	0	11	450	0
Confl. Peds. (#/hr)			3			5			8			7
Turn Type	Perm	NA			NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		10.0			9.9		1.8	20.7		0.7	19.3	
Effective Green, g (s)		10.0			9.9		1.8	20.7		0.7	19.3	
Actuated g/C Ratio		0.23			0.22		0.04	0.47		0.02	0.44	
Clearance Time (s)		4.0			4.1		4.0	4.8		4.0	5.1	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		311			360		72	1657		28	1463	
v/s Ratio Prot					0.00		c0.02	0.13		0.01	c0.13	
v/s Ratio Perm		c0.10										
v/c Ratio		0.46			0.01		0.57	0.27		0.39	0.31	
Uniform Delay, d1		14.8			13.3		20.8	7.2		21.5	8.1	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.1			0.0		9.9	0.1		8.9	0.1	
Delay (s)		15.9			13.4		30.8	7.3		30.4	8.2	
Level of Service		B			B		C	A		C	A	
Approach Delay (s)		15.9			13.4			9.2			8.7	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	44.2	Sum of lost time (s)	13.2
Intersection Capacity Utilization	44.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	79	423	42	16	402	174	20	7	7	145	14	46
Future Volume (vph)	79	423	42	16	402	174	20	7	7	145	14	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.9		4.4	5.2			4.9		4.9	4.9	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	0.99			1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.95			0.97		1.00	0.88	
Flt Protected	0.95	1.00		0.95	1.00			0.97		0.95	1.00	
Satd. Flow (prot)	1770	3483		1770	3345			1759		1770	1631	
Flt Permitted	0.95	1.00		0.95	1.00			0.83		0.73	1.00	
Satd. Flow (perm)	1770	3483		1770	3345			1498		1364	1631	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	86	460	46	17	437	189	22	8	8	158	15	50
RTOR Reduction (vph)	0	8	0	0	56	0	0	6	0	0	40	0
Lane Group Flow (vph)	86	498	0	17	570	0	0	32	0	158	25	0
Confl. Peds. (#/hr)			3			11						3
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	3.6	25.2		1.0	22.3			10.6		10.6	10.6	
Effective Green, g (s)	3.6	25.2		1.0	22.3			10.6		10.6	10.6	
Actuated g/C Ratio	0.07	0.49		0.02	0.44			0.21		0.21	0.21	
Clearance Time (s)	4.4	4.9		4.4	5.2			4.9		4.9	4.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	124	1721		34	1462			311		283	338	
v/s Ratio Prot	c0.05	c0.14		0.01	c0.17						0.02	
v/s Ratio Perm								0.02		c0.12		
v/c Ratio	0.69	0.29		0.50	0.39			0.10		0.56	0.08	
Uniform Delay, d1	23.2	7.6		24.8	9.7			16.3		18.1	16.3	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	15.5	0.1		11.1	0.2			0.1		2.4	0.1	
Delay (s)	38.6	7.7		35.9	9.9			16.5		20.5	16.4	
Level of Service	D	A		D	A			B		C	B	
Approach Delay (s)		12.2			10.6			16.5			19.3	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	12.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	51.0	Sum of lost time (s)	14.5
Intersection Capacity Utilization	47.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	64	411	197	25	478	27	192	12	17	20	10	29
Future Volume (vph)	64	411	197	25	478	27	192	12	17	20	10	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.2		4.4	5.9		4.9	4.9			4.9	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00			1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	0.99			0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Frt	1.00	0.95		1.00	0.99		1.00	0.91			0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.98	
Satd. Flow (prot)	1770	3342		1770	3511		1770	1687			1699	
Flt Permitted	0.95	1.00		0.95	1.00		0.71	1.00			0.92	
Satd. Flow (perm)	1770	3342		1770	3511		1331	1687			1582	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	70	447	214	27	520	29	209	13	18	22	11	32
RTOR Reduction (vph)	0	64	0	0	5	0	0	13	0	0	23	0
Lane Group Flow (vph)	70	597	0	27	544	0	209	18	0	0	42	0
Confl. Peds. (#/hr)			3						3			3
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	3.3	23.9		0.7	20.6		15.0	15.0			15.0	
Effective Green, g (s)	3.3	23.9		0.7	20.6		15.0	15.0			15.0	
Actuated g/C Ratio	0.06	0.44		0.01	0.38		0.28	0.28			0.28	
Clearance Time (s)	4.4	5.2		4.4	5.9		4.9	4.9			4.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)	107	1476		22	1336		369	467			438	
v/s Ratio Prot	c0.04	c0.18		0.02	0.15			0.01				
v/s Ratio Perm							c0.16				0.03	
v/c Ratio	0.65	0.40		1.23	0.41		0.57	0.04			0.10	
Uniform Delay, d1	24.8	10.3		26.7	12.3		16.8	14.3			14.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	13.5	0.2		269.8	0.2		2.0	0.0			0.1	
Delay (s)	38.3	10.4		296.5	12.5		18.8	14.3			14.6	
Level of Service	D	B		F	B		B	B			B	
Approach Delay (s)		13.1			25.8			18.2			14.6	
Approach LOS		B			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	18.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	54.1	Sum of lost time (s)	15.2
Intersection Capacity Utilization	51.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	594	1	464	352	1110	0	0	833	198
Future Volume (vph)	0	0	0	594	1	464	352	1110	0	0	833	198
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				5.6	5.6	5.6	4.2	6.3			6.3	
Lane Util. Factor				0.95	0.95	1.00	0.97	0.95			0.91	
Frpb, ped/bikes				1.00	1.00	1.00	1.00	1.00			1.00	
Flpb, ped/bikes				1.00	1.00	1.00	1.00	1.00			1.00	
Frt				1.00	1.00	0.85	1.00	1.00			0.97	
Flt Protected				0.95	0.95	1.00	0.95	1.00			1.00	
Satd. Flow (prot)				1681	1686	1583	3433	3539			4908	
Flt Permitted				0.95	0.95	1.00	0.95	1.00			1.00	
Satd. Flow (perm)				1681	1686	1583	3433	3539			4908	
Peak-hour factor, PHF	0.92	0.92	0.92	0.73	0.25	0.98	0.86	0.93	0.92	0.92	0.97	0.87
Adj. Flow (vph)	0	0	0	814	4	473	409	1194	0	0	859	228
RTOR Reduction (vph)	0	0	0	0	0	45	0	0	0	0	36	0
Lane Group Flow (vph)	0	0	0	407	411	428	409	1194	0	0	1051	0
Confl. Peds. (#/hr)												3
Turn Type				Split	NA	Perm	Prot	NA			NA	
Protected Phases				8	8		5	2			6	
Permitted Phases						8						
Actuated Green, G (s)				41.2	41.2	41.2	18.9	66.9			43.8	
Effective Green, g (s)				41.2	41.2	41.2	18.9	66.9			43.8	
Actuated g/C Ratio				0.34	0.34	0.34	0.16	0.56			0.36	
Clearance Time (s)				5.6	5.6	5.6	4.2	6.3			6.3	
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)				577	578	543	540	1972			1791	
v/s Ratio Prot				0.24	0.24		c0.12	c0.34			0.21	
v/s Ratio Perm						c0.27						
v/c Ratio				0.71	0.71	0.79	0.76	0.61			0.59	
Uniform Delay, d1				34.1	34.2	35.5	48.4	17.7			30.8	
Progression Factor				1.00	1.00	1.00	1.00	1.00			1.00	
Incremental Delay, d2				3.9	4.1	7.5	6.0	1.4			1.4	
Delay (s)				38.1	38.3	43.0	54.4	19.1			32.2	
Level of Service				D	D	D	D	B			C	
Approach Delay (s)		0.0			39.9			28.1			32.2	
Approach LOS		A			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	33.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.1
Intersection Capacity Utilization	69.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	95	0	471	0	0	0	0	1367	367	359	1068	0
Future Volume (vph)	95	0	471	0	0	0	0	1367	367	359	1068	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0					6.3	6.3	4.2	6.3	
Lane Util. Factor	0.95	0.95	0.88					0.95	1.00	0.97	0.91	
Frpb, ped/bikes	1.00	1.00	0.94					1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00					1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95	0.95	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1681	1681	2632					3539	1583	3433	5085	
Flt Permitted	0.95	0.95	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1681	1681	2632					3539	1583	3433	5085	
Peak-hour factor, PHF	0.67	0.92	0.85	0.92	0.92	0.92	0.92	0.93	0.82	0.82	0.92	0.92
Adj. Flow (vph)	142	0	554	0	0	0	0	1470	448	438	1161	0
RTOR Reduction (vph)	0	0	501	0	0	0	0	0	100	0	0	0
Lane Group Flow (vph)	71	71	53	0	0	0	0	1470	348	438	1161	0
Confl. Peds. (#/hr)			14									
Turn Type	Split	NA	Perm					NA	Perm	Prot	NA	
Protected Phases	4	4						2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	12.9	12.9	12.9					59.5	59.5	28.1	91.8	
Effective Green, g (s)	12.9	12.9	12.9					59.5	59.5	28.1	91.8	
Actuated g/C Ratio	0.09	0.09	0.09					0.44	0.44	0.21	0.67	
Clearance Time (s)	5.0	5.0	5.0					6.3	6.3	4.2	6.3	
Vehicle Extension (s)	3.0	3.0	3.0					3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	159	159	249					1548	692	709	3432	
v/s Ratio Prot	c0.04	0.04						c0.42		c0.13	0.23	
v/s Ratio Perm			0.02						0.22			
v/c Ratio	0.45	0.45	0.21					0.95	0.50	0.62	0.34	
Uniform Delay, d1	58.2	58.2	56.8					36.8	27.6	49.1	9.3	
Progression Factor	1.00	1.00	1.00					1.00	1.00	1.00	1.00	
Incremental Delay, d2	2.0	2.0	0.4					13.7	2.6	1.6	0.3	
Delay (s)	60.2	60.2	57.3					50.5	30.2	50.7	9.6	
Level of Service	E	E	E					D	C	D	A	
Approach Delay (s)		57.9			0.0			45.7			20.8	
Approach LOS		E			A			D			C	

Intersection Summary			
HCM 2000 Control Delay	38.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	136.0	Sum of lost time (s)	19.5
Intersection Capacity Utilization	69.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	207	15	170	59	23	44	471	1330	136	85	1160	358
Future Volume (vph)	207	15	170	59	23	44	471	1330	136	85	1160	358
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3	6.3	6.3	4.9	4.9		4.4	5.7		4.4	6.5	6.5
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95		0.97	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	0.99		1.00	1.00		1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.91		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	0.96	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1696	1583	1681	1589		3433	3483		1770	3539	1583
Flt Permitted	0.95	0.96	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1681	1696	1583	1681	1589		3433	3483		1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	225	16	185	64	25	48	512	1446	148	92	1261	389
RTOR Reduction (vph)	0	0	158	0	43	0	0	4	0	0	0	127
Lane Group Flow (vph)	119	122	27	58	36	0	512	1590	0	92	1261	262
Confl. Peds. (#/hr)						2			1			
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			4									6
Actuated Green, G (s)	14.6	14.6	14.6	10.4	10.4		12.1	48.0		5.8	40.9	40.9
Effective Green, g (s)	14.6	14.6	14.6	10.4	10.4		12.1	48.0		5.8	40.9	40.9
Actuated g/C Ratio	0.15	0.15	0.15	0.10	0.10		0.12	0.48		0.06	0.41	0.41
Clearance Time (s)	6.3	6.3	6.3	4.9	4.9		4.4	5.7		4.4	6.5	6.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	245	247	230	174	165		414	1670		102	1446	646
v/s Ratio Prot	0.07	c0.07		c0.03	0.02		c0.15	c0.46		0.05	0.36	
v/s Ratio Perm			0.02									0.17
v/c Ratio	0.49	0.49	0.12	0.33	0.22		1.24	0.95		0.90	0.87	0.41
Uniform Delay, d1	39.3	39.3	37.2	41.6	41.1		44.0	24.9		46.9	27.2	21.0
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1.5	1.6	0.2	1.1	0.7		125.8	12.5		58.6	6.1	0.4
Delay (s)	40.8	40.9	37.4	42.8	41.8		169.8	37.4		105.5	33.3	21.4
Level of Service	D	D	D	D	D		F	D		F	C	C
Approach Delay (s)		39.3			42.2			69.6			34.4	
Approach LOS		D			D			E			C	

Intersection Summary				
HCM 2000 Control Delay	51.9	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.87			
Actuated Cycle Length (s)	100.1	Sum of lost time (s)	22.1	
Intersection Capacity Utilization	72.6%	ICU Level of Service	C	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	1	0	358	1	541	19	1194	432	452	746	0
Future Volume (vph)	1	1	0	358	1	541	19	1194	432	452	746	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0	4.0	4.0	6.1	4.0	4.0	5.8	
Lane Util. Factor		1.00		0.97	0.95	0.95	1.00	0.95	1.00	0.97	0.95	
Frpb, ped/bikes		1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		1.00		1.00	0.85	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.98		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1817		3433	1505	1504	1770	3539	1583	3433	3539	
Flt Permitted		0.98		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1817		3433	1505	1504	1770	3539	1583	3433	3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1	1	0	389	1	588	21	1298	470	491	811	0
RTOR Reduction (vph)	0	0	0	0	230	230	0	0	150	0	0	0
Lane Group Flow (vph)	0	2	0	389	65	64	21	1298	320	491	811	0
Confl. Peds. (#/hr)			1									
Turn Type	Split	NA		Split	NA	Perm	Prot	NA	pm+ov	Prot	NA	
Protected Phases	4	4		8	8		5	2	8	1	6	
Permitted Phases						8			2			
Actuated Green, G (s)		5.7		26.8	26.8	26.8	2.2	57.2	84.0	15.4	70.7	
Effective Green, g (s)		5.7		26.8	26.8	26.8	2.2	57.2	84.0	15.4	70.7	
Actuated g/C Ratio		0.05		0.22	0.22	0.22	0.02	0.46	0.68	0.12	0.57	
Clearance Time (s)		4.0		4.0	4.0	4.0	4.0	6.1	4.0	4.0	5.8	
Vehicle Extension (s)		3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		84		746	327	327	31	1643	1079	429	2030	
v/s Ratio Prot		c0.00		c0.11	0.04		0.01	c0.37	0.06	c0.14	0.23	
v/s Ratio Perm						0.04			0.14			
v/c Ratio		0.02		0.52	0.20	0.20	0.68	0.79	0.30	1.14	0.40	
Uniform Delay, d1		56.1		42.5	39.4	39.4	60.1	27.9	7.8	53.9	14.5	
Progression Factor		1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.1		0.7	0.3	0.3	45.6	2.7	0.2	89.2	0.1	
Delay (s)		56.2		43.2	39.7	39.7	105.8	30.6	8.0	143.1	14.6	
Level of Service		E		D	D	D	F	C	A	F	B	
Approach Delay (s)		56.2			41.1			25.5			63.1	
Approach LOS		E			D			C			E	

Intersection Summary				
HCM 2000 Control Delay	41.3	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.73			
Actuated Cycle Length (s)	123.2	Sum of lost time (s)	18.1	
Intersection Capacity Utilization	74.5%	ICU Level of Service	D	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	42	25	12	85	24	365	3	631	91	844	289	10
Future Volume (vph)	42	25	12	85	24	365	3	631	91	844	289	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	0.95	0.95	1.00	0.95		0.97	0.91	
Frpb, ped/bikes	1.00	0.98		1.00	0.95	0.95	1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.95		1.00	0.87	0.85	1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1729		1770	1465	1425	1770	3442		3433	5048	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1729		1770	1465	1425	1770	3442		3433	5048	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	46	27	13	92	26	397	3	686	99	917	314	11
RTOR Reduction (vph)	0	12	0	0	163	184	0	9	0	0	2	0
Lane Group Flow (vph)	46	28	0	92	50	26	3	776	0	917	323	0
Confl. Peds. (#/hr)			20			20			20			20
Confl. Bikes (#/hr)			10			10			10			10
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8						
Actuated Green, G (s)	3.3	7.3		8.2	12.2	12.2	0.6	32.4		31.1	62.9	
Effective Green, g (s)	3.3	7.3		8.2	12.2	12.2	0.6	32.4		31.1	62.9	
Actuated g/C Ratio	0.03	0.08		0.08	0.13	0.13	0.01	0.33		0.32	0.65	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	60	130		149	184	179	10	1149		1100	3273	
v/s Ratio Prot	0.03	0.02		c0.05	c0.03		0.00	c0.23		c0.27	0.06	
v/s Ratio Perm						0.02						
v/c Ratio	0.77	0.22		0.62	0.27	0.15	0.30	0.68		0.83	0.10	
Uniform Delay, d1	46.5	42.2		42.9	38.4	37.8	48.0	27.8		30.6	6.4	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.04	0.99		1.00	1.00	
Incremental Delay, d2	43.5	0.8		7.4	0.8	0.4	16.1	1.6		5.6	0.0	
Delay (s)	90.0	43.0		50.3	39.2	38.2	66.2	29.2		36.1	6.4	
Level of Service	F	D		D	D	D	E	C		D	A	
Approach Delay (s)		68.1			40.7			29.4			28.3	
Approach LOS		E			D			C			C	

Intersection Summary				
HCM 2000 Control Delay	32.4	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.70			
Actuated Cycle Length (s)	97.0	Sum of lost time (s)	18.0	
Intersection Capacity Utilization	78.1%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (veh/h)	448	82	21	245	32	242	112
Future Volume (Veh/h)	448	82	21	245	32	242	112
Sign Control	Stop			Free		Free	
Grade	0%			0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	487	89	23	266	0	263	122
Pedestrians	20			20			
Lane Width (ft)	12.0			12.0			
Walking Speed (ft/s)	4.0			4.0			
Percent Blockage	2			2			
Right turn flare (veh)							
Median type				None		None	
Median storage veh)							
Upstream signal (ft)				920		480	
pX, platoon unblocked					0.00		
vC, conflicting volume	462	172	405		0		
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	462	172	405		0		
tC, single (s)	6.8	6.9	4.1		0.0		
tC, 2 stage (s)							
tF (s)	3.5	3.3	2.2		0.0		
p0 queue free %	4	89	98		0		
cM capacity (veh/h)	509	814	1131		0		

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3	SB 4
Volume Total	325	251	23	133	133	132	132	122	0
Volume Left	325	162	23	0	0	0	0	0	0
Volume Right	0	89	0	0	0	0	0	122	0
cSH	509	587	1131	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.64	0.43	0.02	0.08	0.08	0.08	0.08	0.07	0.00
Queue Length 95th (ft)	111	53	2	0	0	0	0	0	0
Control Delay (s)	23.7	15.6	8.2	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	C	C	A						
Approach Delay (s)	20.2		0.7			0.0			
Approach LOS	C								

Intersection Summary			
Average Delay	9.5		
Intersection Capacity Utilization	38.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	70	9	201	56	35	289
Future Volume (vph)	70	9	201	56	35	289
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frpb, ped/bikes	1.00	0.96	0.99		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	0.97		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1522	3390		1770	3539
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1522	3390		1770	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	76	10	218	61	38	314
RTOR Reduction (vph)	0	9	22	0	0	0
Lane Group Flow (vph)	76	1	257	0	38	314
Confl. Peds. (#/hr)		20		20		
Confl. Bikes (#/hr)		10		10		
Turn Type	Prot	Perm	NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8				
Actuated Green, G (s)	5.9	5.9	22.9		0.9	28.3
Effective Green, g (s)	5.9	5.9	22.9		0.9	28.3
Actuated g/C Ratio	0.14	0.14	0.53		0.02	0.66
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	241	207	1797		36	2318
v/s Ratio Prot	c0.04		0.08		c0.02	c0.09
v/s Ratio Perm		0.00				
v/c Ratio	0.32	0.01	0.14		1.06	0.14
Uniform Delay, d1	16.8	16.1	5.2		21.2	2.8
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.8	0.0	0.0		167.1	0.0
Delay (s)	17.6	16.1	5.2		188.3	2.8
Level of Service	B	B	A		F	A
Approach Delay (s)	17.4		5.2			22.9
Approach LOS	B		A			C

Intersection Summary			
HCM 2000 Control Delay	15.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.21		
Actuated Cycle Length (s)	43.2	Sum of lost time (s)	13.5
Intersection Capacity Utilization	40.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

APPENDIX K

YEAR 2035 TRAFFIC VOLUME FORECAST

INTERSECTION	DIRECTION	Merge 56 Year 2035 W/ Project (Assumes Preserve Site Vols)						MERGE Kilroy Assignment (W/ CDS & CMR)						FINAL YEAR 2035 WITHOUT PROJECT (Merge 56 Year 2035 - Kilroy Assignment)					
		Ram	Rpm	Tam	Tpm	Lam	Lpm	Ram	Rpm	Tam	Tpm	Lam	Lpm	Ram	Rpm	Tam	Tpm	Lam	Lpm
1 Carmel Valley Rd / Camino Del Sur	Sb	260	120	545	548	270	210	0	0	18	4	0	0	260	120	527	544	270	210
	Wb	270	180	720	340	604	178	0	0	0	0	18	4	270	180	720	340	586	174
	Nb	132	335	631	685	142	205	2	18	2	18	1	1	130	317	629	667	141	204
	Eb	164	218	320	540	160	260	13	4	0	0	0	0	151	214	320	540	160	260
2 Camino Del Sur / Watson Ranch Rd	Sb	0	0	1253	914	30	25	0	0	49	12	0	0	0	0	1204	902	30	25
	Wb	30	20	0	0	48	39	0	0	0	0	0	0	30	20	0	0	48	39
	Nb	24	52	875	1205	**110**	**60**	0	0	5	47	0	0	24	52	870	1158	**110**	**60**
	Eb	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3 Camino Del Sur / Wolverine Way	Sb	20	30	1051	863	**60**	**50**	0	0	49	12	0	0	20	30	1002	851	**60**	**50**
	Wb	20	10	5	0	100	20	0	0	0	0	6	2	20	10	5	0	94	18
	Nb	20	20	929	1257	**223**	**161**	1	6	5	47	0	0	19	14	924	1210	**223**	**161**
	Eb	68	59	0	5	20	30	0	0	0	0	0	0	68	59	0	5	20	30
4 Camino Del Sur (N/S) / Torrey Meadows Dr (E/W)	Sb	40	80	1109	932	40	50	0	0	55	14	0	0	40	80	1054	918	40	50
	Wb	30	25	5	5	108	69	0	0	0	0	6	1	30	25	5	5	102	68
	Nb	74	102	1052	1428	134	192	1	6	6	53	1	6	73	96	1046	1375	133	186
	Eb	158	79	10	5	140	70	7	1	0	0	0	0	151	78	10	5	140	70
5 Camino Del Sur (N/S) / Highlands Village Pl (E/W)	Sb	130	120	1245	960	0	0	0	0	68	16	0	0	130	120	1177	944	0	0
	Wb	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Nb	0	0	1130	1552	268	363	0	0	8	65	1	12	0	0	1122	1487	267	351
	Eb	316	229	0	0	130	170	12	3	0	0	0	0	304	226	0	0	130	170
6 Camino Del Sur / SR 56 WB Ramps	Sb	510	230	1051	959	0	0	0	0	80	19	0	0	510	230	971	940	0	0
	Wb	880	900	10	0	1022	719	0	0	0	0	210	50	880	900	10	0	812	669
	Nb	0	0	518	1015	599	780	0	0	9	77	17	147	0	0	509	938	582	633
	Eb	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7 Camino Del Sur / SR 56 EB Ramps	Sb	0	0	1323	898	750	690	0	0	290	69	0	0	0	0	1033	829	750	690
	Wb	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Nb	416	1130	917	1195	0	0	23	200	26	224	0	0	393	930	891	971	0	0
	Eb	665	787	5	5	200	600	154	37	0	0	0	0	511	750	5	5	200	600
8 Camino Del Sur / Torrey Santa Fe Rd	Sb	750	380	1128	1125	110	200	0	0	444	106	0	0	750	380	684	1019	110	200
	Wb	120	190	20	20	0	20	0	0	0	0	0	0	120	190	20	20	0	20
	Nb	20	20	793	1435	53	90	0	0	49	424	1	6	20	20	744	1011	52	84
	Eb	77	145	20	40	420	700	6	1	0	0	0	0	71	144	20	40	420	700
9 Camino Del Sur/ Dormouse Rd	Sb	25	80	120	100					7	59			25	80	113	41	0	0
	Wb	0												0	0	0	0	0	0
	Nb	0		129	125	**320**	**220**			62	15			0	0	67	110	**320**	**220**
	Eb	15	5			77	58							15	5	0	0	77	58

INTERSECTION	DIRECTION	Merge 56 Year 2035 W/ Project (Assumes Preserve Site Vols)						MERGE Kilroy Assignment (W/ CDS & CMR)						FINAL YEAR 2035 WITHOUT PROJECT (Merge 56 Year 2035 - Kilroy Assignment)					
		Ram	Rpm	Tam	Tpm	Lam	Lpm	Ram	Rpm	Tam	Tpm	Lam	Lpm	Ram	Rpm	Tam	Tpm	Lam	Lpm
10 Camino Del Sur/ Park Village Rd	Sb	102	165	10	5	339	318	1	12	0	0	6	47	101	153	10	5	333	271
	Wb	260	256	50	240	50	100	50	12	0	0	0	0	210	244	50	240	50	100
	Nb	10	40	10	5	10	10	0	0	0	0	0	0	10	40	10	5	10	10
	Eb	20	5	250	100	244	108	0	0	0	0	12	3	20	5	250	100	232	105
11 Carmel Mountain Rd (N/S) / Via Las Lenas/ Prv. Dr M	Sb	414	285	120	20	15	75	31	7	37	9	0	0	383	278	83	11	15	75
	Wb	55	10	8	9	45	10	0	0	6	2	0	0	55	10	2	7	45	10
	Nb	10	45	20	50	73	56	0	0	4	35	0	0	10	45	16	15	73	56
	Eb	23	92	4	20	151	488	0	0	1	6	3	29	23	92	3	14	148	459
12 Carmel Mountain Rd (N/S) / Sundance Ave (E/W)	Sb	20	20	413	350	10	40	0	0	55	13	0	0	20	20	358	337	10	40
	Wb	50	30	50	40	96	79	0	0	0	0	13	3	50	30	50	40	83	76
	Nb	68	123	174	453	20	15	1	12	6	53	0	0	67	111	168	400	20	15
	Eb	10	20	20	50	5	20	0	0	0	0	0	0	10	20	20	50	5	20
		(Opening Day With Project to forecast 2035)																	
13 Carmel Mountain Rd (N/S) / Sedorus (E/W)	Sb	32	48	367	314	10	20			55	13			32	48	312	301	10	20
	Wb	21	8	18	1	2	0							21	8	18	1	2	0
	Nb	2	4	183	427	16	2			6	53			2	4	177	374	16	2
	Eb	7	2	21	1	57	25							7	2	21	1	57	25
14 Carmel Mountain Rd (N/S) / Entreken Way (E/W)	Sb	440	160	523	365	10	15	0	0	55	13	0	0	440	160	468	352	10	15
	Wb	15	15	30	5	5	0	0	0	0	0	0	0	15	15	30	5	5	0
	Nb	5	0	374	503	40	50	0	0	6	53	0	0	5	0	368	450	40	50
	Eb	80	30	20	10	380	130	0	0	0	0	0	0	80	30	20	10	380	130
15 Carmel Mountain Rd (E/W) / Sparren Ave (N/S)	Sb	106	49	30	20	490	160	12	3	0	0	0	0	94	46	30	20	490	160
	Wb	90	200	807	461	10	20	0	0	43	10	0	0	90	200	764	451	10	20
	Nb	20	10	30	10	60	30	0	0	0	0	0	0	20	10	30	10	60	30
	Eb	30	45	696	520	43	83	0	0	5	41	1	12	30	45	691	479	42	71
16 Carmel Mountain Rd/ Twin Trails Dr	Sb	58	54	10	20	30	20	6	1	0	0	0	0	52	53	10	20	30	20
	Wb	25	50	593	398	130	70	0	0	37	9	0	0	25	50	556	389	130	70
	Nb	120	30	20	10	256	229	0	0	0	0	0	0	120	30	20	10	256	229
	Eb	268	233	904	385	34	72	0	0	4	35	1	6	268	233	900	350	33	66
17 Black Mountain Rd / SR 56 WB Ramps	Sb	830	400	1270	1010	0	0	0	0	0	0	0	0	830	400	1270	1010	0	0
	Wb	310	600	30	5	540	700	0	0	0	0	0	0	310	600	30	5	540	700
	Nb	0	0	670	1240	641	423	0	0	0	0	55	13	0	0	670	1240	586	410
	Eb	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

INTERSECTION	DIRECTION	Merge 56 Year 2035 W/ Project (Assumes Preserve Site Vols)						MERGE Kilroy Assignment (W/ CDS & CMR)						FINAL YEAR 2035 WITHOUT PROJECT (Merge 56 Year 2035 - Kilroy Assignment)					
		Ram	Rpm	Tam	Tpm	Lam	Lpm	Ram	Rpm	Tam	Tpm	Lam	Lpm	Ram	Rpm	Tam	Tpm	Lam	Lpm
18 Black Mountain Rd / SR 56 EB Ramps	Sb	0	0	1320	1290	490	420	0	0	0	0	0	0	0	0	1320	1290	490	420
	Wb	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Nb	390	410	1121	1553	0	0	0	0	55	13	0	0	390	410	1066	1540	0	0
	Eb	409	517	0	0	190	170	6	53	0	0	0	0	403	464	0	0	190	170
19 Black Mountain Rd / Park Village Rd	Sb	210	400	1689	1387	150	90	0	0	6	53	0	0	210	400	1683	1334	150	90
	Wb	120	50	40	30	160	70	0	0	0	0	0	0	120	50	40	30	160	70
	Nb	60	140	801	1413	126	529	0	0	55	13	25	6	60	140	746	1400	101	523
	Eb	328	203	70	10	530	360	3	24	0	0	0	0	325	179	70	10	530	360
20 Black Mountain Rd / Mercy Rd	Sb	5	0	1586	937	511	533	0	0	3	24	6	53	5	0	1583	913	505	480
	Wb	405	575	0	5	460	430	55	13	0	0	0	0	350	562	0	5	460	430
	Nb	380	520	632	1277	40	20	0	0	25	6	0	0	380	520	607	1271	40	20
	Eb	0	0	0	5	0	5	0	0	0	0	0	0	0	0	0	5	0	5
21 Camino Del Sur/ Northern Project Dwy/ Priv Dr M	Sb	230	60	338	332	**637**	**898**	228	54	222	53	0	0	2	6	116	279	**637**	**898**
	Wb	348	374	75	58	24	68	0	0	68	16	0	0	348	374	7	42	24	68
	Nb	31	32	397	522	50	20	0	0	25	212	49	12	31	32	372	310	1	8
	Eb	10	50	21	91	30	220	5	47	7	65	25	218	5	3	14	26	5	2
22 Camino Del Sur/ Southern Project Dwy	Sb			372	450			222	53	5	47					145	467		
	Wb																		
	Nb			478	574					49	12	50	12			404	365		
	Eb							6	47			25	212						
23 Carmel Mountain Road/ Camino Del Sur	Sb	20	20	120	300	**18**	**92**	0	0	7	59	4	35	20	20	113	241	**14**	**57**
	Wb	50	15	20	5	63	110	37	9	0	0	0	0	13	6	20	5	63	110
	Nb	109	76	304	201	20	10	0	0	62	15	0	0	109	76	242	186	20	10
	Eb	10	5	20	10	20	30	0	0	0	0	0	0	10	5	20	10	20	30

INTERSECTION	DIRECTION	Year 2035 w/ Proj Roads						OPENING DAY WITHOUT PROJECT (WITH CDS & CMR)						CHECK					
		Ram	Rpm	Tam	Tpm	Lam	Lpm	Ram	Rpm	Tam	Tpm	Lam	Lpm	Ram	Rpm	Tam	Tpm	Lam	Lpm
1 Carmel Valley Rd / Camino Del Sur	Sb	260	120	527	544	270	210	186	70	491	505	176	139						
	Wb	270	180	720	340	586	174	179	115	512	138	395	112						
	Nb	130	317	629	667	141	204	93	280	501	566	109	153						
	Eb	151	214	320	540	160	260	105	165	177	399	111	215						
2 Camino Del Sur / Watson Ranch Rd	Sb	0	0	1204	902	30	25	0	0	938	757	27	20						
	Wb	30	20	0	0	48	39	26	11	0	0	35	25						
	Nb	24	52	870	1158	**110**	**60**	12	32	677	988	102	56						
	Eb	0	0	0	0	0	0	0	0	0	0	0	0						
3 Camino Del Sur / Wolverine Way	Sb	20	30	1002	851	**60**	**50**	18	24	782	703	48	42						
	Wb	20	10	5	0	94	18	17	6	2	0	86	13						
	Nb	19	14	924	1210	**223**	**161**	18	12	762	1042	211	144						
	Eb	68	59	0	5	20	30	53	43	0	1	12	28						
4 Camino Del Sur (N/S) / Torrey Meadows Dr (E/W)	Sb	40	80	1054	918	40	50	18	42	888	795	30	40						
	Wb	30	25	5	5	102	68	29	22	2	1	97	65						
	Nb	73	96	1046	1375	133	186	62	95	900	1203	69	105						
	Eb	151	78	10	5	140	70	89	50	6	3	71	42						
5 Camino Del Sur (N/S) / Highlands Village Pl (E/W)	Sb	130	120	1177	944	0	0	100	102	974	808	0	0						
	Wb	0	0	0	0	0	0	0	0	0	0	0	0						
	Nb	0	0	1122	1487	267	351	0	0	931	1264	244	286						
	Eb	304	226	0	0	130	170	287	199	0	0	100	139						
6 Camino Del Sur / SR 56 WB Ramps	Sb	510	230	971	940	0	0	396	160	885	907	0	0						
	Wb	880	900	10	0	812	669	829	803	9	0	612	454						
	Nb	0	0	509	938	582	633	0	0	426	797	501	532						
	Eb	0	0	0	0	0	0	0	0	0	0	0	0						
7 Camino Del Sur / SR 56 EB Ramps	Sb	0	0	1033	829	750	690	0	0	953	790	544	571						
	Wb	0	0	0	0	0	0	0	0	0	0	0	0						
	Nb	393	930	891	971	0	0	313	803	806	920	0	0						
	Eb	511	750	5	5	200	600	410	626	1	1	121	409						
8 Camino Del Sur / Torrey Santa Fe Rd	Sb	750	380	684	1019	110	200	647	279	612	981	104	156						
	Wb	120	190	20	20	0	20	99	174	13	17	0	0						
	Nb	20	20	744	1011	52	84	0	0	659	967	23	70						
	Eb	71	144	20	40	420	700	47	55	15	35	361	582						
9 Camino Del Sur/ Dormouse Rd	Sb	25	80	113	41	0	0	20	15	63	240	0	0				< EX		
	Wb	0	0	0	0	0	0	0	0	0	0	0	0						
	Nb	0	0	67	110	**320**	**220**	0	0	196	179	273	241			< EX	< EX		< EX
	Eb	15	5	0	0	77	58	1	14	0	0	70	30		< EX				

INTERSECTION	DIRECTION	Year 2035 w/ Proj Roads						OPENING DAY WITHOUT PROJECT (WITH CDS & CMR)						CHECK					
		Ram	Rpm	Tam	Tpm	Lam	Lpm	Ram	Rpm	Tam	Tpm	Lam	Lpm	Ram	Rpm	Tam	Tpm	Lam	Lpm
10 Camino Del Sur/ Park Village Rd	Sb	101	153	10	5	333	271	59	131	8	1	226	123						
	Wb	210	244	50	240	50	100	172	151	70	247	33	69			< EX	< EX		
	Nb	10	40	10	5	10	10	8	27	7	3	5	8						
	Eb	20	5	250	100	232	105	11	2	307	101	152	89			< EX	< EX		
11 Carmel Mountain Rd (N/S) / Via Las Lenas/ Prv. Dr M	Sb	383	278	83	11	15	75	339	247	17	35	20	25				< EX	< EX	
	Wb	55	10	2	7	45	10	58	28	14	12	0	0	< EX	< EX	< EX	< EX		
	Nb	10	45	16	15	73	56	0	0	33	9	49	56			< EX			
	Eb	23	92	3	14	148	459	23	70	6	19	114	416			< EX	< EX		
12 Carmel Mountain Rd (N/S) / Sundance Ave (E/W)	Sb	20	20	358	337	10	40	14	15	272	253	5	24						
	Wb	50	30	50	40	83	76	32	17	48	34	64	51						
	Nb	67	111	168	400	20	15	24	75	153	345	26	13					< EX	
	Eb	10	20	20	50	5	20	7	18	17	46	5	19						
13 Carmel Mountain Rd (N/S) / Sedorus (E/W)	Sb	32	48	312	301	10	20	32	48	312	301	10	20						
	Wb	21	8	18	1	2	0	21	8	18	1	2	0						
	Nb	2	4	177	374	16	2	2	4	177	374	16	2						
	Eb	7	2	21	1	57	25	7	2	21	1	57	25						
14 Carmel Mountain Rd (N/S) / Entreken Way (E/W)	Sb	440	160	468	352	10	15	433	138	374	307	6	10						
	Wb	15	15	30	5	5	0	11	11	26	1	2	0						
	Nb	5	0	368	450	40	50	0	0	283	364	32	38						
	Eb	80	30	20	10	380	130	67	20	13	5	367	115						
15 Carmel Mountain Rd (E/W) / Sparren Ave (N/S)	Sb	94	46	30	20	490	160	90	43	26	14	473	145						
	Wb	90	200	764	451	10	20	85	174	672	392	6	16						
	Nb	20	10	30	10	60	30	19	7	27	7	50	20						
	Eb	30	45	691	479	42	71	22	42	606	382	34	67						
16 Carmel Mountain Rd/ Twin Trails Dr	Sb	52	53	10	20	30	20	49	28	5	10	33	20					< EX	
	Wb	25	50	556	389	130	70	6	27	320	469	93	25				< EX		
	Nb	120	30	20	10	256	229	81	17	17	12	141	192				< EX		
	Eb	268	233	900	350	33	66	157	197	532	376	21	58				< EX		
17 Black Mountain Rd / SR 56 WB Ramps	Sb	830	400	1270	1010	0	0	622	198	1000	833	0	0						
	Wb	310	600	30	5	540	700	273	464	24	1	458	594						
	Nb	0	0	670	1240	586	410	0	0	582	1110	533	339						
	Eb	0	0	0	0	0	0	0	0	0	0	0	0						

INTERSECTION	DIRECTION	Year 2035 w/ Proj Roads						OPENING DAY WITHOUT PROJECT (WITH CDS & CMR)						CHECK					
		Ram	Rpm	Tam	Tpm	Lam	Lpm	Ram	Rpm	Tam	Tpm	Lam	Lpm	Ram	Rpm	Tam	Tpm	Lam	Lpm
18 Black Mountain Rd / SR 56 EB Ramps	Sb	0	0	1320	1290	490	420	0	0	1096	1068	362	359						
	Wb	0	0	0	0	0	0	0	0	0	0	0	0						
	Nb	390	410	1066	1540	0	0	335	367	978	1354	0	0						
	Eb	403	464	0	0	190	170	372	418	0	0	137	95						
19 Black Mountain Rd / Park Village Rd	Sb	210	400	1683	1334	150	90	194	358	1473	1107	130	85						
	Wb	120	50	40	30	160	70	101	44	34	22	145	59						
	Nb	60	140	746	1400	101	523	50	136	725	1317	95	465						
	Eb	325	179	70	10	530	360	291	146	65	9	429	207						
20 Black Mountain Rd / Mercy Rd	Sb	5	0	1583	913	505	480	1	0	1382	722	462	399						
	Wb	350	562	0	5	460	430	334	528	0	1	386	358						
	Nb	380	520	607	1271	40	20	314	432	560	1188	23	19						
	Eb	0	0	0	5	0	5	0	0	0	1	0	1						
21 Camino Del Sur/ Northern Project Dwy/ Priv Dr M	Sb	2	6	116	279	**637**	**898**	0	0	58	192	601	844						
	Wb	348	374	7	42	24	68	294	365	7	23	24	70						< EX
	Nb	31	32	372	310	1	8	31	32	297	242	0	0						
	Eb	5	3	14	26	5	2	0	0	16	19	0	0			< EX			
22 Camino Del Sur/ Southern Project Dwy	Sb	0	0	137	435	**8**	**32**	0	0	82	262	0	0						
	Wb	0	0	0	0	0	0	0	0	0	0	0	0						
	Nb	0	0	396	333	0	0	0	0	328	274	0	0						
	Eb	0	0	0	0	0	0	0	0	0	0	0	0						
23 Carmel Mountain Road/ Camino Del Sur	Sb	20	20	113	241	6	25	0	0	74	230	8	32						
	Wb	13	6	20	5	63	110	0	0	0	0	23	70						
	Nb	109	76	242	186	20	10	49	56	249	186	0	0			< EX			
	Eb	10	5	20	10	20	30	0	0	0	0	0	0						

INTERSECTION	DIRECTION	OPENING DAY WITH PROJECT (WITH CDS & CMR)						PRESERVE PROJECT ONLY						Year 2035 With Project						CHECK					
		Ram	Rpm	Tam	Tpm	Lam	Lpm	Ram	Rpm	Tam	Tpm	Lam	Lpm	Ram	Rpm	Tam	Tpm	Lam	Lpm	Ram	Rpm	Tam	Tpm	Lam	Lpm
1 Carmel Valley Rd / Camino Del Sur	Sb	186	70	509	509	176	139	0	0	18	4	0	0	260	120	545	548	270	210						
	Wb	179	115	512	138	413	116	0	0	0	0	18	4	270	180	720	340	604	178						
	Nb	95	297	503	584	110	165	2	17	2	18	1	12	132	334	631	685	142	216						
	Eb	118	169	177	399	111	215	13	4	0	0	0	0	164	218	320	540	160	260						
2 Camino Del Sur / Watson Ranch Rd	Sb	0	0	987	769	27	20	0	0	49	12	0	0	0	0	1253	914	30	25						
	Wb	26	11	0	0	35	25	0	0	0	0	0	0	30	20	0	0	48	39						
	Nb	12	32	682	1035	102	56	0	0	5	47	0	0	24	52	875	1205	**110**	**60**						
	Eb	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
3 Camino Del Sur / Wolverine Way	Sb	18	24	831	715	48	42	0	0	49	12	0	0	20	30	1051	863	**60**	**50**						
	Wb	17	6	2	0	92	14	0	0	0	0	6	1	20	10	5	0	100	19						
	Nb	19	18	767	1089	211	144	1	6	5	47	0	0	20	20	929	1257	**223**	**161**						
	Eb	53	43	0	1	12	28	0	0	0	0	0	0	68	59	0	5	20	30						
4 Camino Del Sur (N/S) / Torrey Meadows Dr (E/W)	Sb	18	42	943	808	30	40	0	0	55	13	0	0	40	80	1109	931	40	50						
	Wb	29	22	2	1	103	66	0	0	0	0	6	1	30	25	5	5	108	69						
	Nb	63	101	906	1256	70	111	1	6	6	53	1	6	74	102	1052	1428	134	192						
	Eb	96	52	6	3	71	42	7	2	0	0	0	0	158	80	10	5	140	70						
5 Camino Del Sur (N/S) / Highlands Village Pl (E/W)	Sb	100	102	1042	824	0	0	0	0	68	16	0	0	130	120	1245	960	0	0						
	Wb	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
	Nb	0	0	939	1329	245	298	0	0	8	65	1	12	0	0	1130	1552	268	363						
	Eb	299	202	0	0	100	139	12	3	0	0	0	0	316	229	0	0	130	170						
6 Camino Del Sur / SR 56 WB Ramps	Sb	396	160	965	926	0	0	0	0	80	19	0	0	510	230	1051	959	0	0						
	Wb	829	803	9	0	822	504	0	0	0	0	210	50	880	900	10	0	1022	719						
	Nb	0	0	435	874	518	679	0	0	9	77	17	147	0	0	518	1015	599	780						
	Eb	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
7 Camino Del Sur / SR 56 EB Ramps	Sb	0	0	1243	859	544	571	0	0	290	69	0	0	0	0	1323	898	750	690						
	Wb	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
	Nb	336	1004	832	1144	0	0	23	201	26	224	0	0	416	1131	917	1195	0	0						
	Eb	564	663	1	1	121	409	154	37	0	0	0	0	665	787	5	5	200	600						
8 Camino Del Sur / Torrey Santa Fe Rd	Sb	647	279	1056	1087	104	156	0	0	444	106	0	0	750	380	1128	1125	110	200						
	Wb	99	174	13	17	0	0	0	0	0	0	0	0	120	190	20	20	0	20						
	Nb	0	0	708	1392	24	76	0	0	49	425	1	6	20	20	793	1436	53	90						
	Eb	53	56	15	35	361	582	6	1	0	0	0	0	77	145	20	40	420	700						
9 Camino Del Sur/ Dormouse Rd	Sb	20	15	70	299	0	0	0	0	7	59	0	0	25	80	120	100	0	0				< EX		
	Wb	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
	Nb	0	0	257	194	273	241	0	0	61	15	0	0	0	0	128	125	320	220			< EX	< EX		< EX
	Eb	1	14	0	0	70	30	0	0	0	0	0	0	15	5	0	0	77	58		< EX				

INTERSECTION	DIRECTION	OPENING DAY WITH PROJECT (WITH CDS & CMR)						PRESERVE PROJECT ONLY						Year 2035 With Project						CHECK					
		Ram	Rpm	Tam	Tpm	Lam	Lpm	Ram	Rpm	Tam	Tpm	Lam	Lpm	Ram	Rpm	Tam	Tpm	Lam	Lpm	Ram	Rpm	Tam	Tpm	Lam	Lpm
10 Camino Del Sur/ Park Village Rd	Sb	61	143	8	1	231	170	2	12	0	0	5	47	103	165	10	5	338	318						
	Wb	221	163	70	247	33	69	49	12	0	0	0	0	259	256	50	240	50	100			< EX	< EX		
	Nb	8	27	7	3	5	8	0	0	0	0	0	0	10	40	10	5	10	10						
	Eb	11	2	307	101	164	92	0	0	0	0	12	3	20	5	250	100	244	108			< EX	< EX		
11 Carmel Mountain Rd (N/S) / Via Las Lenas/ Prv. Dr M	Sb	369	254	54	44	20	25	30	7	37	9	0	0	413	285	120	20	15	75				< EX	< EX	
	Wb	58	28	20	13	0	0	0	0	6	1	0	0	55	10	8	8	45	10	< EX	< EX	< EX	< EX		
	Nb	0	0	37	44	49	56	0	0	4	35	0	0	10	45	20	50	73	56			< EX			
	Eb	23	70	7	25	117	446	0	0	1	6	3	30	23	92	4	20	151	489			< EX	< EX		
12 Carmel Mountain Rd (N/S) / Sundance Ave (E/W)	Sb	14	15	327	266	5	24	0	0	55	13	0	0	20	20	413	350	10	40						
	Wb	32	17	48	34	76	54	0	0	0	0	12	3	50	30	50	40	95	79						
	Nb	25	87	159	398	26	13	1	12	6	53	0	0	68	123	174	453	20	15					< EX	
	Eb	7	18	17	46	5	19	0	0	0	0	0	0	10	20	20	50	5	20						
13 Carmel Mountain Rd (N/S) / Sedorus (E/W)	Sb	32	48	367	314	10	20	0	0	55	13	0	0	32	48	367	314	10	20						
	Wb	21	8	18	1	2	0	0	0	0	0	0	0	21	8	18	1	2	0						
	Nb	2	4	183	427	16	2	0	0	6	53	0	0	2	4	183	427	16	2						
	Eb	7	2	21	1	57	25	0	0	0	0	0	0	7	2	21	1	57	25						
14 Carmel Mountain Rd (N/S) / Entreken Way (E/W)	Sb	433	138	429	320	6	10	0	0	55	13	0	0	440	160	523	365	10	15						
	Wb	11	11	26	1	2	0	0	0	0	0	0	0	15	15	30	5	5	0						
	Nb	0	0	289	417	32	38	0	0	6	53	0	0	5	0	374	503	40	50						
	Eb	67	20	13	5	367	115	0	0	0	0	0	0	80	30	20	10	380	130						
15 Carmel Mountain Rd (E/W) / Sparren Ave (N/S)	Sb	102	46	26	14	473	145	12	3	0	0	0	0	106	49	30	20	490	160						
	Wb	85	174	715	402	6	16	0	0	43	10	0	0	90	200	807	461	10	20						
	Nb	19	7	27	7	50	20	0	0	0	0	0	0	20	10	30	10	60	30						
	Eb	22	42	611	423	35	79	0	0	5	41	1	12	30	45	696	520	43	83						
16 Carmel Mountain Rd/ Twin Trails Dr	Sb	55	29	5	10	33	20	6	1	0	0	0	0	58	54	10	20	30	20					< EX	
	Wb	6	27	357	478	93	25	0	0	37	9	0	0	25	50	593	398	130	70				< EX		
	Nb	81	17	17	12	141	192	0	0	0	0	0	0	120	30	20	10	256	229				< EX		
	Eb	157	197	536	411	22	64	0	0	4	35	1	6	268	233	904	385	34	72				< EX		
17 Black Mountain Rd / SR 56 WB Ramps	Sb	622	198	1000	833	0	0	0	0	0	0	0	0	830	400	1270	1010	0	0						
	Wb	273	464	24	1	458	594	0	0	0	0	0	0	310	600	30	5	540	700						
	Nb	0	0	582	1110	588	352	0	0	0	0	55	13	0	0	670	1240	641	423						
	Eb	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						

INTERSECTION	DIRECTION	OPENING DAY WITH PROJECT (WITH CDS & CMR)						PRESERVE PROJECT ONLY						Year 2035 With Project						CHECK					
		Ram	Rpm	Tam	Tpm	Lam	Lpm	Ram	Rpm	Tam	Tpm	Lam	Lpm	Ram	Rpm	Tam	Tpm	Lam	Lpm	Ram	Rpm	Tam	Tpm	Lam	Lpm
18 Black Mountain Rd / SR 56 EB Ramps	Sb	0	0	1096	1068	362	359	0	0	0	0	0	0	0	0	1320	1290	490	420						
	Wb	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
	Nb	335	367	1033	1367	0	0	0	0	55	13	0	0	390	410	1121	1553	0	0						
	Eb	378	471	0	0	137	95	6	53	0	0	0	0	409	517	0	0	190	170						
19 Black Mountain Rd / Park Village Rd	Sb	194	358	1479	1160	130	85	0	0	6	53	0	0	210	400	1689	1387	150	90						
	Wb	101	44	40	23	145	59	0	0	6	1	0	0	120	50	46	31	160	70						
	Nb	50	136	780	1330	120	471	0	0	55	13	25	6	60	140	801	1413	126	529						
	Eb	294	170	66	15	429	207	3	24	1	6	0	0	328	203	71	16	530	360						
20 Black Mountain Rd / Mercy Rd	Sb	1	0	1385	746	468	452	0	0	3	24	6	53	5	0	1586	937	511	533						
	Wb	389	541	0	1	386	358	55	13	0	0	0	0	405	575	0	5	460	430						
	Nb	314	432	585	1194	23	19	0	0	25	6	0	0	380	520	632	1277	40	20						
	Eb	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	5	0	5						
21 Camino Del Sur/ Northern Project Dwy/ Priv Dr M	Sb	43	10	465	289	601	844	43	10	407	97	0	0	45	16	523	376	637	898						
	Wb	294	365	13	24	86	85	0	0	6	1	62	15	348	374	13	43	86	83						< EX
	Nb	38	91	342	631	12	3	7	59	45	389	12	3	38	91	417	699	13	11						
	Eb	1	12	16	25	5	42	1	12	0	6	5	42	6	15	14	32	10	44			< EX			
22 Camino Del Sur/ Southern Project Dwy	Sb	469	112	75	242	8	32	469	112	1	12	0	0	469	112	146	479	0	0					< EX	< EX
	Wb	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
	Nb	0	0	332	245	86	21	0	0	12	3	86	21	0	0	416	368	86	21						
	Eb	10	82	0	0	52	448	10	82	0	0	52	448	10	82	0	0	52	448						
23 Carmel Mountain Road/ Camino Del Sur	Sb	0	0	81	289	4	35	0	0	7	59	4	35	20	20	120	300	**18**	**92**						
	Wb	37	9	0	0	23	70	37	9	0	0	0	0	50	15	20	5	63	110						
	Nb	49	56	310	201	0	0	0	0	61	15	0	0	109	76	303	201	20	10			< EX			
	Eb	0	0	0	0	0	0	0	0	0	0	0	0	10	5	20	10	20	30						

STREET SEGMENT	Merge 56 2035 w/ Project (w/ CDS & CMR)	Year 2035 Without Project	Year 2035 With Project
Camino Del Sur			
Carmel Valley Rd to Wolverine Wy	20,183	19,761	20,183
Wolverine Wy to Torrey Meadows Dr	21,342	20,868	21,342
Torrey Meadows Dr to SR 56 WB Ramps	32,691	32,006	32,691
SR 56 EB Ramps to Torrey Santa Fe Rd	34,082	30,291	34,082
Torrey Santa Fe Rd to N Proj Drwy (FUTURE)	26,983	23,140	26,983
N Proj Drwy to S Proj Drwy (FUTURE)	13,449	11,132	13,449
S Proj Drwy to Carmel Mtn Rd (FUTURE)	13,449	12,606	13,449
Carmel Mtn Rd to Dormouse Rd (FUTURE)	8,428	7,901	8,428
Dormouse Rd to Park Village Rd	8,428	7,901	8,428
Carmel Mountain Road			
Camino Del Sur to Via Las Lenas (FUTURE)	6,669	6,353	6,669
Via Las Lenas to Sundance Ave	7,815	7,235	7,815
Sundance Ave to Sedorus St	7,815	7,341	7,815
Sedorus St to Entreken Way	7,815	7,341	7,815
Entreken Wy to Sparren Ave	12,336	11,862	12,336
Sparren Ave to Twin Trails Dr	12,336	11,967	12,336
Sundance Avenue			
Carmel Mountain Rd to Twin Trails Dr	1,480	1,374	1,480
Park Village Road			
Camino Del Sur to Ragweed St	9,574	9,152	9,574
Ragweed St to Black Mountain Rd	15,815	15,551	15,815
Black Mountain Road			
SR 56 EB Ramps to Park Village Rd	40,867	40,393	40,867
Park Village Rd to Mercy Rd	36,637	35,952	36,637
Mercy Road			
Black Mountain Rd to I-15 SB Ramps	22,438	21,964	22,438

APPENDIX L

PEAK HOUR INTERSECTION ANALYSIS WORKSHEETS
YEAR 2035 WITHOUT PROJECT

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	160	320	151	586	720	270	141	629	130	270	527	260
Future Volume (vph)	160	320	151	586	720	270	141	629	130	270	527	260
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.3	6.3	4.4	6.2	6.2	4.4	6.0	6.0	4.4	6.0	6.0
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	3433	3539	1583	1770	3539	1561	1770	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1583	3433	3539	1583	1770	3539	1561	1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	174	348	164	637	783	293	153	684	141	293	573	283
RTOR Reduction (vph)	0	0	136	0	0	215	0	0	100	0	0	198
Lane Group Flow (vph)	174	348	28	637	783	78	153	684	41	293	573	85
Confl. Peds. (#/hr)									2			
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Actuated Green, G (s)	18.0	21.5	21.5	29.7	33.3	33.3	15.3	30.0	30.0	23.2	37.9	37.9
Effective Green, g (s)	18.0	21.5	21.5	29.7	33.3	33.3	15.3	30.0	30.0	23.2	37.9	37.9
Actuated g/C Ratio	0.14	0.17	0.17	0.24	0.27	0.27	0.12	0.24	0.24	0.18	0.30	0.30
Clearance Time (s)	4.4	6.3	6.3	4.4	6.2	6.2	4.4	6.0	6.0	4.4	6.0	6.0
Vehicle Extension (s)	2.0	4.9	4.9	2.0	5.1	5.1	2.0	5.9	5.9	2.0	5.6	5.6
Lane Grp Cap (vph)	253	606	271	812	939	420	215	845	373	327	1068	478
v/s Ratio Prot	0.10	0.10		c0.19	c0.22		0.09	c0.19		c0.17	0.16	
v/s Ratio Perm			0.02			0.05			0.03			0.05
v/c Ratio	0.69	0.57	0.10	0.78	0.83	0.19	0.71	0.81	0.11	0.90	0.54	0.18
Uniform Delay, d1	51.1	47.8	43.9	44.9	43.5	35.6	53.0	45.1	37.3	50.0	36.5	32.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	6.1	2.0	0.3	4.6	7.2	0.5	8.9	6.8	0.4	24.8	1.1	0.5
Delay (s)	57.1	49.8	44.2	49.5	50.7	36.1	61.9	51.9	37.7	74.8	37.6	32.8
Level of Service	E	D	D	D	D	D	E	D	D	E	D	C
Approach Delay (s)		50.3			47.8			51.4			45.9	
Approach LOS		D			D			D			D	

Intersection Summary				
HCM 2000 Control Delay	48.5	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.86			
Actuated Cycle Length (s)	125.5	Sum of lost time (s)	21.1	
Intersection Capacity Utilization	79.3%	ICU Level of Service	D	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	48	0	30	110	870	24	30	1204	0
Future Volume (vph)	0	0	0	48	0	30	110	870	24	30	1204	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.4		4.4	6.3	6.0		4.4	6.0	
Lane Util. Factor				1.00		1.00	1.00	0.95		1.00	0.95	
Frt				1.00		0.85	1.00	1.00		1.00	1.00	
Flt Protected				0.95		1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)				1770		1583	1770	3525		1770	3539	
Flt Permitted				0.95		1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)				1770		1583	1770	3525		1770	3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	52	0	33	120	946	26	33	1309	0
RTOR Reduction (vph)	0	0	0	0	0	23	0	1	0	0	0	0
Lane Group Flow (vph)	0	0	0	52	0	10	120	971	0	33	1309	0
Turn Type				Prot		Perm	Prot	NA		Prot	NA	
Protected Phases				8			5	2		1	6	
Permitted Phases						8						
Actuated Green, G (s)				32.2		32.2	13.0	59.5		4.9	51.4	
Effective Green, g (s)				32.2		32.2	11.1	59.5		4.9	51.4	
Actuated g/C Ratio				0.29		0.29	0.10	0.53		0.04	0.46	
Clearance Time (s)				4.4		4.4	4.4	6.0		4.4	6.0	
Vehicle Extension (s)				3.0		3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)				511		457	176	1882		77	1632	
v/s Ratio Prot				c0.03			c0.07	0.28		0.02	c0.37	
v/s Ratio Perm						0.01						
v/c Ratio				0.10		0.02	0.68	0.52		0.43	0.80	
Uniform Delay, d1				29.0		28.3	48.4	16.7		51.9	25.7	
Progression Factor				1.00		1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2				0.4		0.1	10.4	0.2		3.8	2.9	
Delay (s)				29.4		28.4	58.8	16.9		55.7	28.6	
Level of Service				C		C	E	B		E	C	
Approach Delay (s)		0.0			29.0			21.5			29.3	
Approach LOS		A			C			C			C	

Intersection Summary				
HCM 2000 Control Delay	25.9	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.55			
Actuated Cycle Length (s)	111.4	Sum of lost time (s)	16.7	
Intersection Capacity Utilization	56.3%	ICU Level of Service	B	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	20	0	68	94	5	20	120	103	924	19	60	1002
Future Volume (vph)	20	0	68	94	5	20	120	103	924	19	60	1002
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.4	4.4	4.4	4.4			5.6	6.0		4.4	6.0
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00			0.97	0.95		1.00	0.95
Frpb, ped/bikes	1.00	1.00	0.84	1.00	0.84			1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.88			1.00	1.00		1.00	1.00
Flt Protected	0.95	0.95	1.00	0.95	1.00			0.95	1.00		0.95	1.00
Satd. Flow (prot)	1681	1681	1328	1770	1376			3433	3524		1770	3539
Flt Permitted	0.95	0.95	1.00	0.95	1.00			0.95	1.00		0.95	1.00
Satd. Flow (perm)	1681	1681	1328	1770	1376			3433	3524		1770	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	0	74	102	5	22	130	112	1004	21	65	1089
RTOR Reduction (vph)	0	0	56	0	17	0	0	0	1	0	0	0
Lane Group Flow (vph)	11	11	18	102	10	0	0	242	1024	0	65	1089
Confl. Peds. (#/hr)			121			148				27		
Turn Type	Split	NA	Perm	Split	NA		Prot	Prot	NA		Prot	NA
Protected Phases	4	4		8	8		5	5	2		1	6
Permitted Phases			4									
Actuated Green, G (s)	38.0	38.0	38.0	38.0	38.0			13.6	55.6		8.8	50.8
Effective Green, g (s)	38.0	38.0	38.0	38.0	38.0			12.4	55.6		8.8	50.8
Actuated g/C Ratio	0.24	0.24	0.24	0.24	0.24			0.08	0.35		0.06	0.32
Clearance Time (s)	4.4	4.4	4.4	4.4	4.4			4.4	6.0		4.4	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	400	400	316	421	327			266	1227		97	1126
v/s Ratio Prot	0.01	0.01		c0.06	0.01			c0.07	c0.29		0.04	c0.31
v/s Ratio Perm			c0.01									
v/c Ratio	0.03	0.03	0.06	0.24	0.03			0.95dl	0.83		0.67	0.97
Uniform Delay, d1	46.6	46.6	46.9	49.2	46.7			73.0	47.8		74.0	53.6
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	0.0	0.0	0.1	0.3	0.0			32.0	5.1		16.7	19.2
Delay (s)	46.7	46.7	47.0	49.5	46.7			105.1	52.8		90.6	72.8
Level of Service	D	D	D	D	D			F	D		F	E
Approach Delay (s)		46.9			48.9				62.8			73.1
Approach LOS		D			D				E			E

Intersection Summary			
HCM 2000 Control Delay	66.1	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	159.6	Sum of lost time (s)	20.4
Intersection Capacity Utilization	114.4%	ICU Level of Service	H
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	20
Future Volume (vph)	20
Ideal Flow (vphpl)	1900
Total Lost time (s)	6.0
Lane Util. Factor	1.00
Frpb, ped/bikes	0.98
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1558
Flt Permitted	1.00
Satd. Flow (perm)	1558
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	22
RTOR Reduction (vph)	15
Lane Group Flow (vph)	7
Confl. Peds. (#/hr)	2
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	50.8
Effective Green, g (s)	50.8
Actuated g/C Ratio	0.32
Clearance Time (s)	6.0
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	495
v/s Ratio Prot	
v/s Ratio Perm	0.00
v/c Ratio	0.01
Uniform Delay, d1	37.3
Progression Factor	1.00
Incremental Delay, d2	0.0
Delay (s)	37.3
Level of Service	D
Approach Delay (s)	
Approach LOS	

Intersection Summary

4: Camino Del Sur & Torrey Meadows Dr/Torrey Gardens Pl

3/15/2016

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	140	10	151	102	5	30	133	1046	73	40	1054	40
Future Volume (vph)	140	10	151	102	5	30	133	1046	73	40	1054	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.3		4.4	4.9		4.4	6.0		4.4	6.0	
Lane Util. Factor	1.00	0.95		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.97		1.00	0.94		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.86		1.00	0.87		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	2958		1770	1518		1770	3498		1770	3517	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	2958		1770	1518		1770	3498		1770	3517	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	152	11	164	111	5	33	145	1137	79	43	1146	43
RTOR Reduction (vph)	0	132	0	0	28	0	0	3	0	0	2	0
Lane Group Flow (vph)	152	43	0	111	10	0	145	1213	0	43	1187	0
Confl. Peds. (#/hr)			17			62			10			6
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	18.6	24.2		13.5	19.5		15.2	58.2		6.4	49.4	
Effective Green, g (s)	18.6	24.2		13.5	19.5		15.2	58.2		6.4	49.4	
Actuated g/C Ratio	0.15	0.20		0.11	0.16		0.12	0.48		0.05	0.40	
Clearance Time (s)	4.4	5.3		4.4	4.9		4.4	6.0		4.4	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	268	584		195	241		219	1663		92	1419	
v/s Ratio Prot	c0.09	c0.01		0.06	0.01		c0.08	c0.35		0.02	c0.34	
v/s Ratio Perm												
v/c Ratio	0.57	0.07		0.57	0.04		0.66	0.73		0.47	0.84	
Uniform Delay, d1	48.2	40.0		51.7	43.5		51.1	25.8		56.3	32.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.7	0.1		3.8	0.1		7.3	1.6		3.7	4.5	
Delay (s)	50.9	40.0		55.5	43.6		58.5	27.4		60.1	37.3	
Level of Service	D	D		E	D		E	C		E	D	
Approach Delay (s)		45.1			52.4			30.7			38.1	
Approach LOS		D			D			C			D	

Intersection Summary			
HCM 2000 Control Delay	36.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	122.4	Sum of lost time (s)	20.1
Intersection Capacity Utilization	89.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

5: Camino Del Sur & Highlands Village Pl

3/15/2016

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	130	304	267	1122	1177	130
Future Volume (vph)	130	304	267	1122	1177	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.9	5.4	5.4	7.0	7.0	
Lane Util. Factor	1.00	1.00	0.97	0.95	0.95	
Frpb, ped/bikes	1.00	0.98	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1544	3433	3539	3481	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1770	1544	3433	3539	3481	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	141	330	290	1220	1279	141
RTOR Reduction (vph)	0	22	0	0	5	0
Lane Group Flow (vph)	141	308	290	1220	1415	0
Confl. Peds. (#/hr)		47				3
Turn Type	Prot	pm+ov	Prot	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	16.7	32.1	15.4	69.6	49.8	
Effective Green, g (s)	15.7	30.1	14.4	68.6	48.8	
Actuated g/C Ratio	0.16	0.31	0.15	0.71	0.50	
Clearance Time (s)	4.9	4.4	4.4	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	285	478	508	2497	1747	
v/s Ratio Prot	0.08	c0.10	0.08	0.34	c0.41	
v/s Ratio Perm		0.10				
v/c Ratio	0.49	0.64	0.57	0.49	0.81	
Uniform Delay, d1	37.1	28.9	38.5	6.4	20.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.4	3.0	1.6	0.2	2.9	
Delay (s)	38.5	31.9	40.1	6.6	23.2	
Level of Service	D	C	D	A	C	
Approach Delay (s)	33.9			13.0	23.2	
Approach LOS	C			B	C	

Intersection Summary			
HCM 2000 Control Delay	20.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	97.2	Sum of lost time (s)	18.3
Intersection Capacity Utilization	86.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	812	10	880	582	509	0	0	971	510
Future Volume (vph)	0	0	0	812	10	880	582	509	0	0	971	510
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				5.3	5.3	5.3	4.2	6.3			6.3	6.3
Lane Util. Factor				0.95	0.95	0.88	0.97	0.95			0.95	0.88
Frpb, ped/bikes				1.00	1.00	0.97	1.00	1.00			1.00	1.00
Flpb, ped/bikes				1.00	1.00	1.00	1.00	1.00			1.00	1.00
Frt				1.00	1.00	0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95	0.95	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				1681	1687	2713	3433	3539			3539	2787
Flt Permitted				0.95	0.95	1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)				1681	1687	2713	3433	3539			3539	2787
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	883	11	957	633	553	0	0	1055	554
RTOR Reduction (vph)	0	0	0	0	0	396	0	0	0	0	0	364
Lane Group Flow (vph)	0	0	0	450	444	561	633	553	0	0	1055	190
Confl. Peds. (#/hr)						4						
Turn Type				Split	NA	Perm	Prot	NA			NA	Perm
Protected Phases				8	8		5	2			6	
Permitted Phases						8						6
Actuated Green, G (s)				31.7	31.7	31.7	21.4	61.7			36.1	36.1
Effective Green, g (s)				31.7	31.7	31.7	21.4	61.7			36.1	36.1
Actuated g/C Ratio				0.30	0.30	0.30	0.20	0.59			0.34	0.34
Clearance Time (s)				5.3	5.3	5.3	4.2	6.3			6.3	6.3
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)				507	509	819	699	2079			1216	958
v/s Ratio Prot				c0.27	0.26		c0.18	0.16			c0.30	
v/s Ratio Perm						0.21						0.07
v/c Ratio				0.89	0.87	0.69	0.91	0.27			0.87	0.20
Uniform Delay, d1				35.0	34.7	32.3	40.8	10.6			32.2	24.3
Progression Factor				1.00	1.00	1.00	1.45	0.87			1.00	1.00
Incremental Delay, d2				17.0	15.1	2.4	8.6	0.2			8.5	0.5
Delay (s)				51.9	49.9	34.6	67.9	9.4			40.7	24.7
Level of Service				D	D	C	E	A			D	C
Approach Delay (s)		0.0			42.5			40.6			35.2	
Approach LOS		A			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	39.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	15.8
Intersection Capacity Utilization	79.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	200	5	511	0	0	0	0	891	393	750	1033	0
Future Volume (vph)	200	5	511	0	0	0	0	891	393	750	1033	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6	4.6					6.3	6.3	4.2	6.3	
Lane Util. Factor	0.95	0.95	0.88					0.95	1.00	0.97	0.95	
Frpb, ped/bikes	1.00	1.00	0.99					1.00	0.98	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00					1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95	0.95	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1681	1689	2751					3539	1559	3433	3539	
Flt Permitted	0.95	0.95	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1681	1689	2751					3539	1559	3433	3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	217	5	555	0	0	0	0	968	427	815	1123	0
RTOR Reduction (vph)	0	0	73	0	0	0	0	0	310	0	0	0
Lane Group Flow (vph)	111	111	482	0	0	0	0	968	117	815	1123	0
Confl. Peds. (#/hr)			1						3			
Turn Type	Split	NA	Perm					NA	Perm	Prot	NA	
Protected Phases	4	4						2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	27.2	27.2	27.2					28.7	28.7	34.0	66.9	
Effective Green, g (s)	27.2	27.2	27.2					28.7	28.7	34.0	66.9	
Actuated g/C Ratio	0.26	0.26	0.26					0.27	0.27	0.32	0.64	
Clearance Time (s)	4.6	4.6	4.6					6.3	6.3	4.2	6.3	
Vehicle Extension (s)	3.0	3.0	3.0					3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	435	437	712					967	426	1111	2254	
v/s Ratio Prot	0.07	0.07						c0.27		c0.24	0.32	
v/s Ratio Perm			c0.18						0.07			
v/c Ratio	0.26	0.25	0.68					1.00	0.27	0.73	0.50	
Uniform Delay, d1	30.9	30.9	35.0					38.1	30.0	31.5	10.1	
Progression Factor	1.00	1.00	1.00					1.00	1.00	1.04	1.42	
Incremental Delay, d2	0.3	0.3	2.6					29.2	1.6	1.2	0.4	
Delay (s)	31.2	31.2	37.5					67.3	31.6	33.8	14.7	
Level of Service	C	C	D					E	C	C	B	
Approach Delay (s)		35.7			0.0			56.4			22.8	
Approach LOS		D			A			E			C	

Intersection Summary			
HCM 2000 Control Delay	36.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	79.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

8: Camino Del Sur & Torrey Santa Fe Rd/Dwy

3/15/2016

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	420	20	71	0	20	120	52	744	20	110	684	750
Future Volume (vph)	420	20	71	0	20	120	52	744	20	110	684	750
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	4.9		4.5		4.5	4.5		4.4	4.5	4.9
Lane Util. Factor	0.95	0.95	1.00		1.00		1.00	0.91		1.00	0.91	1.00
Frt	1.00	1.00	0.85		0.88		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.96	1.00		1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1693	1583		1648		1770	5065		1770	5085	1583
Flt Permitted	0.95	0.96	1.00		1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1681	1693	1583		1648		1770	5065		1770	5085	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	457	22	77	0	22	130	57	809	22	120	743	815
RTOR Reduction (vph)	0	0	54	0	116	0	0	2	0	0	0	304
Lane Group Flow (vph)	238	241	23	0	36	0	57	829	0	120	743	511
Turn Type	Split	NA	Perm		NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	4	4		8	8		5	2		1	6	4
Permitted Phases			4									6
Actuated Green, G (s)	23.9	23.9	23.9		8.7		4.4	20.3		8.8	24.6	48.5
Effective Green, g (s)	23.9	23.9	23.9		8.7		4.4	20.3		8.8	24.6	48.5
Actuated g/C Ratio	0.30	0.30	0.30		0.11		0.06	0.25		0.11	0.31	0.61
Clearance Time (s)	4.9	4.9	4.9		4.5		4.5	4.5		4.4	4.5	4.9
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	502	505	472		179		97	1285		194	1563	959
v/s Ratio Prot	0.14	0.14			c0.02		0.03	c0.16		c0.07	0.15	c0.16
v/s Ratio Perm			0.01									0.16
v/c Ratio	0.47	0.48	0.05		0.20		0.59	0.64		0.62	0.48	0.53
Uniform Delay, d1	22.9	22.9	20.0		32.5		36.9	26.6		34.0	22.5	9.2
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.7	0.7	0.0		0.6		8.8	1.1		5.8	0.2	0.6
Delay (s)	23.6	23.7	20.0		33.0		45.7	27.8		39.8	22.7	9.7
Level of Service	C	C	C		C		D	C		D	C	A
Approach Delay (s)		23.1			33.0			28.9			17.6	
Approach LOS		C			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	22.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	18.4
Intersection Capacity Utilization	69.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

9: Camino Del Sur & Dormouse Rd

3/15/2016

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	77	15	320	67	113	25
Future Volume (vph)	77	15	320	67	113	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		4.0	6.0	6.0	6.0
Lane Util. Factor	1.00		1.00	0.95	1.00	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	0.92
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.98		1.00	1.00	1.00	0.85
Flt Protected	0.96		0.95	1.00	1.00	1.00
Satd. Flow (prot)	1749		1770	3539	1863	1457
Flt Permitted	0.96		0.95	1.00	1.00	1.00
Satd. Flow (perm)	1749		1770	3539	1863	1457
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	84	16	348	73	123	27
RTOR Reduction (vph)	8	0	0	0	0	20
Lane Group Flow (vph)	92	0	348	73	123	7
Confl. Peds. (#/hr)			57			57
Turn Type	Prot		Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases						6
Actuated Green, G (s)	8.1		15.8	32.3	12.5	12.5
Effective Green, g (s)	8.1		15.8	32.3	12.5	12.5
Actuated g/C Ratio	0.16		0.31	0.63	0.24	0.24
Clearance Time (s)	5.0		4.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	275		544	2223	453	354
v/s Ratio Prot	c0.05		c0.20	0.02	c0.07	
v/s Ratio Perm						0.00
v/c Ratio	0.33		0.64	0.03	0.27	0.02
Uniform Delay, d1	19.2		15.3	3.6	15.8	14.8
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.7		2.5	0.0	0.3	0.0
Delay (s)	20.0		17.8	3.6	16.1	14.8
Level of Service	B		B	A	B	B
Approach Delay (s)	20.0			15.4	15.9	
Approach LOS	B			B	B	

Intersection Summary			
HCM 2000 Control Delay	16.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	51.4	Sum of lost time (s)	15.0
Intersection Capacity Utilization	44.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	232	250	20	50	50	210	10	10	10	333	10	101
Future Volume (vph)	232	250	20	50	50	210	10	10	10	333	10	101
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.5		4.4	6.0	6.0	4.4	4.9		4.4	4.9	
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	0.95		0.97	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.91	1.00	0.96		1.00	0.94	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.93		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3485		1770	1863	1434	1770	3134		3433	1516	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3485		1770	1863	1434	1770	3134		3433	1516	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	252	272	22	54	54	228	11	11	11	362	11	110
RTOR Reduction (vph)	0	5	0	0	0	0	0	10	0	0	81	0
Lane Group Flow (vph)	252	289	0	54	54	228	11	12	0	362	40	0
Confl. Peds. (#/hr)			25			95			88			30
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8						
Actuated Green, G (s)	16.9	34.5		4.4	21.5	21.5	0.5	7.2		14.0	20.7	
Effective Green, g (s)	16.9	34.5		4.4	21.5	21.5	0.5	7.2		14.0	20.7	
Actuated g/C Ratio	0.21	0.44		0.06	0.27	0.27	0.01	0.09		0.18	0.26	
Clearance Time (s)	4.4	5.5		4.4	6.0	6.0	4.4	4.9		4.4	4.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	377	1516		98	505	388	11	284		606	395	
v/s Ratio Prot	c0.14	0.08		0.03	0.03		0.01	0.00		c0.11	c0.03	
v/s Ratio Perm						c0.16						
v/c Ratio	0.67	0.19		0.55	0.11	0.59	1.00	0.04		0.60	0.10	
Uniform Delay, d1	28.6	13.8		36.5	21.7	25.1	39.4	32.9		30.1	22.2	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.4	0.1		6.6	0.1	2.3	271.4	0.1		1.6	0.1	
Delay (s)	33.1	13.9		43.0	21.8	27.3	310.8	33.0		31.6	22.3	
Level of Service	C	B		D	C	C	F	C		C	C	
Approach Delay (s)		22.7			29.0			125.6			29.3	
Approach LOS		C			C			F			C	

Intersection Summary			
HCM 2000 Control Delay	28.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	79.3	Sum of lost time (s)	19.7
Intersection Capacity Utilization	70.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

MOVEMENT SUMMARY

Site: Street M / Carmel Mtn Rd AM

Year 2035 AM
Roundabout

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Carmel Mountain Rd											
3	L2	79	2.0	0.131	5.7	LOS A	0.5	12.1	0.33	0.22	24.5
8	T1	17	2.0	0.131	5.7	LOS A	0.5	12.1	0.33	0.22	32.2
18	R2	11	2.0	0.131	5.7	LOS A	0.5	12.1	0.33	0.22	31.6
Approach		108	2.0	0.131	5.7	LOS A	0.5	12.1	0.33	0.22	26.8
East: Via Las Lenas											
1	L2	49	2.0	0.147	6.3	LOS A	0.5	13.5	0.40	0.31	31.6
6	T1	2	2.0	0.147	6.3	LOS A	0.5	13.5	0.40	0.31	20.4
16	R2	60	2.0	0.147	6.3	LOS A	0.5	13.5	0.40	0.31	29.8
Approach		111	2.0	0.147	6.3	LOS A	0.5	13.5	0.40	0.31	30.4
North: Carmel Mountain Rd											
7	L2	16	2.0	0.602	13.2	LOS B	4.0	101.7	0.50	0.35	27.5
4	T1	90	2.0	0.602	13.2	LOS B	4.0	101.7	0.50	0.35	30.2
14	R2	416	2.0	0.602	13.2	LOS B	4.0	101.7	0.50	0.35	17.5
Approach		523	2.0	0.602	13.2	LOS B	4.0	101.7	0.50	0.35	19.9
West: Street M											
5	L2	161	2.0	0.224	6.6	LOS A	0.9	22.7	0.33	0.23	27.9
2	T1	3	2.0	0.224	6.6	LOS A	0.9	22.7	0.33	0.23	28.1
12	R2	25	2.0	0.224	6.6	LOS A	0.9	22.7	0.33	0.23	27.3
Approach		189	2.0	0.224	6.6	LOS A	0.9	22.7	0.33	0.23	27.8
All Vehicles		930	2.0	0.602	10.2	LOS B	4.0	101.7	0.44	0.31	23.1

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	20	10	83	50	50	20	168	67	10	358	20
Future Volume (vph)	5	20	10	83	50	50	20	168	67	10	358	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9			4.9		4.4	5.2		4.4	5.4	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		0.99			1.00		1.00	0.99		1.00	1.00	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.96			0.96		1.00	0.96		1.00	0.99	
Flt Protected		0.99			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1769			1748		1770	3362		1770	3506	
Flt Permitted		0.95			0.84		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1700			1495		1770	3362		1770	3506	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	22	11	90	54	54	22	183	73	11	389	22
RTOR Reduction (vph)	0	8	0	0	18	0	0	46	0	0	5	0
Lane Group Flow (vph)	0	30	0	0	180	0	22	210	0	11	406	0
Confl. Peds. (#/hr)			12			1			6			3
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		12.1			12.1		0.9	15.4		0.8	15.1	
Effective Green, g (s)		12.1			12.1		0.9	15.4		0.8	15.1	
Actuated g/C Ratio		0.28			0.28		0.02	0.36		0.02	0.35	
Clearance Time (s)		4.9			4.9		4.4	5.2		4.4	5.4	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		480			422		37	1209		33	1236	
v/s Ratio Prot							c0.01	0.06		0.01	c0.12	
v/s Ratio Perm		0.02			c0.12							
v/c Ratio		0.06			0.43		0.59	0.17		0.33	0.33	
Uniform Delay, d1		11.2			12.5		20.8	9.4		20.7	10.1	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.1			0.7		23.1	0.1		5.9	0.2	
Delay (s)		11.3			13.2		43.8	9.4		26.6	10.3	
Level of Service		B			B		D	A		C	B	
Approach Delay (s)		11.3			13.2			12.1			10.7	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	11.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	42.8	Sum of lost time (s)	14.7
Intersection Capacity Utilization	42.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	57	21	7	2	18	21	16	177	2	10	312	32
Future Volume (vph)	57	21	7	2	18	21	16	177	2	10	312	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	5.0		4.0	5.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00			0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.99			0.93		1.00	1.00		1.00	0.99	
Flt Protected		0.97			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1777			1718		1765	3533		1767	3481	
Flt Permitted		0.77			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1418			1689		1765	3533		1767	3481	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	62	23	8	2	20	23	17	192	2	11	339	35
RTOR Reduction (vph)	0	5	0	0	20	0	0	1	0	0	7	0
Lane Group Flow (vph)	0	88	0	0	25	0	17	193	0	11	367	0
Confl. Peds. (#/hr)	4		5	5		4	6		2	2		6
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		4.6			4.6		0.7	21.7		0.6	21.6	
Effective Green, g (s)		4.6			4.6		0.7	21.7		0.6	21.6	
Actuated g/C Ratio		0.12			0.12		0.02	0.54		0.02	0.54	
Clearance Time (s)		4.0			4.0		4.0	5.0		4.0	5.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		163			194		30	1921		26	1884	
v/s Ratio Prot							c0.01	0.05		0.01	c0.11	
v/s Ratio Perm		c0.06			0.01							
v/c Ratio		0.54			0.13		0.57	0.10		0.42	0.19	
Uniform Delay, d1		16.6			15.8		19.4	4.4		19.5	4.7	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		3.4			0.3		22.3	0.0		10.7	0.1	
Delay (s)		20.0			16.1		41.7	4.4		30.2	4.7	
Level of Service		C			B		D	A		C	A	
Approach Delay (s)		20.0			16.1			7.4			5.5	
Approach LOS		C			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	8.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.26		
Actuated Cycle Length (s)	39.9	Sum of lost time (s)	13.0
Intersection Capacity Utilization	33.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

14: Carmel Mountain Rd & Entreken Way

3/15/2016

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	380	20	80	5	30	15	40	368	5	10	468	440
Future Volume (vph)	380	20	80	5	30	15	40	368	5	10	468	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.1		4.0	4.8		4.0	5.1	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00			0.99		1.00	1.00		1.00	0.98	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.98			0.96		1.00	1.00		1.00	0.93	
Flt Protected		0.96			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1746			1771		1770	3530		1770	3227	
Flt Permitted		0.73			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1333			1717		1770	3530		1770	3227	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	413	22	87	5	33	16	43	400	5	11	509	478
RTOR Reduction (vph)	0	8	0	0	9	0	0	1	0	0	192	0
Lane Group Flow (vph)	0	514	0	0	45	0	43	404	0	11	795	0
Confl. Peds. (#/hr)			8			6			25			9
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		32.9			32.8		3.0	29.6		0.7	27.0	
Effective Green, g (s)		32.9			32.8		3.0	29.6		0.7	27.0	
Actuated g/C Ratio		0.43			0.43		0.04	0.39		0.01	0.36	
Clearance Time (s)		4.0			4.1		4.0	4.8		4.0	5.1	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		577			741		69	1374		16	1146	
v/s Ratio Prot							c0.02	0.11		0.01	c0.25	
v/s Ratio Perm		c0.39			0.03							
v/c Ratio		0.89			0.06		0.62	0.29		0.69	0.69	
Uniform Delay, d1		19.9			12.6		35.9	16.0		37.5	21.0	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		15.9			0.0		16.2	0.1		80.1	1.8	
Delay (s)		35.8			12.6		52.2	16.1		117.6	22.8	
Level of Service		D			B		D	B		F	C	
Approach Delay (s)		35.8			12.6			19.6			23.8	
Approach LOS		D			B			B			C	

Intersection Summary			
HCM 2000 Control Delay	25.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	76.0	Sum of lost time (s)	13.2
Intersection Capacity Utilization	74.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

15: Sparren Ave & Carmel Mountain Rd

3/15/2016

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	42	691	30	10	764	90	60	30	20	490	30	94
Future Volume (vph)	42	691	30	10	764	90	60	30	20	490	30	94
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.9		4.4	5.2			4.9		4.9	4.9	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.98			0.98		1.00	0.89	
Flt Protected	0.95	1.00		0.95	1.00			0.97		0.95	1.00	
Satd. Flow (prot)	1770	3513		1770	3471			1764		1770	1636	
Flt Permitted	0.95	1.00		0.95	1.00			0.81		0.72	1.00	
Satd. Flow (perm)	1770	3513		1770	3471			1463		1341	1636	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	46	751	33	11	830	98	65	33	22	533	33	102
RTOR Reduction (vph)	0	4	0	0	12	0	0	10	0	0	59	0
Lane Group Flow (vph)	46	780	0	11	916	0	0	110	0	533	76	0
Confl. Peds. (#/hr)			2			8			3			1
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	3.1	26.5		0.7	23.8			30.1		30.1	30.1	
Effective Green, g (s)	3.1	26.5		0.7	23.8			30.1		30.1	30.1	
Actuated g/C Ratio	0.04	0.37		0.01	0.33			0.42		0.42	0.42	
Clearance Time (s)	4.4	4.9		4.4	5.2			4.9		4.9	4.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	76	1302		17	1155			615		564	688	
v/s Ratio Prot	c0.03	0.22		0.01	c0.26						0.05	
v/s Ratio Perm								0.07		c0.40		
v/c Ratio	0.61	0.60		0.65	0.79			0.18		0.95	0.11	
Uniform Delay, d1	33.6	18.2		35.3	21.6			13.0		19.9	12.6	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	12.9	0.7		62.0	3.8			0.1		24.8	0.1	
Delay (s)	46.5	19.0		97.3	25.4			13.1		44.7	12.6	
Level of Service	D	B		F	C			B		D	B	
Approach Delay (s)		20.5			26.3			13.1			38.2	
Approach LOS		C			C			B			D	

Intersection Summary			
HCM 2000 Control Delay	26.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	71.5	Sum of lost time (s)	14.5
Intersection Capacity Utilization	78.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	33	900	268	130	556	25	256	20	120	30	10	52
Future Volume (vph)	33	900	268	130	556	25	256	20	120	30	10	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.2		4.4	5.9		4.9	4.9			4.9	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00			1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	0.99			0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Frt	1.00	0.97		1.00	0.99		1.00	0.87			0.92	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.98	
Satd. Flow (prot)	1770	3397		1770	3516		1770	1605			1678	
Flt Permitted	0.95	1.00		0.95	1.00		0.74	1.00			0.89	
Satd. Flow (perm)	1770	3397		1770	3516		1380	1605			1517	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	36	978	291	141	604	27	278	22	130	33	11	57
RTOR Reduction (vph)	0	37	0	0	4	0	0	79	0	0	35	0
Lane Group Flow (vph)	36	1232	0	141	627	0	278	73	0	0	66	0
Confl. Peds. (#/hr)			4						2			5
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	2.3	27.5		4.6	29.1		30.0	30.0			30.0	
Effective Green, g (s)	2.3	27.5		4.6	29.1		30.0	30.0			30.0	
Actuated g/C Ratio	0.03	0.36		0.06	0.38		0.39	0.39			0.39	
Clearance Time (s)	4.4	5.2		4.4	5.9		4.9	4.9			4.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)	53	1219		106	1335		540	628			594	
v/s Ratio Prot	0.02	c0.36		c0.08	0.18			0.05				
v/s Ratio Perm							c0.20				0.04	
v/c Ratio	0.68	1.01		1.33	0.47		0.51	0.12			0.11	
Uniform Delay, d1	36.8	24.5		36.0	17.9		17.8	14.8			14.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	29.4	28.5		199.5	1.2		3.5	0.4			0.4	
Delay (s)	66.2	53.1		235.5	19.1		21.2	15.2			15.2	
Level of Service	E	D		F	B		C	B			B	
Approach Delay (s)		53.4			58.6			19.1			15.2	
Approach LOS		D			E			B			B	

Intersection Summary			
HCM 2000 Control Delay	47.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	76.6	Sum of lost time (s)	15.2
Intersection Capacity Utilization	85.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	540	30	310	586	670	0	0	1270	830
Future Volume (vph)	0	0	0	540	30	310	586	670	0	0	1270	830
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				8.6	8.6	8.6	7.2	9.3			9.3	
Lane Util. Factor				0.95	0.95	1.00	0.97	0.95			0.91	
Frt				1.00	1.00	0.85	1.00	1.00			0.94	
Flt Protected				0.95	0.96	1.00	0.95	1.00			1.00	
Satd. Flow (prot)				1681	1698	1583	3433	3539			4771	
Flt Permitted				0.95	0.96	1.00	0.95	1.00			1.00	
Satd. Flow (perm)				1681	1698	1583	3433	3539			4771	
Peak-hour factor, PHF	0.92	0.92	0.92	0.82	0.55	0.73	0.88	0.87	0.92	0.92	0.89	0.83
Adj. Flow (vph)	0	0	0	659	55	425	666	770	0	0	1427	1000
RTOR Reduction (vph)	0	0	0	0	0	155	0	0	0	0	88	0
Lane Group Flow (vph)	0	0	0	356	358	270	666	770	0	0	2339	0
Turn Type				Split	NA	Perm	Prot	NA			NA	
Protected Phases				8	8		5	2			6	
Permitted Phases						8						
Actuated Green, G (s)				35.6	35.6	35.6	30.3	88.5			54.0	
Effective Green, g (s)				32.6	32.6	32.6	27.3	85.5			51.0	
Actuated g/C Ratio				0.24	0.24	0.24	0.20	0.63			0.38	
Clearance Time (s)				5.6	5.6	5.6	4.2	6.3			6.3	
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)				402	407	379	689	2224			1789	
v/s Ratio Prot				c0.21	0.21		c0.19	0.22			c0.49	
v/s Ratio Perm						0.17						
v/c Ratio				0.89	0.88	0.71	0.97	0.35			1.45dr	
Uniform Delay, d1				49.9	49.8	47.4	53.9	12.0			42.5	
Progression Factor				1.00	1.00	1.00	1.35	0.73			1.00	
Incremental Delay, d2				20.1	19.0	6.2	12.2	0.2			142.5	
Delay (s)				70.0	68.8	53.6	85.1	8.9			185.0	
Level of Service				E	E	D	F	A			F	
Approach Delay (s)		0.0			63.5			44.3			185.0	
Approach LOS		A			E			D			F	

Intersection Summary			
HCM 2000 Control Delay	116.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	136.0	Sum of lost time (s)	25.1
Intersection Capacity Utilization	96.5%	ICU Level of Service	F
Analysis Period (min)	15		
dr Defacto Right Lane. Recode with 1 though lane as a right lane.			
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	190	0	403	0	0	0	0	1066	390	490	1320	0
Future Volume (vph)	190	0	403	0	0	0	0	1066	390	490	1320	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0					6.3	6.3	4.2	6.3	
Lane Util. Factor	0.95	0.95	0.88					0.95	1.00	0.97	0.91	
Frt	1.00	1.00	0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95	0.95	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1681	1681	2787					3539	1583	3433	5085	
Flt Permitted	0.95	0.95	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1681	1681	2787					3539	1583	3433	5085	
Peak-hour factor, PHF	0.81	0.92	0.80	0.92	0.92	0.92	0.92	0.86	0.76	0.94	0.98	0.92
Adj. Flow (vph)	235	0	504	0	0	0	0	1240	513	521	1347	0
RTOR Reduction (vph)	0	0	452	0	0	0	0	0	154	0	0	0
Lane Group Flow (vph)	117	118	52	0	0	0	0	1240	359	521	1347	0
Turn Type	Split	NA	Perm					NA	Perm	Prot	NA	
Protected Phases	4	4						2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	14.1	14.1	14.1					49.0	49.0	16.4	69.6	
Effective Green, g (s)	14.1	14.1	14.1					49.0	49.0	16.4	69.6	
Actuated g/C Ratio	0.10	0.10	0.10					0.36	0.36	0.12	0.51	
Clearance Time (s)	5.0	5.0	5.0					6.3	6.3	4.2	6.3	
Vehicle Extension (s)	3.0	3.0	3.0					3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	174	174	288					1275	570	413	2602	
v/s Ratio Prot	0.07	c0.07						c0.35		c0.15	0.26	
v/s Ratio Perm			0.02						0.23			
v/c Ratio	0.67	0.68	0.18					0.97	0.63	1.26	0.52	
Uniform Delay, d1	58.7	58.8	55.7					42.8	36.0	59.8	22.1	
Progression Factor	1.00	1.00	1.00					1.00	1.00	1.43	1.14	
Incremental Delay, d2	9.8	10.0	0.3					19.4	5.2	119.5	0.1	
Delay (s)	68.5	68.8	56.0					62.3	41.2	205.1	25.3	
Level of Service	E	E	E					E	D	F	C	
Approach Delay (s)		60.0			0.0			56.1			75.4	
Approach LOS		E			A			E			E	

Intersection Summary				
HCM 2000 Control Delay	65.0	HCM 2000 Level of Service	E	
HCM 2000 Volume to Capacity ratio	0.67			
Actuated Cycle Length (s)	136.0	Sum of lost time (s)	19.5	
Intersection Capacity Utilization	96.5%	ICU Level of Service	F	
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	530	70	325	160	40	120	101	746	60	150	1683	210
Future Volume (vph)	530	70	325	160	40	120	101	746	60	150	1683	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3	6.3	6.3	4.9	4.9		4.4	5.7		4.4	6.5	6.5
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95		0.97	0.95		1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.90		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	0.96	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1704	1583	1681	1581		3433	3500		1770	3539	1583
Flt Permitted	0.95	0.96	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1681	1704	1583	1681	1581		3433	3500		1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	576	76	353	174	43	130	110	811	65	163	1829	228
RTOR Reduction (vph)	0	0	141	0	53	0	0	3	0	0	0	50
Lane Group Flow (vph)	323	329	212	157	137	0	110	873	0	163	1829	178
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			4									6
Actuated Green, G (s)	32.3	32.3	32.3	20.0	20.0		4.6	53.6		17.7	65.9	65.9
Effective Green, g (s)	32.3	32.3	32.3	20.0	20.0		4.6	53.6		17.7	65.9	65.9
Actuated g/C Ratio	0.22	0.22	0.22	0.14	0.14		0.03	0.37		0.12	0.45	0.45
Clearance Time (s)	6.3	6.3	6.3	4.9	4.9		4.4	5.7		4.4	6.5	6.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	374	379	352	232	218		108	1294		216	1609	719
v/s Ratio Prot	0.19	c0.19		c0.09	0.09		0.03	0.25		c0.09	c0.52	
v/s Ratio Perm			0.13									0.11
v/c Ratio	0.86	0.87	0.60	0.68	0.63		1.02	0.67		0.75	1.14	0.25
Uniform Delay, d1	54.2	54.2	50.5	59.4	58.9		70.2	38.3		61.5	39.5	24.3
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	18.2	18.5	2.9	7.6	5.5		91.7	2.8		13.9	69.7	0.8
Delay (s)	72.4	72.7	53.5	67.0	64.4		161.8	41.2		75.4	109.2	25.1
Level of Service	E	E	D	E	E		F	D		E	F	C
Approach Delay (s)		65.9			65.6			54.6			98.1	
Approach LOS		E			E			D			F	

Intersection Summary				
HCM 2000 Control Delay	79.1	HCM 2000 Level of Service	E	
HCM 2000 Volume to Capacity ratio	0.99			
Actuated Cycle Length (s)	144.9	Sum of lost time (s)	22.1	
Intersection Capacity Utilization	93.9%	ICU Level of Service	F	
Analysis Period (min)	15			

c Critical Lane Group

20: Black Mountain Rd & Dwy/Mercy Rd

3/15/2016

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	460	0	350	40	607	380	505	1583	5
Future Volume (vph)	0	0	0	460	0	350	40	607	380	505	1583	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0	4.0	4.0	6.1	4.0	4.0	5.8	
Lane Util. Factor				0.97	0.95	0.95	1.00	0.95	1.00	0.97	0.95	
Frpb, ped/bikes				1.00	0.98	0.98	1.00	1.00	0.99	1.00	1.00	
Flpb, ped/bikes				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt				1.00	0.85	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected				0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)				3433	1481	1481	1770	3539	1571	3433	3538	
Flt Permitted				0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)				3433	1481	1481	1770	3539	1571	3433	3538	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	500	0	380	43	660	413	549	1721	5
RTOR Reduction (vph)	0	0	0	0	141	141	0	0	161	0	0	0
Lane Group Flow (vph)	0	0	0	500	49	49	43	660	252	549	1726	0
Confl. Peds. (#/hr)			2			4			2			
Turn Type				Split	NA	Perm	Prot	NA	pm+ov	Prot	NA	
Protected Phases	4	4		8	8		5	2	8	1	6	
Permitted Phases						8			2			
Actuated Green, G (s)				25.0	25.0	25.0	3.5	34.6	59.6	14.8	46.2	
Effective Green, g (s)				25.0	25.0	25.0	3.5	34.6	59.6	14.8	46.2	
Actuated g/C Ratio				0.26	0.26	0.26	0.04	0.35	0.61	0.15	0.47	
Clearance Time (s)				4.0	4.0	4.0	4.0	6.1	4.0	4.0	5.8	
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)				878	378	378	63	1253	958	520	1673	
v/s Ratio Prot				c0.15	0.03		0.02	0.19	0.07	c0.16	c0.49	
v/s Ratio Perm						0.03			0.09			
v/c Ratio				0.57	0.13	0.13	0.68	0.53	0.26	1.06	1.03	
Uniform Delay, d1				31.7	28.0	28.0	46.6	25.0	8.8	41.5	25.8	
Progression Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2				0.9	0.2	0.2	26.3	0.4	0.1	55.0	30.6	
Delay (s)				32.5	28.1	28.1	72.9	25.5	9.0	96.4	56.3	
Level of Service				C	C	C	E	C	A	F	E	
Approach Delay (s)		0.0			30.6			21.2			66.0	
Approach LOS		A			C			C			E	

Intersection Summary			
HCM 2000 Control Delay	47.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	97.7	Sum of lost time (s)	18.1
Intersection Capacity Utilization	79.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

21: Camino Del Sur & Private Dr M

3/15/2016

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	24	348	372	31	637	116
Future Volume (vph)	24	348	372	31	637	116
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	0.88	0.95		0.97	0.95
Frpb, ped/bikes	1.00	0.96	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	0.99		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	2681	3483		3433	3539
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	2681	3483		3433	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	26	378	404	34	692	126
RTOR Reduction (vph)	0	315	7	0	0	0
Lane Group Flow (vph)	26	63	431	0	692	126
Confl. Peds. (#/hr)		20		20		
Confl. Bikes (#/hr)		10		10		
Turn Type	Prot	Perm	NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8				
Actuated Green, G (s)	8.8	8.8	13.9		16.7	35.1
Effective Green, g (s)	8.8	8.8	13.9		16.7	35.1
Actuated g/C Ratio	0.17	0.17	0.26		0.32	0.66
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	294	445	915		1083	2348
v/s Ratio Prot	0.01		c0.12		c0.20	0.04
v/s Ratio Perm		c0.02				
v/c Ratio	0.09	0.14	0.47		0.64	0.05
Uniform Delay, d1	18.7	18.8	16.4		15.5	3.1
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.1	0.1	0.4		1.2	0.0
Delay (s)	18.8	19.0	16.8		16.8	3.1
Level of Service	B	B	B		B	A
Approach Delay (s)	19.0		16.8			14.7
Approach LOS	B		B			B

Intersection Summary			
HCM 2000 Control Delay	16.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	52.9	Sum of lost time (s)	13.5
Intersection Capacity Utilization	56.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	63	13	242	109	14	113
Future Volume (vph)	63	13	242	109	14	113
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frpb, ped/bikes	1.00	0.96	0.99		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	0.95		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1521	3328		1770	3539
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1521	3328		1770	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	68	14	263	118	15	123
RTOR Reduction (vph)	0	12	46	0	0	0
Lane Group Flow (vph)	68	2	335	0	15	123
Confl. Peds. (#/hr)		20		20		
Confl. Bikes (#/hr)		10		10		
Turn Type	Prot	Perm	NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8				
Actuated Green, G (s)	5.8	5.8	23.6		0.8	28.9
Effective Green, g (s)	5.8	5.8	23.6		0.8	28.9
Actuated g/C Ratio	0.13	0.13	0.54		0.02	0.66
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	234	201	1797		32	2340
v/s Ratio Prot	c0.04		c0.10		c0.01	0.03
v/s Ratio Perm		0.00				
v/c Ratio	0.29	0.01	0.19		0.47	0.05
Uniform Delay, d1	17.1	16.5	5.1		21.2	2.6
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.7	0.0	0.1		10.5	0.0
Delay (s)	17.8	16.5	5.2		31.7	2.6
Level of Service	B	B	A		C	A
Approach Delay (s)	17.6		5.2			5.8
Approach LOS	B		A			A

Intersection Summary			
HCM 2000 Control Delay	7.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.21		
Actuated Cycle Length (s)	43.7	Sum of lost time (s)	13.5
Intersection Capacity Utilization	34.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	260	540	214	174	340	180	204	667	317	210	544	120
Future Volume (vph)	260	540	214	174	340	180	204	667	317	210	544	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.3	6.3	4.4	6.2	6.2	4.4	6.0	6.0	4.4	6.0	6.0
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	3433	3539	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1583	3433	3539	1583	1770	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	283	587	233	189	370	196	222	725	345	228	591	130
RTOR Reduction (vph)	0	0	166	0	0	159	0	0	247	0	0	95
Lane Group Flow (vph)	283	587	67	189	370	37	222	725	98	228	591	35
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Actuated Green, G (s)	21.2	31.2	31.2	10.5	20.6	20.6	17.1	28.7	28.7	17.4	29.0	29.0
Effective Green, g (s)	21.2	31.2	31.2	10.5	20.6	20.6	17.1	28.7	28.7	17.4	29.0	29.0
Actuated g/C Ratio	0.19	0.29	0.29	0.10	0.19	0.19	0.16	0.26	0.26	0.16	0.27	0.27
Clearance Time (s)	4.4	6.3	6.3	4.4	6.2	6.2	4.4	6.0	6.0	4.4	6.0	6.0
Vehicle Extension (s)	2.0	4.9	4.9	2.0	5.1	5.1	2.0	5.9	5.9	2.0	5.6	5.6
Lane Grp Cap (vph)	344	1013	453	331	669	299	277	932	417	282	942	421
v/s Ratio Prot	c0.16	c0.17		0.06	0.10		0.13	c0.20		c0.13	0.17	
v/s Ratio Perm			0.04			0.02			0.06			0.02
v/c Ratio	0.82	0.58	0.15	0.57	0.55	0.12	0.80	0.78	0.24	0.81	0.63	0.08
Uniform Delay, d1	42.0	33.2	28.9	47.0	40.0	36.7	44.3	37.1	31.5	44.1	35.2	30.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	14.0	1.3	0.3	1.5	1.7	0.4	14.4	5.2	0.8	14.7	2.1	0.2
Delay (s)	56.0	34.5	29.2	48.5	41.7	37.1	58.7	42.3	32.3	58.9	37.3	30.2
Level of Service	E	C	C	D	D	D	E	D	C	E	D	C
Approach Delay (s)		38.9			42.2			42.5			41.5	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	41.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	108.9	Sum of lost time (s)	21.1
Intersection Capacity Utilization	71.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	39	0	20	60	1158	52	25	902	0
Future Volume (vph)	0	0	0	39	0	20	60	1158	52	25	902	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.4		4.4	5.9	6.0		4.4	6.0	
Lane Util. Factor				1.00		1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes				1.00		0.99	1.00	1.00		1.00	1.00	
Flpb, ped/bikes				1.00		1.00	1.00	1.00		1.00	1.00	
Frt				1.00		0.85	1.00	0.99		1.00	1.00	
Flt Protected				0.95		1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)				1770		1560	1770	3512		1770	3539	
Flt Permitted				0.95		1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)				1770		1560	1770	3512		1770	3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	42	0	22	65	1259	57	27	980	0
RTOR Reduction (vph)	0	0	0	0	0	20	0	2	0	0	0	0
Lane Group Flow (vph)	0	0	0	42	0	2	65	1314	0	27	980	0
Confl. Peds. (#/hr)						4			3			
Turn Type				Prot		Perm	Prot	NA		Prot	NA	
Protected Phases				8			5	2		1	6	
Permitted Phases						8						
Actuated Green, G (s)				6.6		6.6	7.0	42.6		2.4	38.0	
Effective Green, g (s)				6.6		6.6	5.5	42.6		2.4	38.0	
Actuated g/C Ratio				0.10		0.10	0.08	0.64		0.04	0.57	
Clearance Time (s)				4.4		4.4	4.4	6.0		4.4	6.0	
Vehicle Extension (s)				3.0		3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)				175		155	146	2253		63	2025	
v/s Ratio Prot				c0.02			c0.04	c0.37		0.02	0.28	
v/s Ratio Perm						0.00						
v/c Ratio				0.24		0.01	0.45	0.58		0.43	0.48	
Uniform Delay, d1				27.6		27.0	29.0	6.8		31.3	8.4	
Progression Factor				1.00		1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2				0.7		0.0	2.2	0.4		4.6	0.2	
Delay (s)				28.3		27.0	31.2	7.2		36.0	8.6	
Level of Service				C		C	C	A		D	A	
Approach Delay (s)		0.0			27.9			8.3			9.3	
Approach LOS		A			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	66.4	Sum of lost time (s)	16.3
Intersection Capacity Utilization	52.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	30	5	59	18	0	10	70	91	1210	14	50	851
Future Volume (vph)	30	5	59	18	0	10	70	91	1210	14	50	851
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.4	4.4	4.4	4.4			4.4	6.0		4.4	6.0
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00			0.97	0.95		1.00	0.95
Frpb, ped/bikes	1.00	1.00	0.97	1.00	0.98			1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.85			1.00	1.00		1.00	1.00
Flt Protected	0.95	0.96	1.00	0.95	1.00			0.95	1.00		0.95	1.00
Satd. Flow (prot)	1681	1707	1538	1770	1546			3433	3532		1770	3539
Flt Permitted	0.95	0.96	1.00	0.95	1.00			0.95	1.00		0.95	1.00
Satd. Flow (perm)	1681	1707	1538	1770	1546			3433	3532		1770	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	5	64	20	0	11	76	99	1315	15	54	925
RTOR Reduction (vph)	0	0	57	0	10	0	0	0	0	0	0	0
Lane Group Flow (vph)	19	19	7	20	1	0	0	175	1330	0	54	925
Confl. Peds. (#/hr)			26			18				6		
Turn Type	Split	NA	Perm	Split	NA		Prot	Prot	NA		Prot	NA
Protected Phases	4	4		8	8		5	5	2		1	6
Permitted Phases			4									
Actuated Green, G (s)	8.8	8.8	8.8	7.3	7.3			6.1	40.9		5.0	39.8
Effective Green, g (s)	8.8	8.8	8.8	7.3	7.3			6.1	40.9		5.0	39.8
Actuated g/C Ratio	0.11	0.11	0.11	0.09	0.09			0.08	0.50		0.06	0.49
Clearance Time (s)	4.4	4.4	4.4	4.4	4.4			4.4	6.0		4.4	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	182	184	166	159	138			257	1779		108	1734
v/s Ratio Prot	c0.01	0.01		c0.01	0.00			c0.05	c0.38		0.03	0.26
v/s Ratio Perm			0.00									
v/c Ratio	0.10	0.10	0.04	0.13	0.01			0.68	0.75		0.50	0.53
Uniform Delay, d1	32.6	32.6	32.4	34.0	33.6			36.6	16.0		36.9	14.3
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	0.3	0.2	0.1	0.4	0.0			7.2	1.8		3.6	0.3
Delay (s)	32.9	32.9	32.5	34.4	33.7			43.8	17.8		40.5	14.6
Level of Service	C	C	C	C	C			D	B		D	B
Approach Delay (s)		32.7			34.1				20.8			15.9
Approach LOS		C			C				C			B

Intersection Summary			
HCM 2000 Control Delay	19.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	81.2	Sum of lost time (s)	19.2
Intersection Capacity Utilization	81.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	30
Future Volume (vph)	30
Ideal Flow (vphpl)	1900
Total Lost time (s)	6.0
Lane Util. Factor	1.00
Frpb, ped/bikes	0.98
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1556
Flt Permitted	1.00
Satd. Flow (perm)	1556
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	33
RTOR Reduction (vph)	17
Lane Group Flow (vph)	16
Confl. Peds. (#/hr)	5
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	39.8
Effective Green, g (s)	39.8
Actuated g/C Ratio	0.49
Clearance Time (s)	6.0
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	762
v/s Ratio Prot	
v/s Ratio Perm	0.01
v/c Ratio	0.02
Uniform Delay, d1	10.7
Progression Factor	1.00
Incremental Delay, d2	0.0
Delay (s)	10.7
Level of Service	B
Approach Delay (s)	
Approach LOS	

Intersection Summary

4: Camino Del Sur & Torrey Meadows Dr/Torrey Gardens Pl

3/15/2016

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	5	78	68	5	25	186	1375	96	50	918	80
Future Volume (vph)	70	5	78	68	5	25	186	1375	96	50	918	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.3		4.4	4.9		4.4	6.0		4.4	6.0	
Lane Util. Factor	1.00	0.95		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.86		1.00	0.87		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3001		1770	1609		1770	3505		1770	3497	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3001		1770	1609		1770	3505		1770	3497	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	76	5	85	74	5	27	202	1495	104	54	998	87
RTOR Reduction (vph)	0	75	0	0	24	0	0	4	0	0	5	0
Lane Group Flow (vph)	76	15	0	74	8	0	202	1595	0	54	1080	0
Confl. Peds. (#/hr)			1			2						
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	8.3	10.0		6.2	8.3		14.2	49.7		3.4	38.9	
Effective Green, g (s)	8.3	10.0		6.2	8.3		14.2	49.7		3.4	38.9	
Actuated g/C Ratio	0.09	0.11		0.07	0.09		0.16	0.56		0.04	0.44	
Clearance Time (s)	4.4	5.3		4.4	4.9		4.4	6.0		4.4	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	164	335		122	149		281	1948		67	1521	
v/s Ratio Prot	c0.04	c0.00		0.04	0.00		c0.11	c0.46		0.03	0.31	
v/s Ratio Perm												
v/c Ratio	0.46	0.04		0.61	0.05		0.72	0.82		0.81	0.71	
Uniform Delay, d1	38.4	35.4		40.4	37.0		35.7	16.2		42.7	20.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.1	0.1		8.3	0.1		8.5	2.8		48.7	1.6	
Delay (s)	40.5	35.5		48.7	37.1		44.2	19.0		91.4	22.2	
Level of Service	D	D		D	D		D	B		F	C	
Approach Delay (s)		37.8			45.2			21.8			25.5	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	24.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	89.4	Sum of lost time (s)	20.1
Intersection Capacity Utilization	68.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

5: Camino Del Sur & Highlands Village Pl

3/15/2016

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	170	226	351	1487	944	120
Future Volume (vph)	170	226	351	1487	944	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.4	4.4	6.0	6.0	
Lane Util. Factor	1.00	1.00	0.97	0.95	0.95	
Frpb, ped/bikes	1.00	0.99	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.98	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1571	3433	3539	3480	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1770	1571	3433	3539	3480	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	185	246	382	1616	1026	130
RTOR Reduction (vph)	0	9	0	0	9	0
Lane Group Flow (vph)	185	237	382	1616	1147	0
Confl. Peds. (#/hr)		3				
Turn Type	Prot	pm+ov	Prot	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	15.7	27.1	11.4	46.9	31.1	
Effective Green, g (s)	15.7	27.1	11.4	46.9	31.1	
Actuated g/C Ratio	0.21	0.37	0.16	0.64	0.42	
Clearance Time (s)	4.9	4.4	4.4	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	378	579	532	2258	1472	
v/s Ratio Prot	c0.10	0.06	0.11	c0.46	c0.33	
v/s Ratio Perm		0.09				
v/c Ratio	0.49	0.41	0.72	0.72	0.78	
Uniform Delay, d1	25.4	17.3	29.5	8.9	18.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.0	0.5	4.6	1.1	2.7	
Delay (s)	26.4	17.7	34.1	10.0	20.9	
Level of Service	C	B	C	A	C	
Approach Delay (s)	21.4			14.6	20.9	
Approach LOS	C			B	C	

Intersection Summary			
HCM 2000 Control Delay	17.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	73.5	Sum of lost time (s)	15.3
Intersection Capacity Utilization	64.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	669	0	900	633	938	0	0	940	230
Future Volume (vph)	0	0	0	669	0	900	633	938	0	0	940	230
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				5.3	5.3	5.3	4.2	6.3			6.3	6.3
Lane Util. Factor				0.95	0.95	0.88	0.97	0.95			0.95	0.88
Frpb, ped/bikes				1.00	1.00	0.98	1.00	1.00			1.00	1.00
Flpb, ped/bikes				1.00	1.00	1.00	1.00	1.00			1.00	1.00
Frt				1.00	1.00	0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95	0.95	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				1681	1681	2726	3433	3539			3539	2787
Flt Permitted				0.95	0.95	1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)				1681	1681	2726	3433	3539			3539	2787
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	727	0	978	688	1020	0	0	1022	250
RTOR Reduction (vph)	0	0	0	0	0	135	0	0	0	0	0	167
Lane Group Flow (vph)	0	0	0	363	364	843	688	1020	0	0	1022	83
Confl. Peds. (#/hr)						1						
Turn Type				Split	NA	Perm	Prot	NA			NA	Perm
Protected Phases				8	8		5	2			6	
Permitted Phases						8						6
Actuated Green, G (s)				31.7	31.7	31.7	22.6	61.7			34.9	34.9
Effective Green, g (s)				31.7	31.7	31.7	22.6	61.7			34.9	34.9
Actuated g/C Ratio				0.30	0.30	0.30	0.22	0.59			0.33	0.33
Clearance Time (s)				5.3	5.3	5.3	4.2	6.3			6.3	6.3
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)				507	507	822	738	2079			1176	926
v/s Ratio Prot				0.22	0.22		c0.20	0.29			c0.29	
v/s Ratio Perm						c0.31						0.03
v/c Ratio				0.72	0.72	1.03	0.93	0.49			0.87	0.09
Uniform Delay, d1				32.6	32.7	36.6	40.4	12.5			32.9	24.1
Progression Factor				1.00	1.00	1.00	1.22	1.24			1.00	1.00
Incremental Delay, d2				4.8	4.8	38.1	11.4	0.4			8.8	0.2
Delay (s)				37.4	37.5	74.8	60.8	16.0			41.7	24.3
Level of Service				D	D	E	E	B			D	C
Approach Delay (s)		0.0			58.9			34.1			38.3	
Approach LOS		A			E			C			D	

Intersection Summary				
HCM 2000 Control Delay	44.2	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.94			
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	15.8	
Intersection Capacity Utilization	107.8%	ICU Level of Service	G	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	600	5	750	0	0	0	0	971	930	690	829	0
Future Volume (vph)	600	5	750	0	0	0	0	971	930	690	829	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6	4.6					6.3	6.3	4.2	6.3	
Lane Util. Factor	0.95	0.95	0.88					0.95	1.00	0.97	0.95	
Frpb, ped/bikes	1.00	1.00	0.99					1.00	0.99	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00					1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95	0.95	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1681	1687	2749					3539	1563	3433	3539	
Flt Permitted	0.95	0.95	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1681	1687	2749					3539	1563	3433	3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	652	5	815	0	0	0	0	1055	1011	750	901	0
RTOR Reduction (vph)	0	0	118	0	0	0	0	0	519	0	0	0
Lane Group Flow (vph)	326	331	697	0	0	0	0	1055	492	750	901	0
Confl. Peds. (#/hr)			2						1			
Turn Type	Split	NA	Perm					NA	Perm	Prot	NA	
Protected Phases	4	4						2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	36.3	36.3	36.3					30.1	30.1	23.5	57.8	
Effective Green, g (s)	36.3	36.3	36.3					30.1	30.1	23.5	57.8	
Actuated g/C Ratio	0.35	0.35	0.35					0.29	0.29	0.22	0.55	
Clearance Time (s)	4.6	4.6	4.6					6.3	6.3	4.2	6.3	
Vehicle Extension (s)	3.0	3.0	3.0					3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	581	583	950					1014	448	768	1948	
v/s Ratio Prot	0.19	0.20						0.30		c0.22	0.25	
v/s Ratio Perm			c0.25						c0.32			
v/c Ratio	0.56	0.57	0.73					1.04	1.10	0.98	0.46	
Uniform Delay, d1	27.9	28.0	30.1					37.5	37.5	40.5	14.2	
Progression Factor	1.00	1.00	1.00					1.00	1.00	1.14	1.34	
Incremental Delay, d2	1.2	1.3	3.0					39.3	72.1	18.9	0.4	
Delay (s)	29.1	29.2	33.1					76.8	109.6	65.0	19.6	
Level of Service	C	C	C					E	F	E	B	
Approach Delay (s)		31.3			0.0			92.8			40.2	
Approach LOS		C			A			F			D	

Intersection Summary				
HCM 2000 Control Delay	58.6	HCM 2000 Level of Service	E	
HCM 2000 Volume to Capacity ratio	0.92			
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	15.1	
Intersection Capacity Utilization	107.8%	ICU Level of Service	G	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	700	40	144	20	20	190	84	1011	20	200	1019	380
Future Volume (vph)	700	40	144	20	20	190	84	1011	20	200	1019	380
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	4.9		4.9		4.5	4.5		4.4	4.5	4.9
Lane Util. Factor	0.95	0.95	1.00		1.00		1.00	0.91		1.00	0.91	1.00
Frt	1.00	1.00	0.85		0.89		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.96	1.00		1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1694	1583		1648		1770	5070		1770	5085	1583
Flt Permitted	0.95	0.96	1.00		1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1681	1694	1583		1648		1770	5070		1770	5085	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	761	43	157	22	22	207	91	1099	22	217	1108	413
RTOR Reduction (vph)	0	0	111	0	134	0	0	1	0	0	0	141
Lane Group Flow (vph)	403	401	46	0	117	0	91	1120	0	217	1108	272
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	4	4		8	8		5	2		1	6	4
Permitted Phases			4									6
Actuated Green, G (s)	34.5	34.5	34.5		12.4		8.9	33.8		18.4	43.2	77.7
Effective Green, g (s)	34.5	34.5	34.5		12.4		8.9	33.8		18.4	43.2	77.7
Actuated g/C Ratio	0.29	0.29	0.29		0.11		0.08	0.29		0.16	0.37	0.66
Clearance Time (s)	4.9	4.9	4.9		4.9		4.5	4.5		4.4	4.5	4.9
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	492	496	463		173		133	1454		276	1864	1044
v/s Ratio Prot	c0.24	0.24			c0.07		0.05	c0.22		c0.12	0.22	0.08
v/s Ratio Perm			0.03									0.10
v/c Ratio	0.82	0.81	0.10		0.68		0.68	0.77		0.79	0.59	0.26
Uniform Delay, d1	38.7	38.6	30.3		50.8		53.1	38.4		47.8	30.2	8.2
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	10.2	9.4	0.1		10.0		13.6	2.5		13.7	0.5	0.1
Delay (s)	49.0	48.0	30.4		60.7		66.7	41.0		61.5	30.7	8.4
Level of Service	D	D	C		E		E	D		E	C	A
Approach Delay (s)		45.5			60.7			42.9			29.3	
Approach LOS		D			E			D			C	

Intersection Summary			
HCM 2000 Control Delay	38.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	117.8	Sum of lost time (s)	18.8
Intersection Capacity Utilization	81.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	58	5	220	110	41	80
Future Volume (vph)	58	5	220	110	41	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		4.0	6.0	6.0	6.0
Lane Util. Factor	1.00		1.00	0.95	1.00	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	0.96		0.95	1.00	1.00	1.00
Satd. Flow (prot)	1761		1770	3539	1863	1544
Flt Permitted	0.96		0.95	1.00	1.00	1.00
Satd. Flow (perm)	1761		1770	3539	1863	1544
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	63	5	239	120	45	87
RTOR Reduction (vph)	3	0	0	0	0	62
Lane Group Flow (vph)	65	0	239	120	45	25
Confl. Peds. (#/hr)		1	5			5
Turn Type	Prot		Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases						6
Actuated Green, G (s)	5.9		12.7	30.0	13.3	13.3
Effective Green, g (s)	5.9		12.7	30.0	13.3	13.3
Actuated g/C Ratio	0.13		0.27	0.64	0.28	0.28
Clearance Time (s)	5.0		4.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	221		479	2263	528	437
v/s Ratio Prot	c0.04		c0.14	0.03	c0.02	
v/s Ratio Perm						0.02
v/c Ratio	0.29		0.50	0.05	0.09	0.06
Uniform Delay, d1	18.6		14.4	3.2	12.3	12.2
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.7		0.8	0.0	0.1	0.1
Delay (s)	19.3		15.2	3.2	12.4	12.3
Level of Service	B		B	A	B	B
Approach Delay (s)	19.3			11.2	12.3	
Approach LOS	B			B	B	

Intersection Summary			
HCM 2000 Control Delay	12.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.29		
Actuated Cycle Length (s)	46.9	Sum of lost time (s)	15.0
Intersection Capacity Utilization	32.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	105	100	5	100	240	244	10	5	40	271	5	153
Future Volume (vph)	105	100	5	100	240	244	10	5	40	271	5	153
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.5		4.4	5.5	5.5	4.4	4.9		4.4	4.9	
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	0.95		0.97	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.98	1.00	0.99		1.00	0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.87		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3511		1770	1863	1555	1770	3021		3433	1555	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3511		1770	1863	1555	1770	3021		3433	1555	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	114	109	5	109	261	265	11	5	43	295	5	166
RTOR Reduction (vph)	0	3	0	0	0	193	0	39	0	0	117	0
Lane Group Flow (vph)	114	111	0	109	261	72	11	9	0	295	54	0
Confl. Peds. (#/hr)			9			8			5			3
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8						
Actuated Green, G (s)	8.3	17.8		8.2	17.7	17.7	0.5	6.7		12.9	19.1	
Effective Green, g (s)	8.3	17.8		8.2	17.7	17.7	0.5	6.7		12.9	19.1	
Actuated g/C Ratio	0.13	0.27		0.13	0.27	0.27	0.01	0.10		0.20	0.29	
Clearance Time (s)	4.4	5.5		4.4	5.5	5.5	4.4	4.9		4.4	4.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	226	964		223	508	424	13	312		683	458	
v/s Ratio Prot	c0.06	0.03		0.06	c0.14		0.01	0.00		c0.09	c0.03	
v/s Ratio Perm						0.05						
v/c Ratio	0.50	0.12		0.49	0.51	0.17	0.85	0.03		0.43	0.12	
Uniform Delay, d1	26.3	17.6		26.3	19.9	18.0	32.1	26.1		22.7	16.7	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.8	0.1		1.7	0.9	0.2	166.4	0.0		0.4	0.1	
Delay (s)	28.1	17.7		28.0	20.8	18.1	198.6	26.2		23.2	16.8	
Level of Service	C	B		C	C	B	F	C		C	B	
Approach Delay (s)		22.9			20.9			58.3			20.8	
Approach LOS		C			C			E			C	

Intersection Summary			
HCM 2000 Control Delay	22.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	64.8	Sum of lost time (s)	19.2
Intersection Capacity Utilization	48.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

MOVEMENT SUMMARY

Site: Street M / Carmel Mtn Rd PM

Year 2035 PM
Roundabout

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Carmel Mountain Rd											
3	L2	61	2.0	0.244	10.4	LOS B	0.9	22.1	0.59	0.59	23.0
8	T1	16	2.0	0.244	10.4	LOS B	0.9	22.1	0.59	0.59	30.6
18	R2	49	2.0	0.244	10.4	LOS B	0.9	22.1	0.59	0.59	30.0
Approach		126	2.0	0.244	10.4	LOS B	0.9	22.1	0.59	0.59	27.1
East: Via Las Lenas											
1	L2	11	2.0	0.056	7.5	LOS A	0.2	4.6	0.53	0.49	31.5
6	T1	8	2.0	0.056	7.5	LOS A	0.2	4.6	0.53	0.49	20.4
16	R2	11	2.0	0.056	7.5	LOS A	0.2	4.6	0.53	0.49	29.7
Approach		29	2.0	0.056	7.5	LOS A	0.2	4.6	0.53	0.49	28.1
North: Carmel Mountain Rd											
7	L2	82	2.0	0.430	9.0	LOS A	2.3	58.3	0.30	0.17	28.4
4	T1	12	2.0	0.430	9.0	LOS A	2.3	58.3	0.30	0.17	31.2
14	R2	302	2.0	0.430	9.0	LOS A	2.3	58.3	0.30	0.17	18.1
Approach		396	2.0	0.430	9.0	LOS A	2.3	58.3	0.30	0.17	20.6
West: Street M											
5	L2	499	2.0	0.686	15.7	LOS C	5.6	142.0	0.54	0.35	23.7
2	T1	15	2.0	0.686	15.7	LOS C	5.6	142.0	0.54	0.35	23.8
12	R2	100	2.0	0.686	15.7	LOS C	5.6	142.0	0.54	0.35	23.3
Approach		614	2.0	0.686	15.7	LOS C	5.6	142.0	0.54	0.35	23.6
All Vehicles		1165	2.0	0.686	12.7	LOS B	5.6	142.0	0.47	0.32	23.0

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	50	20	76	40	30	15	400	111	40	337	20
Future Volume (vph)	20	50	20	76	40	30	15	400	111	40	337	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9			4.9		4.4	5.2		4.4	5.4	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00			1.00		1.00	0.99		1.00	1.00	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.97			0.97		1.00	0.97		1.00	0.99	
Flt Protected		0.99			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1781			1759		1770	3399		1770	3509	
Flt Permitted		0.90			0.78		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1623			1416		1770	3399		1770	3509	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	54	22	83	43	33	16	435	121	43	366	22
RTOR Reduction (vph)	0	15	0	0	13	0	0	27	0	0	4	0
Lane Group Flow (vph)	0	83	0	0	146	0	16	529	0	43	384	0
Confl. Peds. (#/hr)			1			4			10			
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		10.2			10.2		0.8	19.3		1.9	20.2	
Effective Green, g (s)		10.2			10.2		0.8	19.3		1.9	20.2	
Actuated g/C Ratio		0.22			0.22		0.02	0.42		0.04	0.44	
Clearance Time (s)		4.9			4.9		4.4	5.2		4.4	5.4	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		360			314		30	1429		73	1544	
v/s Ratio Prot							0.01	c0.16		c0.02	0.11	
v/s Ratio Perm		0.05			c0.10							
v/c Ratio		0.23			0.46		0.53	0.37		0.59	0.25	
Uniform Delay, d1		14.6			15.5		22.4	9.1		21.6	8.1	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.3			1.1		17.0	0.2		11.6	0.1	
Delay (s)		15.0			16.6		39.4	9.3		33.2	8.2	
Level of Service		B			B		D	A		C	A	
Approach Delay (s)		15.0			16.6			10.1			10.7	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	11.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	45.9	Sum of lost time (s)	14.7
Intersection Capacity Utilization	46.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	1	2	0	1	8	2	374	4	20	301	48
Future Volume (vph)	25	1	2	0	1	8	2	374	4	20	301	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		4.0	6.0		4.0	6.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00			0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00		0.99	1.00		1.00	1.00	
Frt		0.99			0.88		1.00	1.00		1.00	0.98	
Flt Protected		0.96			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1762			1616		1759	3533		1763	3452	
Flt Permitted		0.90			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1666			1616		1759	3533		1763	3452	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	1	2	0	1	9	2	407	4	22	327	52
RTOR Reduction (vph)	0	2	0	0	8	0	0	0	0	0	12	0
Lane Group Flow (vph)	0	28	0	0	2	0	2	411	0	22	367	0
Confl. Peds. (#/hr)	3		4	4		3	11		7	7		11
Turn Type	Perm	NA			NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		4.2			4.2		0.7	26.2		0.9	26.4	
Effective Green, g (s)		4.2			4.2		0.7	26.2		0.9	26.4	
Actuated g/C Ratio		0.09			0.09		0.02	0.57		0.02	0.57	
Clearance Time (s)		5.0			5.0		4.0	6.0		4.0	6.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		151			146		26	1999		34	1968	
v/s Ratio Prot					0.00		0.00	c0.12		c0.01	0.11	
v/s Ratio Perm		c0.02										
v/c Ratio		0.19			0.01		0.08	0.21		0.65	0.19	
Uniform Delay, d1		19.5			19.2		22.5	4.9		22.5	4.8	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.6			0.0		1.3	0.1		35.3	0.0	
Delay (s)		20.1			19.2		23.7	5.0		57.8	4.8	
Level of Service		C			B		C	A		E	A	
Approach Delay (s)		20.1			19.2			5.1			7.7	
Approach LOS		C			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	7.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.22		
Actuated Cycle Length (s)	46.3	Sum of lost time (s)	15.0
Intersection Capacity Utilization	36.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	130	10	30	0	5	15	50	450	0	15	352	160
Future Volume (vph)	130	10	30	0	5	15	50	450	0	15	352	160
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.1			4.1		4.0	4.8		4.0	5.1	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00			0.99		1.00	1.00		1.00	0.99	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.98			0.90		1.00	1.00		1.00	0.95	
Flt Protected		0.96			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1747			1653		1770	3539		1770	3345	
Flt Permitted		0.76			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1385			1653		1770	3539		1770	3345	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	141	11	33	0	5	16	54	489	0	16	383	174
RTOR Reduction (vph)	0	11	0	0	12	0	0	0	0	0	56	0
Lane Group Flow (vph)	0	174	0	0	9	0	54	489	0	16	501	0
Confl. Peds. (#/hr)			3			5			8			7
Turn Type	Perm	NA			NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		13.2			13.2		2.2	20.4		0.6	18.5	
Effective Green, g (s)		13.2			13.2		2.2	20.4		0.6	18.5	
Actuated g/C Ratio		0.28			0.28		0.05	0.43		0.01	0.39	
Clearance Time (s)		4.1			4.1		4.0	4.8		4.0	5.1	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		388			463		82	1532		22	1313	
v/s Ratio Prot					0.01		c0.03	0.14		0.01	c0.15	
v/s Ratio Perm		c0.13										
v/c Ratio		0.45			0.02		0.66	0.32		0.73	0.38	
Uniform Delay, d1		14.0			12.3		22.1	8.8		23.2	10.2	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.8			0.0		17.5	0.1		76.4	0.2	
Delay (s)		14.8			12.3		39.6	8.9		99.6	10.4	
Level of Service		B			B		D	A		F	B	
Approach Delay (s)		14.8			12.3			12.0			12.9	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	12.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	47.1	Sum of lost time (s)	13.2
Intersection Capacity Utilization	47.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	71	479	45	20	451	200	30	10	10	160	20	46
Future Volume (vph)	71	479	45	20	451	200	30	10	10	160	20	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.9		4.4	5.2			4.9		4.9	4.9	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	0.99			1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.95			0.97		1.00	0.90	
Flt Protected	0.95	1.00		0.95	1.00			0.97		0.95	1.00	
Satd. Flow (prot)	1770	3486		1770	3342			1760		1770	1653	
Flt Permitted	0.95	1.00		0.95	1.00			0.81		0.72	1.00	
Satd. Flow (perm)	1770	3486		1770	3342			1470		1343	1653	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	77	521	49	22	490	217	33	11	11	174	22	50
RTOR Reduction (vph)	0	8	0	0	56	0	0	9	0	0	39	0
Lane Group Flow (vph)	77	562	0	22	651	0	0	46	0	174	33	0
Confl. Peds. (#/hr)			3			11						3
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	3.3	25.9		0.5	22.8			11.7		11.7	11.7	
Effective Green, g (s)	3.3	25.9		0.5	22.8			11.7		11.7	11.7	
Actuated g/C Ratio	0.06	0.50		0.01	0.44			0.22		0.22	0.22	
Clearance Time (s)	4.4	4.9		4.4	5.2			4.9		4.9	4.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	111	1726		16	1456			328		300	369	
v/s Ratio Prot	c0.04	c0.16		0.01	c0.19						0.02	
v/s Ratio Perm								0.03		c0.13		
v/c Ratio	0.69	0.33		1.38	0.45			0.14		0.58	0.09	
Uniform Delay, d1	24.0	7.9		25.9	10.3			16.3		18.1	16.1	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	17.1	0.1		361.4	0.2			0.2		2.7	0.1	
Delay (s)	41.1	8.1		387.3	10.6			16.5		20.8	16.2	
Level of Service	D	A		F	B			B		C	B	
Approach Delay (s)		12.0			21.9			16.5			19.5	
Approach LOS		B			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	17.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	52.3	Sum of lost time (s)	14.5
Intersection Capacity Utilization	49.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	66	350	233	70	389	50	229	10	30	20	20	53
Future Volume (vph)	66	350	233	70	389	50	229	10	30	20	20	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.2		4.4	5.9		4.9	4.9			4.9	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00			1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	0.99			0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Frt	1.00	0.94		1.00	0.98		1.00	0.89			0.92	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.99	
Satd. Flow (prot)	1770	3296		1770	3479		1770	1636			1688	
Flt Permitted	0.95	1.00		0.95	1.00		0.69	1.00			0.94	
Satd. Flow (perm)	1770	3296		1770	3479		1287	1636			1610	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	72	380	253	76	423	54	249	11	33	22	22	58
RTOR Reduction (vph)	0	152	0	0	13	0	0	23	0	0	40	0
Lane Group Flow (vph)	72	481	0	76	464	0	249	21	0	0	62	0
Confl. Peds. (#/hr)			3						3			3
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	3.8	17.7		3.6	16.8		15.8	15.8			15.8	
Effective Green, g (s)	3.8	17.7		3.6	16.8		15.8	15.8			15.8	
Actuated g/C Ratio	0.07	0.34		0.07	0.33		0.31	0.31			0.31	
Clearance Time (s)	4.4	5.2		4.4	5.9		4.9	4.9			4.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)	130	1130		123	1132		394	500			492	
v/s Ratio Prot	0.04	c0.15		c0.04	0.13			0.01				
v/s Ratio Perm							c0.19				0.04	
v/c Ratio	0.55	0.43		0.62	0.41		0.63	0.04			0.13	
Uniform Delay, d1	23.1	13.0		23.3	13.5		15.4	12.6			12.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	5.0	0.3		8.9	0.2		3.3	0.0			0.1	
Delay (s)	28.1	13.3		32.2	13.8		18.7	12.6			13.0	
Level of Service	C	B		C	B		B	B			B	
Approach Delay (s)		14.8			16.3			17.8			13.0	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	15.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	51.6	Sum of lost time (s)	15.2
Intersection Capacity Utilization	53.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	700	5	600	410	1240	0	0	1010	400
Future Volume (vph)	0	0	0	700	5	600	410	1240	0	0	1010	400
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				5.6	5.6	5.6	4.2	6.3			6.3	
Lane Util. Factor				0.95	0.95	1.00	0.97	0.95			0.91	
Frt				1.00	1.00	0.85	1.00	1.00			0.95	
Flt Protected				0.95	0.95	1.00	0.95	1.00			1.00	
Satd. Flow (prot)				1681	1689	1583	3433	3539			4852	
Flt Permitted				0.95	0.95	1.00	0.95	1.00			1.00	
Satd. Flow (perm)				1681	1689	1583	3433	3539			4852	
Peak-hour factor, PHF	0.92	0.92	0.92	0.73	0.25	0.98	0.86	0.93	0.92	0.92	0.97	0.87
Adj. Flow (vph)	0	0	0	959	20	612	477	1333	0	0	1041	460
RTOR Reduction (vph)	0	0	0	0	0	37	0	0	0	0	56	0
Lane Group Flow (vph)	0	0	0	489	490	575	477	1333	0	0	1445	0
Turn Type				Split	NA	Perm	Prot	NA			NA	
Protected Phases				8	8		5	2			6	
Permitted Phases						8						
Actuated Green, G (s)				51.9	51.9	51.9	23.1	72.2			44.9	
Effective Green, g (s)				51.9	51.9	51.9	23.1	72.2			44.9	
Actuated g/C Ratio				0.38	0.38	0.38	0.17	0.53			0.33	
Clearance Time (s)				5.6	5.6	5.6	4.2	6.3			6.3	
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)				641	644	604	583	1878			1601	
v/s Ratio Prot				0.29	0.29		c0.14	0.38			c0.30	
v/s Ratio Perm						c0.36						
v/c Ratio				0.76	0.76	0.95	0.82	0.71			0.90	
Uniform Delay, d1				36.7	36.6	40.8	54.4	24.0			43.5	
Progression Factor				1.00	1.00	1.00	1.55	0.86			1.00	
Incremental Delay, d2				5.4	5.3	25.1	2.4	0.8			8.7	
Delay (s)				42.0	41.9	65.9	86.8	21.5			52.1	
Level of Service				D	D	E	F	C			D	
Approach Delay (s)		0.0			51.2			38.7			52.1	
Approach LOS		A			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	46.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	136.0	Sum of lost time (s)	16.1
Intersection Capacity Utilization	81.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	170	0	464	0	0	0	0	1540	410	420	1290	0
Future Volume (vph)	170	0	464	0	0	0	0	1540	410	420	1290	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0					6.3	6.3	4.2	6.3	
Lane Util. Factor	0.95	0.95	0.88					0.95	1.00	0.97	0.91	
Frt	1.00	1.00	0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95	0.95	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1681	1681	2787					3539	1583	3433	5085	
Flt Permitted	0.95	0.95	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1681	1681	2787					3539	1583	3433	5085	
Peak-hour factor, PHF	0.67	0.92	0.85	0.92	0.92	0.92	0.92	0.93	0.82	0.82	0.92	0.92
Adj. Flow (vph)	254	0	546	0	0	0	0	1656	500	512	1402	0
RTOR Reduction (vph)	0	0	481	0	0	0	0	0	99	0	0	0
Lane Group Flow (vph)	127	127	65	0	0	0	0	1656	401	512	1402	0
Turn Type	Split	NA	Perm					NA	Perm	Prot	NA	
Protected Phases	4	4						2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	16.3	16.3	16.3					60.2	60.2	32.6	97.0	
Effective Green, g (s)	16.3	16.3	16.3					60.2	60.2	32.6	97.0	
Actuated g/C Ratio	0.12	0.12	0.12					0.44	0.44	0.24	0.71	
Clearance Time (s)	5.0	5.0	5.0					6.3	6.3	4.2	6.3	
Vehicle Extension (s)	3.0	3.0	3.0					3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	201	201	334					1566	700	822	3626	
v/s Ratio Prot	c0.08	0.08						c0.47		c0.15	0.28	
v/s Ratio Perm			0.02						0.25			
v/c Ratio	0.63	0.63	0.20					1.06	0.57	0.62	0.39	
Uniform Delay, d1	57.0	57.0	53.9					37.9	28.3	46.2	7.7	
Progression Factor	1.00	1.00	1.00					1.00	1.00	1.23	1.39	
Incremental Delay, d2	6.3	6.3	0.3					39.7	3.4	0.7	0.2	
Delay (s)	63.3	63.3	54.2					77.6	31.7	57.3	10.9	
Level of Service	E	E	D					E	C	E	B	
Approach Delay (s)		57.1			0.0			66.9			23.3	
Approach LOS		E			A			E			C	

Intersection Summary				
HCM 2000 Control Delay	48.2	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.81			
Actuated Cycle Length (s)	136.0	Sum of lost time (s)	19.5	
Intersection Capacity Utilization	81.3%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	360	10	179	70	30	50	523	1400	140	90	1334	400
Future Volume (vph)	360	10	179	70	30	50	523	1400	140	90	1334	400
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3	6.3	6.3	4.9	4.9		4.4	5.7		4.4	6.5	6.5
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95		0.97	0.95		1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.91		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	0.95	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1690	1583	1681	1612		3433	3491		1770	3539	1583
Flt Permitted	0.95	0.95	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1681	1690	1583	1681	1612		3433	3491		1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	391	11	195	76	33	54	568	1522	152	98	1450	435
RTOR Reduction (vph)	0	0	159	0	40	0	0	4	0	0	0	129
Lane Group Flow (vph)	199	203	36	68	55	0	568	1670	0	98	1450	306
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			4									6
Actuated Green, G (s)	19.4	19.4	19.4	12.9	12.9		10.8	47.1		5.7	41.2	41.2
Effective Green, g (s)	19.4	19.4	19.4	12.9	12.9		10.8	47.1		5.7	41.2	41.2
Actuated g/C Ratio	0.18	0.18	0.18	0.12	0.12		0.10	0.44		0.05	0.39	0.39
Clearance Time (s)	6.3	6.3	6.3	4.9	4.9		4.4	5.7		4.4	6.5	6.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	306	308	288	203	195		348	1545		94	1370	612
v/s Ratio Prot	0.12	c0.12		c0.04	0.03		c0.17	c0.48		0.06	0.41	
v/s Ratio Perm			0.02									0.19
v/c Ratio	0.65	0.66	0.12	0.33	0.28		1.63	1.08		1.04	1.06	0.50
Uniform Delay, d1	40.4	40.4	36.4	42.8	42.5		47.8	29.7		50.4	32.6	24.8
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	4.9	5.0	0.2	1.0	0.8		297.3	48.1		104.8	41.4	2.9
Delay (s)	45.2	45.5	36.6	43.8	43.4		345.1	77.7		155.2	74.0	27.7
Level of Service	D	D	D	D	D		F	E		F	E	C
Approach Delay (s)		42.5			43.5			145.4			67.8	
Approach LOS		D			D			F			E	

Intersection Summary				
HCM 2000 Control Delay	98.9	HCM 2000 Level of Service	F	
HCM 2000 Volume to Capacity ratio	0.98			
Actuated Cycle Length (s)	106.4	Sum of lost time (s)	22.1	
Intersection Capacity Utilization	83.0%	ICU Level of Service	E	
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	5	0	430	5	562	20	1271	520	480	913	0
Future Volume (vph)	5	5	0	430	5	562	20	1271	520	480	913	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0	4.0	4.0	6.1	4.0	4.0	5.8	
Lane Util. Factor		1.00		0.97	0.95	0.95	1.00	0.95	1.00	0.97	0.95	
Frpb, ped/bikes		1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		1.00		1.00	0.85	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.98		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1817		3433	1508	1504	1770	3539	1583	3433	3539	
Flt Permitted		0.98		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1817		3433	1508	1504	1770	3539	1583	3433	3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	5	0	467	5	611	22	1382	565	522	992	0
RTOR Reduction (vph)	0	0	0	0	233	232	0	0	185	0	0	0
Lane Group Flow (vph)	0	10	0	467	78	73	22	1382	380	522	992	0
Confl. Peds. (#/hr)			1									
Turn Type	Split	NA		Split	NA	Perm	Prot	NA	pm+ov	Prot	NA	
Protected Phases	4	4		8	8		5	2	8	1	6	
Permitted Phases						8			2			
Actuated Green, G (s)		7.3		30.6	30.6	30.6	2.5	55.0	85.6	16.4	69.2	
Effective Green, g (s)		7.3		30.6	30.6	30.6	2.5	55.0	85.6	16.4	69.2	
Actuated g/C Ratio		0.06		0.24	0.24	0.24	0.02	0.43	0.67	0.13	0.54	
Clearance Time (s)		4.0		4.0	4.0	4.0	4.0	6.1	4.0	4.0	5.8	
Vehicle Extension (s)		3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		104		824	362	361	34	1527	1063	441	1922	
v/s Ratio Prot		c0.01		c0.14	0.05		0.01	c0.39	0.09	c0.15	0.28	
v/s Ratio Perm						0.05			0.15			
v/c Ratio		0.10		0.57	0.22	0.20	0.65	0.91	0.36	1.18	0.52	
Uniform Delay, d1		56.9		42.6	38.8	38.7	62.0	33.8	9.0	55.5	18.5	
Progression Factor		1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.4		0.9	0.3	0.3	35.3	8.0	0.2	103.6	0.2	
Delay (s)		57.3		43.5	39.1	38.9	97.3	41.7	9.2	159.1	18.7	
Level of Service		E		D	D	D	F	D	A	F	B	
Approach Delay (s)		57.3			40.9			33.0			67.1	
Approach LOS		E			D			C			E	

Intersection Summary			
HCM 2000 Control Delay	46.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	127.4	Sum of lost time (s)	18.1
Intersection Capacity Utilization	79.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	68	374	310	32	898	279
Future Volume (vph)	68	374	310	32	898	279
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	0.88	0.95		0.97	0.95
Frt	1.00	0.85	0.99		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	2787	3489		3433	3539
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	2787	3489		3433	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	74	407	337	35	976	303
RTOR Reduction (vph)	0	340	9	0	0	0
Lane Group Flow (vph)	74	67	363	0	976	303
Turn Type	Prot	Perm	NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8				
Actuated Green, G (s)	9.9	9.9	13.4		23.4	41.3
Effective Green, g (s)	9.9	9.9	13.4		23.4	41.3
Actuated g/C Ratio	0.16	0.16	0.22		0.39	0.69
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	291	458	776		1334	2427
v/s Ratio Prot	c0.04		c0.10		c0.28	0.09
v/s Ratio Perm		0.02				
v/c Ratio	0.25	0.15	0.47		0.73	0.12
Uniform Delay, d1	21.9	21.5	20.3		15.7	3.2
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.5	0.1	0.4		2.1	0.0
Delay (s)	22.4	21.7	20.8		17.8	3.3
Level of Service	C	C	C		B	A
Approach Delay (s)	21.8		20.8			14.4
Approach LOS	C		C			B

Intersection Summary			
HCM 2000 Control Delay	17.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	60.2	Sum of lost time (s)	13.5
Intersection Capacity Utilization	50.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	110	6	186	76	57	241
Future Volume (vph)	110	6	186	76	57	241
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	0.85	0.96		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	3385		1770	3539
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	3385		1770	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	120	7	202	83	62	262
RTOR Reduction (vph)	0	6	43	0	0	0
Lane Group Flow (vph)	120	1	242	0	62	262
Turn Type	Prot	Perm	NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8				
Actuated Green, G (s)	8.3	8.3	19.2		2.7	26.4
Effective Green, g (s)	8.3	8.3	19.2		2.7	26.4
Actuated g/C Ratio	0.19	0.19	0.44		0.06	0.60
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	336	300	1487		109	2137
v/s Ratio Prot	c0.07		c0.07		c0.04	0.07
v/s Ratio Perm		0.00				
v/c Ratio	0.36	0.00	0.16		0.57	0.12
Uniform Delay, d1	15.4	14.4	7.4		19.9	3.7
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.7	0.0	0.1		6.7	0.0
Delay (s)	16.0	14.4	7.4		26.6	3.7
Level of Service	B	B	A		C	A
Approach Delay (s)	15.9		7.4			8.1
Approach LOS	B		A			A

Intersection Summary			
HCM 2000 Control Delay	9.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.25		
Actuated Cycle Length (s)	43.7	Sum of lost time (s)	13.5
Intersection Capacity Utilization	28.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

APPENDIX M

PEAK HOUR INTERSECTION ANALYSIS WORKSHEETS
YEAR 2035 WITH PROJECT

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	160	320	164	604	720	270	142	631	132	270	545	260
Future Volume (vph)	160	320	164	604	720	270	142	631	132	270	545	260
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.3	6.3	4.4	6.2	6.2	4.4	6.0	6.0	4.4	6.0	6.0
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	3433	3539	1583	1770	3539	1561	1770	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1583	3433	3539	1583	1770	3539	1561	1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	174	348	178	657	783	293	154	686	143	293	592	283
RTOR Reduction (vph)	0	0	148	0	0	215	0	0	101	0	0	197
Lane Group Flow (vph)	174	348	30	657	783	78	154	686	42	293	592	86
Confl. Peds. (#/hr)									2			
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Actuated Green, G (s)	18.0	21.5	21.5	29.7	33.3	33.3	15.4	30.1	30.1	23.3	38.0	38.0
Effective Green, g (s)	18.0	21.5	21.5	29.7	33.3	33.3	15.4	30.1	30.1	23.3	38.0	38.0
Actuated g/C Ratio	0.14	0.17	0.17	0.24	0.26	0.26	0.12	0.24	0.24	0.19	0.30	0.30
Clearance Time (s)	4.4	6.3	6.3	4.4	6.2	6.2	4.4	6.0	6.0	4.4	6.0	6.0
Vehicle Extension (s)	2.0	4.9	4.9	2.0	5.1	5.1	2.0	5.9	5.9	2.0	5.6	5.6
Lane Grp Cap (vph)	253	605	270	811	937	419	216	847	373	328	1069	478
v/s Ratio Prot	0.10	0.10		c0.19	c0.22		0.09	c0.19		c0.17	0.17	
v/s Ratio Perm			0.02			0.05			0.03			0.05
v/c Ratio	0.69	0.58	0.11	0.81	0.84	0.19	0.71	0.81	0.11	0.89	0.55	0.18
Uniform Delay, d1	51.2	47.9	44.0	45.3	43.6	35.7	53.0	45.1	37.4	50.0	36.7	32.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	6.1	2.1	0.4	5.8	7.3	0.5	8.9	6.8	0.4	24.4	1.2	0.5
Delay (s)	57.2	50.0	44.4	51.2	50.9	36.2	61.9	51.9	37.7	74.4	38.0	32.8
Level of Service	E	D	D	D	D	D	E	D	D	E	D	C
Approach Delay (s)		50.4			48.5			51.4			45.9	
Approach LOS		D			D			D			D	

Intersection Summary				
HCM 2000 Control Delay	48.7	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.86			
Actuated Cycle Length (s)	125.7	Sum of lost time (s)	21.1	
Intersection Capacity Utilization	79.3%	ICU Level of Service	D	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	48	0	30	110	875	24	30	1253	0
Future Volume (vph)	0	0	0	48	0	30	110	875	24	30	1253	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.4		4.4	6.3	6.0		4.4	6.0	
Lane Util. Factor				1.00		1.00	1.00	0.95		1.00	0.95	
Frt				1.00		0.85	1.00	1.00		1.00	1.00	
Flt Protected				0.95		1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)				1770		1583	1770	3525		1770	3539	
Flt Permitted				0.95		1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)				1770		1583	1770	3525		1770	3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	52	0	33	120	951	26	33	1362	0
RTOR Reduction (vph)	0	0	0	0	0	24	0	1	0	0	0	0
Lane Group Flow (vph)	0	0	0	52	0	9	120	976	0	33	1362	0
Turn Type				Prot		Perm	Prot	NA		Prot	NA	
Protected Phases				8			5	2		1	6	
Permitted Phases						8						
Actuated Green, G (s)				32.2		32.2	13.3	62.4		4.9	54.0	
Effective Green, g (s)				32.2		32.2	11.4	62.4		4.9	54.0	
Actuated g/C Ratio				0.28		0.28	0.10	0.55		0.04	0.47	
Clearance Time (s)				4.4		4.4	4.4	6.0		4.4	6.0	
Vehicle Extension (s)				3.0		3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)				498		445	176	1924		75	1671	
v/s Ratio Prot				c0.03			c0.07	0.28		0.02	c0.38	
v/s Ratio Perm						0.01						
v/c Ratio				0.10		0.02	0.68	0.51		0.44	0.82	
Uniform Delay, d1				30.4		29.7	49.7	16.3		53.4	25.9	
Progression Factor				1.00		1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2				0.4		0.1	10.4	0.2		4.1	3.2	
Delay (s)				30.8		29.7	60.1	16.5		57.4	29.0	
Level of Service				C		C	E	B		E	C	
Approach Delay (s)		0.0			30.4			21.3			29.7	
Approach LOS		A			C			C			C	

Intersection Summary				
HCM 2000 Control Delay	26.1	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.56			
Actuated Cycle Length (s)	114.3	Sum of lost time (s)	16.7	
Intersection Capacity Utilization	57.6%	ICU Level of Service	B	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	20	0	68	100	5	20	120	103	929	20	60	1051
Future Volume (vph)	20	0	68	100	5	20	120	103	929	20	60	1051
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.4	4.4	4.4	4.4			4.4	6.0		4.4	6.0
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00			0.97	0.95		1.00	0.95
Frpb, ped/bikes	1.00	1.00	0.84	1.00	0.84			1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.88			1.00	1.00		1.00	1.00
Flt Protected	0.95	0.95	1.00	0.95	1.00			0.95	1.00		0.95	1.00
Satd. Flow (prot)	1681	1681	1327	1770	1375			3433	3524		1770	3539
Flt Permitted	0.95	0.95	1.00	0.95	1.00			0.95	1.00		0.95	1.00
Satd. Flow (perm)	1681	1681	1327	1770	1375			3433	3524		1770	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	0	74	109	5	22	130	112	1010	22	65	1142
RTOR Reduction (vph)	0	0	56	0	17	0	0	0	1	0	0	0
Lane Group Flow (vph)	11	11	18	109	10	0	0	242	1031	0	65	1142
Confl. Peds. (#/hr)			121			148				27		
Turn Type	Split	NA	Perm	Split	NA		Prot	Prot	NA		Prot	NA
Protected Phases	4	4		8	8		5	5	2		1	6
Permitted Phases			4									
Actuated Green, G (s)	38.0	38.0	38.0	38.0	38.0			12.6	56.0		8.8	52.2
Effective Green, g (s)	38.0	38.0	38.0	38.0	38.0			12.6	56.0		8.8	52.2
Actuated g/C Ratio	0.24	0.24	0.24	0.24	0.24			0.08	0.35		0.06	0.33
Clearance Time (s)	4.4	4.4	4.4	4.4	4.4			4.4	6.0		4.4	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	399	399	315	420	326			270	1233		97	1154
v/s Ratio Prot	0.01	0.01		c0.06	0.01			c0.07	c0.29		0.04	c0.32
v/s Ratio Perm			c0.01									
v/c Ratio	0.03	0.03	0.06	0.26	0.03			0.94dl	0.84		0.67	0.99
Uniform Delay, d1	46.8	46.8	47.1	49.6	46.9			73.1	47.8		74.2	53.6
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	0.0	0.0	0.1	0.3	0.0			29.2	5.1		16.7	23.7
Delay (s)	46.8	46.8	47.2	49.9	46.9			102.3	52.9		90.8	77.3
Level of Service	D	D	D	D	D			F	D		F	E
Approach Delay (s)		47.1			49.3				62.3			77.3
Approach LOS		D			D				E			E

Intersection Summary			
HCM 2000 Control Delay	67.8	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	19.2
Intersection Capacity Utilization	114.7%	ICU Level of Service	H
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	20
Future Volume (vph)	20
Ideal Flow (vphpl)	1900
Total Lost time (s)	6.0
Lane Util. Factor	1.00
Frpb, ped/bikes	0.98
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1558
Flt Permitted	1.00
Satd. Flow (perm)	1558
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	22
RTOR Reduction (vph)	15
Lane Group Flow (vph)	7
Confl. Peds. (#/hr)	2
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	52.2
Effective Green, g (s)	52.2
Actuated g/C Ratio	0.33
Clearance Time (s)	6.0
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	508
v/s Ratio Prot	
v/s Ratio Perm	0.00
v/c Ratio	0.01
Uniform Delay, d1	36.5
Progression Factor	1.00
Incremental Delay, d2	0.0
Delay (s)	36.5
Level of Service	D
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	140	10	158	108	5	30	134	1052	74	40	1109	40
Future Volume (vph)	140	10	158	108	5	30	134	1052	74	40	1109	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.3		4.4	4.9		4.4	6.0		4.4	6.0	
Lane Util. Factor	1.00	0.95		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.97		1.00	0.94		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.86		1.00	0.87		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	2955		1770	1517		1770	3498		1770	3518	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	2955		1770	1517		1770	3498		1770	3518	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	152	11	172	117	5	33	146	1143	80	43	1205	43
RTOR Reduction (vph)	0	139	0	0	28	0	0	3	0	0	2	0
Lane Group Flow (vph)	152	44	0	117	10	0	146	1220	0	43	1246	0
Confl. Peds. (#/hr)			17			62			10			6
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	18.6	24.0		13.9	19.7		15.2	59.6		6.4	50.8	
Effective Green, g (s)	18.6	24.0		13.9	19.7		15.2	59.6		6.4	50.8	
Actuated g/C Ratio	0.15	0.19		0.11	0.16		0.12	0.48		0.05	0.41	
Clearance Time (s)	4.4	5.3		4.4	4.9		4.4	6.0		4.4	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	265	571		198	241		216	1681		91	1441	
v/s Ratio Prot	c0.09	c0.01		0.07	0.01		c0.08	0.35		0.02	c0.35	
v/s Ratio Perm												
v/c Ratio	0.57	0.08		0.59	0.04		0.68	0.73		0.47	0.86	
Uniform Delay, d1	49.0	40.9		52.3	44.2		52.0	25.7		57.2	33.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.0	0.1		4.7	0.1		8.1	1.6		3.8	5.7	
Delay (s)	52.0	41.0		57.0	44.2		60.1	27.3		61.0	39.1	
Level of Service	D	D		E	D		E	C		E	D	
Approach Delay (s)		46.0			53.9			30.8			39.9	
Approach LOS		D			D			C			D	

Intersection Summary			
HCM 2000 Control Delay	37.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	124.0	Sum of lost time (s)	20.1
Intersection Capacity Utilization	91.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	130	316	268	1130	1245	130
Future Volume (vph)	130	316	268	1130	1245	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.9	5.4	5.4	7.0	7.0	
Lane Util. Factor	1.00	1.00	0.97	0.95	0.95	
Frpb, ped/bikes	1.00	0.97	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1543	3433	3539	3484	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1770	1543	3433	3539	3484	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	141	343	291	1228	1353	141
RTOR Reduction (vph)	0	18	0	0	5	0
Lane Group Flow (vph)	141	325	291	1228	1489	0
Confl. Peds. (#/hr)		47				3
Turn Type	Prot	pm+ov	Prot	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	17.0	32.8	15.8	73.3	53.1	
Effective Green, g (s)	16.0	30.8	14.8	72.3	52.1	
Actuated g/C Ratio	0.16	0.30	0.15	0.71	0.51	
Clearance Time (s)	4.9	4.4	4.4	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	279	469	502	2528	1793	
v/s Ratio Prot	0.08	c0.10	0.08	0.35	c0.43	
v/s Ratio Perm		0.11				
v/c Ratio	0.51	0.69	0.58	0.49	0.83	
Uniform Delay, d1	39.0	31.0	40.3	6.3	20.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.4	4.4	1.6	0.1	3.4	
Delay (s)	40.4	35.4	41.9	6.5	24.2	
Level of Service	D	D	D	A	C	
Approach Delay (s)	36.9			13.3	24.2	
Approach LOS	D			B	C	

Intersection Summary			
HCM 2000 Control Delay	21.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	101.2	Sum of lost time (s)	18.3
Intersection Capacity Utilization	88.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	1022	10	880	599	518	0	0	1051	510
Future Volume (vph)	0	0	0	1022	10	880	599	518	0	0	1051	510
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				5.3	5.3	5.3	4.2	6.3			6.3	6.3
Lane Util. Factor				0.95	0.95	0.88	0.97	0.95			0.95	0.88
Frpb, ped/bikes				1.00	1.00	0.97	1.00	1.00			1.00	1.00
Flpb, ped/bikes				1.00	1.00	1.00	1.00	1.00			1.00	1.00
Frt				1.00	1.00	0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95	0.95	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				1681	1687	2714	3433	3539			3539	2787
Flt Permitted				0.95	0.95	1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)				1681	1687	2714	3433	3539			3539	2787
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	1111	11	957	651	563	0	0	1142	554
RTOR Reduction (vph)	0	0	0	0	0	347	0	0	0	0	0	371
Lane Group Flow (vph)	0	0	0	555	567	610	651	563	0	0	1142	183
Confl. Peds. (#/hr)						4						
Turn Type				Split	NA	Perm	Prot	NA			NA	Perm
Protected Phases				8	8		5	2			6	
Permitted Phases						8						6
Actuated Green, G (s)				34.7	34.7	34.7	19.9	58.7			34.6	34.6
Effective Green, g (s)				34.7	34.7	34.7	19.9	58.7			34.6	34.6
Actuated g/C Ratio				0.33	0.33	0.33	0.19	0.56			0.33	0.33
Clearance Time (s)				5.3	5.3	5.3	4.2	6.3			6.3	6.3
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)				555	557	896	650	1978			1166	918
v/s Ratio Prot				0.33	c0.34		c0.19	0.16			c0.32	
v/s Ratio Perm						0.22						0.07
v/c Ratio				1.00	1.02	0.68	1.00	0.28			0.98	0.20
Uniform Delay, d1				35.1	35.1	30.4	42.5	12.1			34.8	25.3
Progression Factor				1.00	1.00	1.00	1.43	0.93			1.00	1.00
Incremental Delay, d2				38.2	42.7	2.1	23.3	0.2			21.9	0.5
Delay (s)				73.4	77.9	32.5	84.2	11.5			56.7	25.7
Level of Service				E	E	C	F	B			E	C
Approach Delay (s)		0.0			55.8			50.5			46.6	
Approach LOS		A			E			D			D	

Intersection Summary				
HCM 2000 Control Delay	51.4	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	1.00			
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	15.8	
Intersection Capacity Utilization	87.9%	ICU Level of Service	E	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	200	5	665	0	0	0	0	917	416	750	1323	0
Future Volume (vph)	200	5	665	0	0	0	0	917	416	750	1323	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6	4.6					6.3	6.3	4.2	6.3	
Lane Util. Factor	0.95	0.95	0.88					0.95	1.00	0.97	0.95	
Frpb, ped/bikes	1.00	1.00	0.99					1.00	0.98	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00					1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95	0.95	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1681	1689	2751					3539	1559	3433	3539	
Flt Permitted	0.95	0.95	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1681	1689	2751					3539	1559	3433	3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	217	5	723	0	0	0	0	997	452	815	1438	0
RTOR Reduction (vph)	0	0	53	0	0	0	0	0	324	0	0	0
Lane Group Flow (vph)	111	111	670	0	0	0	0	997	128	815	1438	0
Confl. Peds. (#/hr)			1						3			
Turn Type	Split	NA	Perm					NA	Perm	Prot	NA	
Protected Phases	4	4						2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	33.4	33.4	33.4					28.1	28.1	28.4	60.7	
Effective Green, g (s)	33.4	33.4	33.4					28.1	28.1	28.4	60.7	
Actuated g/C Ratio	0.32	0.32	0.32					0.27	0.27	0.27	0.58	
Clearance Time (s)	4.6	4.6	4.6					6.3	6.3	4.2	6.3	
Vehicle Extension (s)	3.0	3.0	3.0					3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	534	537	875					947	417	928	2045	
v/s Ratio Prot	0.07	0.07						c0.28		c0.24	0.41	
v/s Ratio Perm			c0.24						0.08			
v/c Ratio	0.21	0.21	0.77					1.05	0.31	0.88	0.70	
Uniform Delay, d1	26.1	26.1	32.3					38.5	30.7	36.6	15.7	
Progression Factor	1.00	1.00	1.00					1.00	1.00	0.99	1.36	
Incremental Delay, d2	0.2	0.2	4.0					44.2	1.9	2.5	0.5	
Delay (s)	26.3	26.3	36.3					82.6	32.6	39.0	21.8	
Level of Service	C	C	D					F	C	D	C	
Approach Delay (s)		34.0			0.0			67.0			28.0	
Approach LOS		C			A			E			C	

Intersection Summary				
HCM 2000 Control Delay	41.4	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.89			
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	15.1	
Intersection Capacity Utilization	87.9%	ICU Level of Service	E	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	420	20	77	0	20	120	53	793	20	110	1128	750
Future Volume (vph)	420	20	77	0	20	120	53	793	20	110	1128	750
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	4.9		4.5		4.5	4.5		4.4	4.5	4.9
Lane Util. Factor	0.95	0.95	1.00		1.00		1.00	0.91		1.00	0.91	1.00
Frt	1.00	1.00	0.85		0.88		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.96	1.00		1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1693	1583		1648		1770	5066		1770	5085	1583
Flt Permitted	0.95	0.96	1.00		1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1681	1693	1583		1648		1770	5066		1770	5085	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	457	22	84	0	22	130	58	862	22	120	1226	815
RTOR Reduction (vph)	0	0	60	0	116	0	0	2	0	0	0	294
Lane Group Flow (vph)	238	241	24	0	36	0	58	882	0	120	1226	521
Turn Type	Split	NA	Perm		NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	4	4		8	8		5	2		1	6	4
Permitted Phases			4									6
Actuated Green, G (s)	24.0	24.0	24.0		8.7		4.6	22.6		9.0	26.9	50.9
Effective Green, g (s)	24.0	24.0	24.0		8.7		4.6	22.6		9.0	26.9	50.9
Actuated g/C Ratio	0.29	0.29	0.29		0.11		0.06	0.27		0.11	0.33	0.62
Clearance Time (s)	4.9	4.9	4.9		4.5		4.5	4.5		4.4	4.5	4.9
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	488	491	459		173		98	1386		192	1656	975
v/s Ratio Prot	0.14	0.14			c0.02		0.03	0.17		c0.07	c0.24	c0.16
v/s Ratio Perm			0.02									0.17
v/c Ratio	0.49	0.49	0.05		0.21		0.59	0.64		0.62	0.74	0.53
Uniform Delay, d1	24.2	24.2	21.1		33.8		38.1	26.4		35.2	24.7	9.1
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.8	0.8	0.0		0.6		9.2	1.0		6.2	1.8	0.6
Delay (s)	25.0	25.0	21.2		34.4		47.3	27.4		41.4	26.6	9.6
Level of Service	C	C	C		C		D	C		D	C	A
Approach Delay (s)		24.4			34.4			28.6			21.0	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	23.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	82.6	Sum of lost time (s)	18.4
Intersection Capacity Utilization	69.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	77	15	320	128	120	25
Future Volume (vph)	77	15	320	128	120	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		4.0	6.0	6.0	6.0
Lane Util. Factor	1.00		1.00	0.95	1.00	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	0.92
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.98		1.00	1.00	1.00	0.85
Flt Protected	0.96		0.95	1.00	1.00	1.00
Satd. Flow (prot)	1749		1770	3539	1863	1455
Flt Permitted	0.96		0.95	1.00	1.00	1.00
Satd. Flow (perm)	1749		1770	3539	1863	1455
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	84	16	348	139	130	27
RTOR Reduction (vph)	8	0	0	0	0	20
Lane Group Flow (vph)	92	0	348	139	130	7
Confl. Peds. (#/hr)			57			57
Turn Type	Prot		Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases						6
Actuated Green, G (s)	8.1		16.6	33.2	12.6	12.6
Effective Green, g (s)	8.1		16.6	33.2	12.6	12.6
Actuated g/C Ratio	0.15		0.32	0.63	0.24	0.24
Clearance Time (s)	5.0		4.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	270		561	2246	448	350
v/s Ratio Prot	c0.05		c0.20	0.04	c0.07	
v/s Ratio Perm						0.00
v/c Ratio	0.34		0.62	0.06	0.29	0.02
Uniform Delay, d1	19.7		15.2	3.6	16.2	15.1
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.8		2.1	0.0	0.4	0.0
Delay (s)	20.5		17.3	3.6	16.6	15.2
Level of Service	C		B	A	B	B
Approach Delay (s)	20.5			13.4	16.3	
Approach LOS	C			B	B	

Intersection Summary			
HCM 2000 Control Delay	15.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	52.3	Sum of lost time (s)	15.0
Intersection Capacity Utilization	44.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	244	250	20	50	50	259	10	10	10	338	10	103
Future Volume (vph)	244	250	20	50	50	259	10	10	10	338	10	103
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.5		4.4	6.0	6.0	4.4	4.9		4.4	4.9	
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	0.95		0.97	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.92	1.00	0.96		1.00	0.95	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.93		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3486		1770	1863	1450	1770	3148		3433	1523	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3486		1770	1863	1450	1770	3148		3433	1523	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	265	272	22	54	54	282	11	11	11	367	11	112
RTOR Reduction (vph)	0	5	0	0	0	218	0	10	0	0	83	0
Lane Group Flow (vph)	265	289	0	54	54	64	11	12	0	367	40	0
Confl. Peds. (#/hr)			25			95			88			30
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8						
Actuated Green, G (s)	16.1	27.9		4.5	15.8	15.8	0.5	4.9		13.5	17.9	
Effective Green, g (s)	16.1	27.9		4.5	15.8	15.8	0.5	4.9		13.5	17.9	
Actuated g/C Ratio	0.23	0.40		0.06	0.23	0.23	0.01	0.07		0.19	0.26	
Clearance Time (s)	4.4	5.5		4.4	6.0	6.0	4.4	4.9		4.4	4.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	407	1389		113	420	327	12	220		662	389	
v/s Ratio Prot	c0.15	c0.08		0.03	0.03		0.01	0.00		c0.11	c0.03	
v/s Ratio Perm						0.04						
v/c Ratio	0.65	0.21		0.48	0.13	0.19	0.92	0.05		0.55	0.10	
Uniform Delay, d1	24.4	13.8		31.6	21.6	21.9	34.7	30.4		25.5	19.9	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.7	0.1		3.2	0.1	0.3	212.2	0.1		1.0	0.1	
Delay (s)	28.1	13.9		34.8	21.7	22.2	246.9	30.5		26.5	20.0	
Level of Service	C	B		C	C	C	F	C		C	C	
Approach Delay (s)		20.6			23.9			102.6			24.9	
Approach LOS		C			C			F			C	

Intersection Summary			
HCM 2000 Control Delay	24.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	19.7
Intersection Capacity Utilization	71.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

MOVEMENT SUMMARY

Site: Street M / Carmel Mtn Rd AM

Year 2035 + Project AM
Roundabout

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Carmel Mountain Rd											
3	L2	79	2.0	0.137	5.8	LOS A	0.5	12.7	0.33	0.23	24.5
8	T1	22	2.0	0.137	5.8	LOS A	0.5	12.7	0.33	0.23	32.2
18	R2	11	2.0	0.137	5.8	LOS A	0.5	12.7	0.33	0.23	31.6
Approach		112	2.0	0.137	5.8	LOS A	0.5	12.7	0.33	0.23	27.0
East: Via Las Lenas											
1	L2	49	2.0	0.157	6.5	LOS A	0.6	14.6	0.41	0.32	31.7
6	T1	9	2.0	0.157	6.5	LOS A	0.6	14.6	0.41	0.32	20.5
16	R2	60	2.0	0.157	6.5	LOS A	0.6	14.6	0.41	0.32	29.8
Approach		117	2.0	0.157	6.5	LOS A	0.6	14.6	0.41	0.32	29.9
North: Carmel Mountain Rd											
7	L2	16	2.0	0.691	16.4	LOS C	5.8	148.5	0.60	0.45	26.5
4	T1	130	2.0	0.691	16.4	LOS C	5.8	148.5	0.60	0.45	28.9
14	R2	449	2.0	0.691	16.4	LOS C	5.8	148.5	0.60	0.45	16.8
Approach		596	2.0	0.691	16.4	LOS C	5.8	148.5	0.60	0.45	19.6
West: Street M											
5	L2	164	2.0	0.239	7.0	LOS A	1.0	24.4	0.38	0.28	27.7
2	T1	4	2.0	0.239	7.0	LOS A	1.0	24.4	0.38	0.28	27.8
12	R2	25	2.0	0.239	7.0	LOS A	1.0	24.4	0.38	0.28	27.0
Approach		193	2.0	0.239	7.0	LOS A	1.0	24.4	0.38	0.28	27.6
All Vehicles		1018	2.0	0.691	12.3	LOS B	5.8	148.5	0.51	0.38	22.6

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	20	10	95	50	50	20	174	68	10	413	20
Future Volume (vph)	5	20	10	95	50	50	20	174	68	10	413	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9			4.9		4.4	5.2		4.4	5.4	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		0.99			1.00		1.00	0.99		1.00	1.00	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.96			0.97		1.00	0.96		1.00	0.99	
Flt Protected		0.99			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1769			1750		1770	3364		1770	3511	
Flt Permitted		0.95			0.83		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1700			1480		1770	3364		1770	3511	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	22	11	103	54	54	22	189	74	11	449	22
RTOR Reduction (vph)	0	8	0	0	16	0	0	45	0	0	4	0
Lane Group Flow (vph)	0	30	0	0	195	0	22	218	0	11	467	0
Confl. Peds. (#/hr)			12			1			6			3
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		12.6			12.6		0.9	15.6		0.8	15.3	
Effective Green, g (s)		12.6			12.6		0.9	15.6		0.8	15.3	
Actuated g/C Ratio		0.29			0.29		0.02	0.36		0.02	0.35	
Clearance Time (s)		4.9			4.9		4.4	5.2		4.4	5.4	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		492			428		36	1206		32	1234	
v/s Ratio Prot							c0.01	0.06		0.01	c0.13	
v/s Ratio Perm		0.02			c0.13							
v/c Ratio		0.06			0.45		0.61	0.18		0.34	0.38	
Uniform Delay, d1		11.2			12.6		21.1	9.6		21.1	10.5	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.1			0.8		27.0	0.1		6.3	0.2	
Delay (s)		11.2			13.4		48.1	9.6		27.4	10.7	
Level of Service		B			B		D	A		C	B	
Approach Delay (s)		11.2			13.4			12.6			11.1	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	12.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	43.5	Sum of lost time (s)	14.7
Intersection Capacity Utilization	42.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	57	21	7	2	18	21	16	183	2	10	367	32
Future Volume (vph)	57	21	7	2	18	21	16	183	2	10	367	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	5.0		4.0	5.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00			0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.99			0.93		1.00	1.00		1.00	0.99	
Flt Protected		0.97			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1777			1718		1765	3533		1767	3489	
Flt Permitted		0.77			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1418			1692		1765	3533		1767	3489	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	62	23	8	2	20	23	17	199	2	11	399	35
RTOR Reduction (vph)	0	5	0	0	20	0	0	0	0	0	6	0
Lane Group Flow (vph)	0	88	0	0	25	0	17	201	0	11	428	0
Confl. Peds. (#/hr)	4		5	5		4	6		2	2		6
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		4.5			4.5		0.8	22.3		0.6	22.1	
Effective Green, g (s)		4.5			4.5		0.8	22.3		0.6	22.1	
Actuated g/C Ratio		0.11			0.11		0.02	0.55		0.01	0.55	
Clearance Time (s)		4.0			4.0		4.0	5.0		4.0	5.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		157			188		34	1950		26	1908	
v/s Ratio Prot							c0.01	0.06		0.01	c0.12	
v/s Ratio Perm		c0.06			0.01							
v/c Ratio		0.56			0.13		0.50	0.10		0.42	0.22	
Uniform Delay, d1		17.0			16.2		19.6	4.3		19.7	4.7	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		4.3			0.3		11.1	0.0		10.7	0.1	
Delay (s)		21.3			16.5		30.7	4.3		30.5	4.8	
Level of Service		C			B		C	A		C	A	
Approach Delay (s)		21.3			16.5			6.4			5.4	
Approach LOS		C			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	8.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.29		
Actuated Cycle Length (s)	40.4	Sum of lost time (s)	13.0
Intersection Capacity Utilization	33.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	380	20	80	5	30	15	40	374	5	10	523	440
Future Volume (vph)	380	20	80	5	30	15	40	374	5	10	523	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.1		4.0	4.8		4.0	5.1	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00			0.99		1.00	1.00		1.00	0.98	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.98			0.96		1.00	1.00		1.00	0.93	
Flt Protected		0.96			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1746			1771		1770	3530		1770	3244	
Flt Permitted		0.73			0.96		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1333			1717		1770	3530		1770	3244	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	413	22	87	5	33	16	43	407	5	11	568	478
RTOR Reduction (vph)	0	8	0	0	9	0	0	1	0	0	168	0
Lane Group Flow (vph)	0	514	0	0	45	0	43	411	0	11	878	0
Confl. Peds. (#/hr)			8			6			25			9
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		33.4			33.3		3.0	31.7		0.7	29.1	
Effective Green, g (s)		33.4			33.3		3.0	31.7		0.7	29.1	
Actuated g/C Ratio		0.42			0.42		0.04	0.40		0.01	0.37	
Clearance Time (s)		4.0			4.1		4.0	4.8		4.0	5.1	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		566			727		67	1423		15	1201	
v/s Ratio Prot							c0.02	0.12		0.01	c0.27	
v/s Ratio Perm		c0.39			0.03							
v/c Ratio		0.91			0.06		0.64	0.29		0.73	0.73	
Uniform Delay, d1		21.2			13.4		37.3	15.8		38.9	21.4	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		18.3			0.0		19.1	0.1		103.2	2.3	
Delay (s)		39.5			13.4		56.4	15.9		142.1	23.7	
Level of Service		D			B		E	B		F	C	
Approach Delay (s)		39.5			13.4			19.8			24.9	
Approach LOS		D			B			B			C	

Intersection Summary			
HCM 2000 Control Delay	27.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	78.6	Sum of lost time (s)	13.2
Intersection Capacity Utilization	74.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	696	30	10	807	90	60	30	20	490	30	106
Future Volume (vph)	43	696	30	10	807	90	60	30	20	490	30	106
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.9		4.4	5.2			4.9		4.9	4.9	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.98			0.98		1.00	0.88	
Flt Protected	0.95	1.00		0.95	1.00			0.97		0.95	1.00	
Satd. Flow (prot)	1770	3513		1770	3474			1764		1770	1629	
Flt Permitted	0.95	1.00		0.95	1.00			0.80		0.72	1.00	
Satd. Flow (perm)	1770	3513		1770	3474			1452		1339	1629	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	47	757	33	11	877	98	65	33	22	533	33	115
RTOR Reduction (vph)	0	4	0	0	11	0	0	10	0	0	67	0
Lane Group Flow (vph)	47	786	0	11	964	0	0	110	0	533	81	0
Confl. Peds. (#/hr)			2			8			3			1
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	3.1	27.0		0.7	24.3			30.1		30.1	30.1	
Effective Green, g (s)	3.1	27.0		0.7	24.3			30.1		30.1	30.1	
Actuated g/C Ratio	0.04	0.38		0.01	0.34			0.42		0.42	0.42	
Clearance Time (s)	4.4	4.9		4.4	5.2			4.9		4.9	4.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	76	1317		17	1172			607		559	681	
v/s Ratio Prot	c0.03	0.22		0.01	c0.28						0.05	
v/s Ratio Perm								0.08		c0.40		
v/c Ratio	0.62	0.60		0.65	0.82			0.18		0.95	0.12	
Uniform Delay, d1	33.9	18.1		35.5	21.9			13.2		20.3	12.8	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	14.1	0.7		62.0	4.8			0.1		26.7	0.1	
Delay (s)	47.9	18.9		97.5	26.6			13.3		47.0	12.9	
Level of Service	D	B		F	C			B		D	B	
Approach Delay (s)		20.5			27.4			13.3			39.6	
Approach LOS		C			C			B			D	

Intersection Summary			
HCM 2000 Control Delay	27.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	72.0	Sum of lost time (s)	14.5
Intersection Capacity Utilization	79.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	904	268	130	593	25	256	20	120	30	10	58
Future Volume (vph)	34	904	268	130	593	25	256	20	120	30	10	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.2		4.4	5.9		4.9	4.9			4.9	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00			1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	0.99			0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Frt	1.00	0.97		1.00	0.99		1.00	0.87			0.92	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.98	
Satd. Flow (prot)	1770	3398		1770	3518		1770	1605			1673	
Flt Permitted	0.95	1.00		0.95	1.00		0.74	1.00			0.89	
Satd. Flow (perm)	1770	3398		1770	3518		1370	1605			1520	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	37	983	291	141	645	27	278	22	130	33	11	63
RTOR Reduction (vph)	0	36	0	0	4	0	0	79	0	0	38	0
Lane Group Flow (vph)	37	1238	0	141	668	0	278	73	0	0	69	0
Confl. Peds. (#/hr)			4						2			5
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	3.5	26.7		4.6	27.1		30.0	30.0			30.0	
Effective Green, g (s)	3.5	26.7		4.6	27.1		30.0	30.0			30.0	
Actuated g/C Ratio	0.05	0.35		0.06	0.36		0.40	0.40			0.40	
Clearance Time (s)	4.4	5.2		4.4	5.9		4.9	4.9			4.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)	81	1196		107	1257		542	635			601	
v/s Ratio Prot	0.02	c0.36		c0.08	0.19			0.05				
v/s Ratio Perm							c0.20				0.05	
v/c Ratio	0.46	1.03		1.32	0.53		0.51	0.12			0.11	
Uniform Delay, d1	35.2	24.5		35.6	19.3		17.4	14.5			14.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	4.0	35.5		194.3	1.6		3.4	0.4			0.4	
Delay (s)	39.3	60.0		229.9	20.9		20.8	14.9			14.9	
Level of Service	D	E		F	C		C	B			B	
Approach Delay (s)		59.4			57.2			18.7			14.9	
Approach LOS		E			E			B			B	

Intersection Summary			
HCM 2000 Control Delay	50.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	75.8	Sum of lost time (s)	15.2
Intersection Capacity Utilization	86.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	540	30	310	641	670	0	0	1270	830
Future Volume (vph)	0	0	0	540	30	310	641	670	0	0	1270	830
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				8.6	8.6	8.6	7.2	9.3			9.3	
Lane Util. Factor				0.95	0.95	1.00	0.97	0.95			0.91	
Frt				1.00	1.00	0.85	1.00	1.00			0.94	
Flt Protected				0.95	0.96	1.00	0.95	1.00			1.00	
Satd. Flow (prot)				1681	1698	1583	3433	3539			4771	
Flt Permitted				0.95	0.96	1.00	0.95	1.00			1.00	
Satd. Flow (perm)				1681	1698	1583	3433	3539			4771	
Peak-hour factor, PHF	0.92	0.92	0.92	0.82	0.55	0.73	0.88	0.87	0.92	0.92	0.89	0.83
Adj. Flow (vph)	0	0	0	659	55	425	728	770	0	0	1427	1000
RTOR Reduction (vph)	0	0	0	0	0	155	0	0	0	0	91	0
Lane Group Flow (vph)	0	0	0	356	358	270	728	770	0	0	2336	0
Turn Type				Split	NA	Perm	Prot	NA			NA	
Protected Phases				8	8		5	2			6	
Permitted Phases						8						
Actuated Green, G (s)				35.6	35.6	35.6	33.4	88.5			50.9	
Effective Green, g (s)				32.6	32.6	32.6	30.4	85.5			47.9	
Actuated g/C Ratio				0.24	0.24	0.24	0.22	0.63			0.35	
Clearance Time (s)				5.6	5.6	5.6	4.2	6.3			6.3	
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)				402	407	379	767	2224			1680	
v/s Ratio Prot				c0.21	0.21		c0.21	0.22			c0.49	
v/s Ratio Perm						0.17						
v/c Ratio				0.89	0.88	0.71	0.95	0.35			1.52dr	
Uniform Delay, d1				49.9	49.8	47.4	52.0	12.0			44.0	
Progression Factor				1.00	1.00	1.00	1.41	0.78			1.00	
Incremental Delay, d2				20.1	19.0	6.2	3.1	0.2			179.4	
Delay (s)				70.0	68.8	53.6	76.5	9.5			223.4	
Level of Service				E	E	D	E	A			F	
Approach Delay (s)		0.0			63.5			42.1			223.4	
Approach LOS		A			E			D			F	

Intersection Summary			
HCM 2000 Control Delay	133.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	136.0	Sum of lost time (s)	25.1
Intersection Capacity Utilization	98.1%	ICU Level of Service	F
Analysis Period (min)	15		
dr Defacto Right Lane. Recode with 1 though lane as a right lane.			
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	190	0	409	0	0	0	0	1121	390	490	1320	0
Future Volume (vph)	190	0	409	0	0	0	0	1121	390	490	1320	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0					6.3	6.3	4.2	6.3	
Lane Util. Factor	0.95	0.95	0.88					0.95	1.00	0.97	0.91	
Frt	1.00	1.00	0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95	0.95	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1681	1681	2787					3539	1583	3433	5085	
Flt Permitted	0.95	0.95	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1681	1681	2787					3539	1583	3433	5085	
Peak-hour factor, PHF	0.81	0.92	0.80	0.92	0.92	0.92	0.92	0.86	0.76	0.94	0.98	0.92
Adj. Flow (vph)	235	0	511	0	0	0	0	1303	513	521	1347	0
RTOR Reduction (vph)	0	0	458	0	0	0	0	0	146	0	0	0
Lane Group Flow (vph)	117	118	53	0	0	0	0	1303	367	521	1347	0
Turn Type	Split	NA	Perm					NA	Perm	Prot	NA	
Protected Phases	4	4						2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	14.1	14.1	14.1					49.0	49.0	16.4	69.6	
Effective Green, g (s)	14.1	14.1	14.1					49.0	49.0	16.4	69.6	
Actuated g/C Ratio	0.10	0.10	0.10					0.36	0.36	0.12	0.51	
Clearance Time (s)	5.0	5.0	5.0					6.3	6.3	4.2	6.3	
Vehicle Extension (s)	3.0	3.0	3.0					3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	174	174	288					1275	570	413	2602	
v/s Ratio Prot	0.07	c0.07						c0.37		c0.15	0.26	
v/s Ratio Perm			0.02						0.23			
v/c Ratio	0.67	0.68	0.18					1.02	0.64	1.26	0.52	
Uniform Delay, d1	58.7	58.8	55.7					43.5	36.2	59.8	22.1	
Progression Factor	1.00	1.00	1.00					1.00	1.00	1.40	1.18	
Incremental Delay, d2	9.8	10.0	0.3					30.9	5.5	119.5	0.1	
Delay (s)	68.5	68.8	56.0					74.4	41.7	203.2	26.1	
Level of Service	E	E	E					E	D	F	C	
Approach Delay (s)		60.0			0.0			65.2			75.5	
Approach LOS		E			A			E			E	

Intersection Summary				
HCM 2000 Control Delay	68.7	HCM 2000 Level of Service	E	
HCM 2000 Volume to Capacity ratio	0.69			
Actuated Cycle Length (s)	136.0	Sum of lost time (s)	19.5	
Intersection Capacity Utilization	98.1%	ICU Level of Service	F	
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	530	71	328	160	46	120	126	801	60	150	1689	210
Future Volume (vph)	530	71	328	160	46	120	126	801	60	150	1689	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3	6.3	6.3	4.9	4.9		4.4	5.7		4.4	6.5	6.5
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95		0.97	0.95		1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.90		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	0.96	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1704	1583	1681	1588		3433	3502		1770	3539	1583
Flt Permitted	0.95	0.96	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1681	1704	1583	1681	1588		3433	3502		1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	576	77	357	174	50	130	137	871	65	163	1836	228
RTOR Reduction (vph)	0	0	140	0	47	0	0	3	0	0	0	50
Lane Group Flow (vph)	323	330	217	157	150	0	137	933	0	163	1836	178
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			4									6
Actuated Green, G (s)	32.4	32.4	32.4	20.1	20.1		4.6	53.6		17.7	65.9	65.9
Effective Green, g (s)	32.4	32.4	32.4	20.1	20.1		4.6	53.6		17.7	65.9	65.9
Actuated g/C Ratio	0.22	0.22	0.22	0.14	0.14		0.03	0.37		0.12	0.45	0.45
Clearance Time (s)	6.3	6.3	6.3	4.9	4.9		4.4	5.7		4.4	6.5	6.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	375	380	353	232	219		108	1293		215	1607	718
v/s Ratio Prot	0.19	c0.19		0.09	c0.09		c0.04	0.27		0.09	c0.52	
v/s Ratio Perm			0.14									0.11
v/c Ratio	0.86	0.87	0.62	0.68	0.68		1.27	0.72		0.76	1.14	0.25
Uniform Delay, d1	54.2	54.3	50.7	59.4	59.5		70.2	39.3		61.6	39.6	24.4
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	18.0	18.5	3.2	7.6	8.5		175.2	3.5		14.2	72.1	0.8
Delay (s)	72.2	72.8	53.9	67.0	68.0		245.4	42.8		75.8	111.7	25.2
Level of Service	E	E	D	E	E		F	D		E	F	C
Approach Delay (s)		65.9			67.5			68.7			100.2	
Approach LOS		E			E			E			F	

Intersection Summary				
HCM 2000 Control Delay	83.1	HCM 2000 Level of Service	F	
HCM 2000 Volume to Capacity ratio	1.00			
Actuated Cycle Length (s)	145.1	Sum of lost time (s)	22.1	
Intersection Capacity Utilization	94.6%	ICU Level of Service	F	
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	460	0	405	40	632	380	511	1586	5
Future Volume (vph)	0	0	0	460	0	405	40	632	380	511	1586	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0	4.0	4.0	6.1	4.0	4.0	5.8	
Lane Util. Factor				0.97	0.95	0.95	1.00	0.95	1.00	0.97	0.95	
Frpb, ped/bikes				1.00	0.98	0.98	1.00	1.00	0.99	1.00	1.00	
Flpb, ped/bikes				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt				1.00	0.85	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected				0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)				3433	1481	1481	1770	3539	1571	3433	3538	
Flt Permitted				0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)				3433	1481	1481	1770	3539	1571	3433	3538	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	500	0	440	43	687	413	555	1724	5
RTOR Reduction (vph)	0	0	0	0	163	163	0	0	161	0	0	0
Lane Group Flow (vph)	0	0	0	500	57	57	43	687	252	555	1729	0
Confl. Peds. (#/hr)			2			4			2			
Turn Type				Split	NA	Perm	Prot	NA	pm+ov	Prot	NA	
Protected Phases	4	4		8	8		5	2	8	1	6	
Permitted Phases						8			2			
Actuated Green, G (s)				25.4	25.4	25.4	3.5	34.6	60.0	14.8	46.2	
Effective Green, g (s)				25.4	25.4	25.4	3.5	34.6	60.0	14.8	46.2	
Actuated g/C Ratio				0.26	0.26	0.26	0.04	0.35	0.61	0.15	0.47	
Clearance Time (s)				4.0	4.0	4.0	4.0	6.1	4.0	4.0	5.8	
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)				887	383	383	63	1246	959	517	1664	
v/s Ratio Prot				c0.15	0.04		0.02	0.19	0.07	c0.16	c0.49	
v/s Ratio Perm						0.04			0.09			
v/c Ratio				0.56	0.15	0.15	0.68	0.55	0.26	1.07	1.04	
Uniform Delay, d1				31.6	28.1	28.1	46.8	25.6	8.9	41.7	26.0	
Progression Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2				0.8	0.2	0.2	26.3	0.5	0.1	60.8	32.9	
Delay (s)				32.4	28.2	28.2	73.1	26.1	9.0	102.5	58.9	
Level of Service				C	C	C	E	C	A	F	E	
Approach Delay (s)		0.0			30.5			21.7			69.5	
Approach LOS		A			C			C			E	

Intersection Summary				
HCM 2000 Control Delay	48.6	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.86			
Actuated Cycle Length (s)	98.2	Sum of lost time (s)	18.1	
Intersection Capacity Utilization	79.8%	ICU Level of Service	D	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	14	6	86	13	348	13	417	38	637	523	45
Future Volume (vph)	10	14	6	86	13	348	13	417	38	637	523	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.5	4.5	4.0	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	0.95	0.95	1.00	0.95		0.97	0.91	
Frpb, ped/bikes	1.00	0.98		1.00	0.96	0.96	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.95		1.00	0.86	0.85	1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1740		1770	1466	1443	1770	3478		3433	5003	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1740		1770	1466	1443	1770	3478		3433	5003	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	15	7	93	14	378	14	453	41	692	568	49
RTOR Reduction (vph)	0	6	0	0	149	162	0	7	0	0	9	0
Lane Group Flow (vph)	11	16	0	93	46	35	14	487	0	692	608	0
Confl. Peds. (#/hr)			20			20			20			20
Confl. Bikes (#/hr)			10			10			10			10
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8						
Actuated Green, G (s)	0.5	6.0		6.8	11.8	11.8	0.5	18.9		17.7	36.6	
Effective Green, g (s)	0.5	6.0		6.8	11.8	11.8	0.5	18.9		17.7	36.6	
Actuated g/C Ratio	0.01	0.09		0.10	0.18	0.18	0.01	0.28		0.27	0.55	
Clearance Time (s)	4.0	4.0		4.0	4.5	4.5	4.0	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	13	157		181	260	256	13	989		915	2757	
v/s Ratio Prot	0.01	0.01		c0.05	c0.03		0.01	c0.14		c0.20	0.12	
v/s Ratio Perm						0.02						
v/c Ratio	0.85	0.10		0.51	0.18	0.14	1.08	0.49		0.76	0.22	
Uniform Delay, d1	32.9	27.7		28.2	23.2	23.0	33.0	19.8		22.4	7.6	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.01	1.00		1.00	1.00	
Incremental Delay, d2	166.4	0.3		2.5	0.3	0.2	276.9	0.4		3.6	0.0	
Delay (s)	199.4	28.0		30.7	23.5	23.3	310.3	20.1		26.0	7.7	
Level of Service	F	C		C	C	C	F	C		C	A	
Approach Delay (s)		85.1			24.8			28.1			17.3	
Approach LOS		F			C			C			B	

Intersection Summary				
HCM 2000 Control Delay	22.2	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.56			
Actuated Cycle Length (s)	66.4	Sum of lost time (s)	17.5	
Intersection Capacity Utilization	61.4%	ICU Level of Service	B	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (veh/h)	52	10	86	408	8	138	469
Future Volume (Veh/h)	52	10	86	408	8	138	469
Sign Control	Stop			Free		Free	
Grade	0%			0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	57	11	93	443	0	150	510
Pedestrians	20			20			
Lane Width (ft)	12.0			12.0			
Walking Speed (ft/s)	4.0			4.0			
Percent Blockage	2			2			
Right turn flare (veh)							
Median type				None		None	
Median storage veh)							
Upstream signal (ft)				920		480	
pX, platoon unblocked					0.00		
vC, conflicting volume	578	115	680		0		
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	578	115	680		0		
tC, single (s)	6.8	6.9	4.1		0.0		
tC, 2 stage (s)							
tF (s)	3.5	3.3	2.2		0.0		
p0 queue free %	86	99	90		0		
cM capacity (veh/h)	394	885	893		0		

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3	SB 4
Volume Total	38	30	93	222	222	75	75	510	0
Volume Left	38	19	93	0	0	0	0	0	0
Volume Right	0	11	0	0	0	0	0	510	0
cSH	394	494	893	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.10	0.06	0.10	0.13	0.13	0.04	0.04	0.30	0.00
Queue Length 95th (ft)	8	5	9	0	0	0	0	0	0
Control Delay (s)	15.1	12.8	9.5	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	C	B	A						
Approach Delay (s)	14.1		1.6			0.0			
Approach LOS	B								

Intersection Summary			
Average Delay		1.5	
Intersection Capacity Utilization		42.4%	ICU Level of Service	A
Analysis Period (min)		15	

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	63	50	303	109	10	120
Future Volume (vph)	63	50	303	109	10	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frpb, ped/bikes	1.00	0.96	0.99		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	0.96		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1528	3359		1770	3539
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1528	3359		1770	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	68	54	329	118	11	130
RTOR Reduction (vph)	0	45	36	0	0	0
Lane Group Flow (vph)	68	9	411	0	11	130
Confl. Peds. (#/hr)		20		20		
Confl. Bikes (#/hr)		10		10		
Turn Type	Prot	Perm	NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8				
Actuated Green, G (s)	7.5	7.5	21.6		0.8	26.9
Effective Green, g (s)	7.5	7.5	21.6		0.8	26.9
Actuated g/C Ratio	0.17	0.17	0.50		0.02	0.62
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	305	264	1671		32	2193
v/s Ratio Prot	c0.04		c0.12		c0.01	0.04
v/s Ratio Perm		0.01				
v/c Ratio	0.22	0.04	0.25		0.34	0.06
Uniform Delay, d1	15.4	14.9	6.2		21.0	3.3
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.4	0.1	0.1		6.3	0.0
Delay (s)	15.8	15.0	6.3		27.4	3.3
Level of Service	B	B	A		C	A
Approach Delay (s)	15.5		6.3			5.1
Approach LOS	B		A			A

Intersection Summary			
HCM 2000 Control Delay	7.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.24		
Actuated Cycle Length (s)	43.4	Sum of lost time (s)	13.5
Intersection Capacity Utilization	35.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	260	540	218	178	340	180	216	685	334	210	548	120
Future Volume (vph)	260	540	218	178	340	180	216	685	334	210	548	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.3	6.3	4.4	6.2	6.2	4.4	6.0	6.0	4.4	6.0	6.0
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	3433	3539	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1583	3433	3539	1583	1770	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	283	587	237	193	370	196	235	745	363	228	596	130
RTOR Reduction (vph)	0	0	170	0	0	159	0	0	252	0	0	96
Lane Group Flow (vph)	283	587	67	193	370	37	235	745	111	228	596	34
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Actuated Green, G (s)	21.2	31.1	31.1	10.7	20.7	20.7	17.8	29.4	29.4	17.4	29.0	29.0
Effective Green, g (s)	21.2	31.1	31.1	10.7	20.7	20.7	17.8	29.4	29.4	17.4	29.0	29.0
Actuated g/C Ratio	0.19	0.28	0.28	0.10	0.19	0.19	0.16	0.27	0.27	0.16	0.26	0.26
Clearance Time (s)	4.4	6.3	6.3	4.4	6.2	6.2	4.4	6.0	6.0	4.4	6.0	6.0
Vehicle Extension (s)	2.0	4.9	4.9	2.0	5.1	5.1	2.0	5.9	5.9	2.0	5.6	5.6
Lane Grp Cap (vph)	342	1003	448	334	667	298	287	948	424	280	935	418
v/s Ratio Prot	c0.16	c0.17		0.06	0.10		c0.13	c0.21		0.13	0.17	
v/s Ratio Perm			0.04			0.02			0.07			0.02
v/c Ratio	0.83	0.59	0.15	0.58	0.55	0.12	0.82	0.79	0.26	0.81	0.64	0.08
Uniform Delay, d1	42.5	33.8	29.4	47.3	40.3	37.0	44.4	37.2	31.6	44.6	35.7	30.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	14.4	1.3	0.3	1.5	1.7	0.4	15.6	5.4	0.9	15.6	2.2	0.2
Delay (s)	56.9	35.1	29.7	48.8	42.1	37.4	60.0	42.6	32.5	60.2	37.9	30.6
Level of Service	E	D	C	D	D	D	E	D	C	E	D	C
Approach Delay (s)		39.5			42.6			42.9			42.3	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	41.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	109.7	Sum of lost time (s)	21.1
Intersection Capacity Utilization	71.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	39	0	20	60	1205	52	25	914	0
Future Volume (vph)	0	0	0	39	0	20	60	1205	52	25	914	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.4		4.4	5.9	6.0		4.4	6.0	
Lane Util. Factor				1.00		1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes				1.00		0.99	1.00	1.00		1.00	1.00	
Flpb, ped/bikes				1.00		1.00	1.00	1.00		1.00	1.00	
Frt				1.00		0.85	1.00	0.99		1.00	1.00	
Flt Protected				0.95		1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)				1770		1560	1770	3513		1770	3539	
Flt Permitted				0.95		1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)				1770		1560	1770	3513		1770	3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	42	0	22	65	1310	57	27	993	0
RTOR Reduction (vph)	0	0	0	0	0	20	0	2	0	0	0	0
Lane Group Flow (vph)	0	0	0	42	0	2	65	1365	0	27	993	0
Confl. Peds. (#/hr)						4			3			
Turn Type				Prot		Perm	Prot	NA		Prot	NA	
Protected Phases				8			5	2		1	6	
Permitted Phases						8						
Actuated Green, G (s)				6.6		6.6	7.1	43.9		2.4	39.2	
Effective Green, g (s)				6.6		6.6	5.6	43.9		2.4	39.2	
Actuated g/C Ratio				0.10		0.10	0.08	0.65		0.04	0.58	
Clearance Time (s)				4.4		4.4	4.4	6.0		4.4	6.0	
Vehicle Extension (s)				3.0		3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)				172		152	146	2278		62	2049	
v/s Ratio Prot				c0.02			c0.04	c0.39		0.02	0.28	
v/s Ratio Perm						0.00						
v/c Ratio				0.24		0.01	0.45	0.60		0.44	0.48	
Uniform Delay, d1				28.2		27.6	29.6	6.8		32.0	8.3	
Progression Factor				1.00		1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2				0.7		0.0	2.2	0.4		4.8	0.2	
Delay (s)				29.0		27.6	31.7	7.3		36.8	8.5	
Level of Service				C		C	C	A		D	A	
Approach Delay (s)		0.0			28.5			8.4			9.3	
Approach LOS		A			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	67.7	Sum of lost time (s)	16.3
Intersection Capacity Utilization	54.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	30	5	59	19	0	10	70	91	1257	20	50	863
Future Volume (vph)	30	5	59	19	0	10	70	91	1257	20	50	863
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.4	4.4	4.4	4.4			4.4	6.0		4.4	6.0
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00			0.97	0.95		1.00	0.95
Frpb, ped/bikes	1.00	1.00	0.97	1.00	0.98			1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.85			1.00	1.00		1.00	1.00
Flt Protected	0.95	0.96	1.00	0.95	1.00			0.95	1.00		0.95	1.00
Satd. Flow (prot)	1681	1707	1538	1770	1546			3433	3529		1770	3539
Flt Permitted	0.95	0.96	1.00	0.95	1.00			0.95	1.00		0.95	1.00
Satd. Flow (perm)	1681	1707	1538	1770	1546			3433	3529		1770	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	5	64	21	0	11	76	99	1366	22	54	938
RTOR Reduction (vph)	0	0	57	0	10	0	0	0	0	0	0	0
Lane Group Flow (vph)	19	19	7	21	1	0	0	175	1388	0	54	938
Confl. Peds. (#/hr)			26			18				6		
Turn Type	Split	NA	Perm	Split	NA		Prot	Prot	NA		Prot	NA
Protected Phases	4	4		8	8		5	5	2		1	6
Permitted Phases			4									
Actuated Green, G (s)	8.8	8.8	8.8	7.4	7.4			6.1	40.9		5.0	39.8
Effective Green, g (s)	8.8	8.8	8.8	7.4	7.4			6.1	40.9		5.0	39.8
Actuated g/C Ratio	0.11	0.11	0.11	0.09	0.09			0.08	0.50		0.06	0.49
Clearance Time (s)	4.4	4.4	4.4	4.4	4.4			4.4	6.0		4.4	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	181	184	166	161	140			257	1775		108	1732
v/s Ratio Prot	c0.01	0.01		c0.01	0.00			c0.05	c0.39		0.03	0.27
v/s Ratio Perm			0.00									
v/c Ratio	0.10	0.10	0.04	0.13	0.01			0.68	0.78		0.50	0.54
Uniform Delay, d1	32.7	32.7	32.5	34.0	33.6			36.7	16.5		36.9	14.4
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	0.3	0.2	0.1	0.4	0.0			7.2	2.3		3.6	0.3
Delay (s)	33.0	32.9	32.6	34.4	33.6			43.9	18.9		40.5	14.8
Level of Service	C	C	C	C	C			D	B		D	B
Approach Delay (s)		32.7			34.1				21.7			16.0
Approach LOS		C			C				C			B

Intersection Summary			
HCM 2000 Control Delay	20.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	81.3	Sum of lost time (s)	19.2
Intersection Capacity Utilization	81.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	30
Future Volume (vph)	30
Ideal Flow (vphpl)	1900
Total Lost time (s)	6.0
Lane Util. Factor	1.00
Frpb, ped/bikes	0.98
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1556
Flt Permitted	1.00
Satd. Flow (perm)	1556
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	33
RTOR Reduction (vph)	17
Lane Group Flow (vph)	16
Confl. Peds. (#/hr)	5
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	39.8
Effective Green, g (s)	39.8
Actuated g/C Ratio	0.49
Clearance Time (s)	6.0
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	761
v/s Ratio Prot	
v/s Ratio Perm	0.01
v/c Ratio	0.02
Uniform Delay, d1	10.7
Progression Factor	1.00
Incremental Delay, d2	0.0
Delay (s)	10.7
Level of Service	B
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	5	80	69	5	25	192	1428	102	50	931	80
Future Volume (vph)	70	5	80	69	5	25	192	1428	102	50	931	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.3		4.4	4.9		4.4	6.0		4.4	6.0	
Lane Util. Factor	1.00	0.95		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.86		1.00	0.87		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3001		1770	1609		1770	3504		1770	3497	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3001		1770	1609		1770	3504		1770	3497	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	76	5	87	75	5	27	209	1552	111	54	1012	87
RTOR Reduction (vph)	0	77	0	0	24	0	0	4	0	0	5	0
Lane Group Flow (vph)	76	15	0	75	8	0	209	1659	0	54	1094	0
Confl. Peds. (#/hr)			1			2						
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	8.3	10.0		6.2	8.3		14.5	49.7		3.4	38.6	
Effective Green, g (s)	8.3	10.0		6.2	8.3		14.5	49.7		3.4	38.6	
Actuated g/C Ratio	0.09	0.11		0.07	0.09		0.16	0.56		0.04	0.43	
Clearance Time (s)	4.4	5.3		4.4	4.9		4.4	6.0		4.4	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	164	335		122	149		287	1947		67	1509	
v/s Ratio Prot	0.04	c0.00		c0.04	0.00		c0.12	c0.47		0.03	0.31	
v/s Ratio Perm												
v/c Ratio	0.46	0.04		0.61	0.05		0.73	0.85		0.81	0.73	
Uniform Delay, d1	38.4	35.4		40.4	37.0		35.6	16.8		42.7	21.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.1	0.1		8.9	0.1		8.9	3.8		48.7	1.8	
Delay (s)	40.5	35.5		49.3	37.1		44.5	20.6		91.4	22.8	
Level of Service	D	D		D	D		D	C		F	C	
Approach Delay (s)		37.8			45.7			23.3			26.0	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	25.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	89.4	Sum of lost time (s)	20.1
Intersection Capacity Utilization	70.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	170	229	363	1552	960	120
Future Volume (vph)	170	229	363	1552	960	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.4	4.4	6.0	6.0	
Lane Util. Factor	1.00	1.00	0.97	0.95	0.95	
Frpb, ped/bikes	1.00	0.99	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.98	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1571	3433	3539	3480	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1770	1571	3433	3539	3480	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	185	249	395	1687	1043	130
RTOR Reduction (vph)	0	8	0	0	9	0
Lane Group Flow (vph)	185	241	395	1687	1164	0
Confl. Peds. (#/hr)		3				
Turn Type	Prot	pm+ov	Prot	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	15.7	27.1	11.4	46.9	31.1	
Effective Green, g (s)	15.7	27.1	11.4	46.9	31.1	
Actuated g/C Ratio	0.21	0.37	0.16	0.64	0.42	
Clearance Time (s)	4.9	4.4	4.4	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	378	579	532	2258	1472	
v/s Ratio Prot	c0.10	0.06	0.12	c0.48	0.33	
v/s Ratio Perm		0.09				
v/c Ratio	0.49	0.42	0.74	0.75	0.79	
Uniform Delay, d1	25.4	17.3	29.6	9.2	18.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.0	0.5	5.5	1.4	3.0	
Delay (s)	26.4	17.8	35.2	10.6	21.4	
Level of Service	C	B	D	B	C	
Approach Delay (s)	21.4			15.3	21.4	
Approach LOS	C			B	C	

Intersection Summary			
HCM 2000 Control Delay	17.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	73.5	Sum of lost time (s)	15.3
Intersection Capacity Utilization	65.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	719	0	900	780	1015	0	0	959	230
Future Volume (vph)	0	0	0	719	0	900	780	1015	0	0	959	230
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				5.3	5.3	5.3	4.2	6.3			6.3	6.3
Lane Util. Factor				0.95	0.95	0.88	0.97	0.95			0.95	0.88
Frpb, ped/bikes				1.00	1.00	0.98	1.00	1.00			1.00	1.00
Flpb, ped/bikes				1.00	1.00	1.00	1.00	1.00			1.00	1.00
Frt				1.00	1.00	0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95	0.95	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				1681	1681	2725	3433	3539			3539	2787
Flt Permitted				0.95	0.95	1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)				1681	1681	2725	3433	3539			3539	2787
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	782	0	978	848	1103	0	0	1042	250
RTOR Reduction (vph)	0	0	0	0	0	143	0	0	0	0	0	159
Lane Group Flow (vph)	0	0	0	391	391	835	848	1103	0	0	1042	91
Confl. Peds. (#/hr)						1						
Turn Type				Split	NA	Perm	Prot	NA			NA	Perm
Protected Phases				8	8		5	2			6	
Permitted Phases						8						6
Actuated Green, G (s)				21.7	21.7	21.7	19.8	56.7			32.7	32.7
Effective Green, g (s)				21.7	21.7	21.7	19.8	56.7			32.7	32.7
Actuated g/C Ratio				0.24	0.24	0.24	0.22	0.63			0.36	0.36
Clearance Time (s)				5.3	5.3	5.3	4.2	6.3			6.3	6.3
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)				405	405	657	755	2229			1285	1012
v/s Ratio Prot				0.23	0.23		c0.25	0.31			c0.29	
v/s Ratio Perm						c0.31						0.03
v/c Ratio				0.97	0.97	1.27	1.12	0.49			0.81	0.09
Uniform Delay, d1				33.8	33.8	34.1	35.1	9.0			25.9	18.9
Progression Factor				1.00	1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2				35.4	35.4	133.4	72.1	0.8			5.6	0.2
Delay (s)				69.2	69.2	167.5	107.2	9.7			31.5	19.0
Level of Service				E	E	F	F	A			C	B
Approach Delay (s)		0.0			123.8			52.1			29.1	
Approach LOS		A			F			D			C	

Intersection Summary				
HCM 2000 Control Delay	71.4	HCM 2000 Level of Service	E	
HCM 2000 Volume to Capacity ratio	1.03			
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.8	
Intersection Capacity Utilization	120.3%	ICU Level of Service	H	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	600	5	787	0	0	0	0	1195	1131	690	898	0
Future Volume (vph)	600	5	787	0	0	0	0	1195	1131	690	898	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6	4.6					6.3	6.3	4.2	6.3	
Lane Util. Factor	0.95	0.95	0.88					0.95	1.00	0.97	0.95	
Frpb, ped/bikes	1.00	1.00	0.99					1.00	0.99	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00					1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95	0.95	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1681	1687	2747					3539	1562	3433	3539	
Flt Permitted	0.95	0.95	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1681	1687	2747					3539	1562	3433	3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	652	5	855	0	0	0	0	1299	1229	750	976	0
RTOR Reduction (vph)	0	0	189	0	0	0	0	0	363	0	0	0
Lane Group Flow (vph)	326	331	666	0	0	0	0	1299	866	750	976	0
Confl. Peds. (#/hr)			2						1			
Turn Type	Split	NA	Perm					NA	Perm	Prot	NA	
Protected Phases	4	4						2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	39.8	39.8	39.8					62.1	62.1	28.0	94.3	
Effective Green, g (s)	39.8	39.8	39.8					62.1	62.1	28.0	94.3	
Actuated g/C Ratio	0.27	0.27	0.27					0.43	0.43	0.19	0.65	
Clearance Time (s)	4.6	4.6	4.6					6.3	6.3	4.2	6.3	
Vehicle Extension (s)	3.0	3.0	3.0					3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	461	463	754					1515	668	662	2301	
v/s Ratio Prot	0.19	0.20						0.37		c0.22	0.28	
v/s Ratio Perm			c0.24						c0.55			
v/c Ratio	0.71	0.71	0.88					0.86	1.30	1.13	0.42	
Uniform Delay, d1	47.4	47.5	50.4					37.5	41.5	58.5	12.2	
Progression Factor	1.00	1.00	1.00					1.00	1.00	1.00	1.00	
Incremental Delay, d2	4.9	5.2	11.9					6.5	144.3	77.7	0.6	
Delay (s)	52.3	52.7	62.3					43.9	185.7	136.2	12.8	
Level of Service	D	D	E					D	F	F	B	
Approach Delay (s)		58.0			0.0			112.9			66.4	
Approach LOS		E			A			F			E	

Intersection Summary				
HCM 2000 Control Delay	84.6	HCM 2000 Level of Service	F	
HCM 2000 Volume to Capacity ratio	1.13			
Actuated Cycle Length (s)	145.0	Sum of lost time (s)	15.1	
Intersection Capacity Utilization	120.3%	ICU Level of Service	H	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	700	40	145	20	20	190	90	1436	20	200	1125	380
Future Volume (vph)	700	40	145	20	20	190	90	1436	20	200	1125	380
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9	4.9		4.9		4.5	4.5		4.4	4.5	4.9
Lane Util. Factor	0.95	0.95	1.00		1.00		1.00	0.91		1.00	0.91	1.00
Frt	1.00	1.00	0.85		0.89		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.96	1.00		1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1694	1583		1648		1770	5075		1770	5085	1583
Flt Permitted	0.95	0.96	1.00		1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1681	1694	1583		1648		1770	5075		1770	5085	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	761	43	158	22	22	207	98	1561	22	217	1223	413
RTOR Reduction (vph)	0	0	117	0	134	0	0	1	0	0	0	142
Lane Group Flow (vph)	403	401	41	0	117	0	98	1582	0	217	1223	271
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	4	4		8	8		5	2		1	6	4
Permitted Phases			4									6
Actuated Green, G (s)	32.6	32.6	32.6		12.5		11.7	44.1		17.3	49.6	82.2
Effective Green, g (s)	32.6	32.6	32.6		12.5		11.7	44.1		17.3	49.6	82.2
Actuated g/C Ratio	0.26	0.26	0.26		0.10		0.09	0.35		0.14	0.40	0.66
Clearance Time (s)	4.9	4.9	4.9		4.9		4.5	4.5		4.4	4.5	4.9
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	437	441	412		164		165	1787		244	2014	1039
v/s Ratio Prot	c0.24	0.24			c0.07		0.06	c0.31		c0.12	0.24	0.07
v/s Ratio Perm			0.03									0.10
v/c Ratio	0.92	0.91	0.10		0.71		0.59	0.89		0.89	0.61	0.26
Uniform Delay, d1	45.1	44.9	35.2		54.6		54.5	38.2		53.0	30.1	8.9
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	24.9	22.2	0.1		13.6		5.6	5.7		29.9	0.5	0.1
Delay (s)	70.0	67.1	35.3		68.3		60.1	43.8		82.9	30.6	9.0
Level of Service	E	E	D		E		E	D		F	C	A
Approach Delay (s)		63.1			68.3			44.8			31.9	
Approach LOS		E			E			D			C	

Intersection Summary			
HCM 2000 Control Delay	44.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	125.2	Sum of lost time (s)	18.8
Intersection Capacity Utilization	89.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	58	5	220	125	100	80
Future Volume (vph)	58	5	220	125	100	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		4.0	6.0	6.0	6.0
Lane Util. Factor	1.00		1.00	0.95	1.00	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	0.96		0.95	1.00	1.00	1.00
Satd. Flow (prot)	1761		1770	3539	1863	1544
Flt Permitted	0.96		0.95	1.00	1.00	1.00
Satd. Flow (perm)	1761		1770	3539	1863	1544
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	63	5	239	136	109	87
RTOR Reduction (vph)	4	0	0	0	0	61
Lane Group Flow (vph)	64	0	239	136	109	26
Confl. Peds. (#/hr)		1	5			5
Turn Type	Prot		Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases						6
Actuated Green, G (s)	5.9		12.8	31.3	14.5	14.5
Effective Green, g (s)	5.9		12.8	31.3	14.5	14.5
Actuated g/C Ratio	0.12		0.27	0.65	0.30	0.30
Clearance Time (s)	5.0		4.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	215		470	2298	560	464
v/s Ratio Prot	c0.04		c0.14	0.04	c0.06	
v/s Ratio Perm						0.02
v/c Ratio	0.30		0.51	0.06	0.19	0.06
Uniform Delay, d1	19.3		15.0	3.1	12.5	12.0
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.8		0.9	0.0	0.2	0.1
Delay (s)	20.1		15.9	3.1	12.7	12.0
Level of Service	C		B	A	B	B
Approach Delay (s)	20.1			11.3	12.4	
Approach LOS	C			B	B	

Intersection Summary			
HCM 2000 Control Delay	12.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	48.2	Sum of lost time (s)	15.0
Intersection Capacity Utilization	32.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	108	100	5	100	240	256	10	5	40	318	5	165
Future Volume (vph)	108	100	5	100	240	256	10	5	40	318	5	165
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.5		4.4	5.5	5.5	4.4	4.9		4.4	4.9	
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	0.95		0.97	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.98	1.00	0.99		1.00	0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.87		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3511		1770	1863	1555	1770	3021		3433	1554	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3511		1770	1863	1555	1770	3021		3433	1554	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	117	109	5	109	261	278	11	5	43	346	5	179
RTOR Reduction (vph)	0	3	0	0	0	202	0	39	0	0	125	0
Lane Group Flow (vph)	117	111	0	109	261	76	11	9	0	346	59	0
Confl. Peds. (#/hr)			9			8			5			3
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8						
Actuated Green, G (s)	8.5	18.3		8.3	18.1	18.1	0.5	6.7		14.0	20.2	
Effective Green, g (s)	8.5	18.3		8.3	18.1	18.1	0.5	6.7		14.0	20.2	
Actuated g/C Ratio	0.13	0.28		0.12	0.27	0.27	0.01	0.10		0.21	0.30	
Clearance Time (s)	4.4	5.5		4.4	5.5	5.5	4.4	4.9		4.4	4.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	226	966		220	507	423	13	304		722	472	
v/s Ratio Prot	c0.07	0.03		0.06	c0.14		0.01	0.00		c0.10	c0.04	
v/s Ratio Perm						0.05						
v/c Ratio	0.52	0.12		0.50	0.51	0.18	0.85	0.03		0.48	0.13	
Uniform Delay, d1	27.1	18.0		27.1	20.5	18.5	33.0	27.0		23.0	16.8	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.0	0.1		1.8	0.9	0.2	166.4	0.0		0.5	0.1	
Delay (s)	29.1	18.1		28.9	21.4	18.7	199.4	27.0		23.6	16.9	
Level of Service	C	B		C	C	B	F	C		C	B	
Approach Delay (s)		23.7			21.5			59.2			21.2	
Approach LOS		C			C			E			C	

Intersection Summary			
HCM 2000 Control Delay	23.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	66.5	Sum of lost time (s)	19.2
Intersection Capacity Utilization	49.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

MOVEMENT SUMMARY

Site: Street M / Carmel Mtn Rd PM

Year 2035 + Project PM
Roundabout

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Carmel Mountain Rd											
3	L2	61	2.0	0.332	12.5	LOS B	1.3	32.5	0.63	0.65	22.4
8	T1	54	2.0	0.332	12.5	LOS B	1.3	32.5	0.63	0.65	30.0
18	R2	49	2.0	0.332	12.5	LOS B	1.3	32.5	0.63	0.65	29.4
Approach		164	2.0	0.332	12.5	LOS B	1.3	32.5	0.63	0.65	27.3
East: Via Las Lenas											
1	L2	11	2.0	0.062	8.2	LOS A	0.2	5.1	0.55	0.54	31.2
6	T1	9	2.0	0.062	8.2	LOS A	0.2	5.1	0.55	0.54	20.2
16	R2	11	2.0	0.062	8.2	LOS A	0.2	5.1	0.55	0.54	29.5
Approach		30	2.0	0.062	8.2	LOS A	0.2	5.1	0.55	0.54	27.6
North: Carmel Mountain Rd											
7	L2	82	2.0	0.450	9.3	LOS A	2.5	62.6	0.31	0.18	28.3
4	T1	22	2.0	0.450	9.3	LOS A	2.5	62.6	0.31	0.18	31.1
14	R2	310	2.0	0.450	9.3	LOS A	2.5	62.6	0.31	0.18	18.0
Approach		413	2.0	0.450	9.3	LOS A	2.5	62.6	0.31	0.18	20.8
West: Street M											
5	L2	532	2.0	0.737	18.2	LOS C	7.1	179.8	0.63	0.44	22.8
2	T1	22	2.0	0.737	18.2	LOS C	7.1	179.8	0.63	0.44	22.9
12	R2	100	2.0	0.737	18.2	LOS C	7.1	179.8	0.63	0.44	22.3
Approach		653	2.0	0.737	18.2	LOS C	7.1	179.8	0.63	0.44	22.7
All Vehicles		1261	2.0	0.737	14.3	LOS B	7.1	179.8	0.52	0.38	22.7

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	50	20	79	40	30	15	453	123	40	350	20
Future Volume (vph)	20	50	20	79	40	30	15	453	123	40	350	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9			4.9		4.4	5.2		4.4	5.4	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00			1.00		1.00	0.99		1.00	1.00	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.97			0.97		1.00	0.97		1.00	0.99	
Flt Protected		0.99			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1781			1760		1770	3401		1770	3510	
Flt Permitted		0.90			0.78		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1623			1412		1770	3401		1770	3510	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	54	22	86	43	33	16	492	134	43	380	22
RTOR Reduction (vph)	0	15	0	0	12	0	0	26	0	0	4	0
Lane Group Flow (vph)	0	83	0	0	150	0	16	600	0	43	398	0
Confl. Peds. (#/hr)			1			4			10			
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		10.4			10.4		0.8	20.4		1.9	21.3	
Effective Green, g (s)		10.4			10.4		0.8	20.4		1.9	21.3	
Actuated g/C Ratio		0.22			0.22		0.02	0.43		0.04	0.45	
Clearance Time (s)		4.9			4.9		4.4	5.2		4.4	5.4	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		357			311		30	1469		71	1583	
v/s Ratio Prot							0.01	c0.18		c0.02	0.11	
v/s Ratio Perm		0.05			c0.11							
v/c Ratio		0.23			0.48		0.53	0.41		0.61	0.25	
Uniform Delay, d1		15.1			16.0		23.0	9.2		22.3	8.0	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.3			1.2		17.0	0.2		13.7	0.1	
Delay (s)		15.5			17.2		40.0	9.4		36.0	8.1	
Level of Service		B			B		D	A		D	A	
Approach Delay (s)		15.5			17.2			10.2			10.8	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	11.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	47.2	Sum of lost time (s)	14.7
Intersection Capacity Utilization	48.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	1	2	0	1	8	2	427	4	20	314	48
Future Volume (vph)	25	1	2	0	1	8	2	427	4	20	314	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		4.0	6.0		4.0	6.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00			0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00		0.99	1.00		1.00	1.00	
Frt		0.99			0.88		1.00	1.00		1.00	0.98	
Flt Protected		0.96			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1762			1616		1759	3534		1764	3455	
Flt Permitted		0.90			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1666			1616		1759	3534		1764	3455	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	1	2	0	1	9	2	464	4	22	341	52
RTOR Reduction (vph)	0	2	0	0	8	0	0	0	0	0	11	0
Lane Group Flow (vph)	0	28	0	0	2	0	2	468	0	22	382	0
Confl. Peds. (#/hr)	3		4	4		3	11		7	7		11
Turn Type	Perm	NA			NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		4.2			4.2		0.7	26.4		0.9	26.6	
Effective Green, g (s)		4.2			4.2		0.7	26.4		0.9	26.6	
Actuated g/C Ratio		0.09			0.09		0.02	0.57		0.02	0.57	
Clearance Time (s)		5.0			5.0		4.0	6.0		4.0	6.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		150			145		26	2006		34	1976	
v/s Ratio Prot					0.00		0.00	c0.13		c0.01	0.11	
v/s Ratio Perm		c0.02										
v/c Ratio		0.19			0.01		0.08	0.23		0.65	0.19	
Uniform Delay, d1		19.6			19.3		22.6	5.0		22.6	4.8	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.6			0.0		1.3	0.1		35.3	0.0	
Delay (s)		20.2			19.3		23.8	5.1		57.9	4.8	
Level of Service		C			B		C	A		E	A	
Approach Delay (s)		20.2			19.3			5.1			7.6	
Approach LOS		C			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	6.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.24		
Actuated Cycle Length (s)	46.5	Sum of lost time (s)	15.0
Intersection Capacity Utilization	36.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	130	10	30	0	5	15	50	503	0	15	365	160
Future Volume (vph)	130	10	30	0	5	15	50	503	0	15	365	160
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.1			4.1		4.0	4.8		4.0	5.1	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00			0.99		1.00	1.00		1.00	0.99	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.98			0.90		1.00	1.00		1.00	0.95	
Flt Protected		0.96			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1747			1653		1770	3539		1770	3350	
Flt Permitted		0.76			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1385			1653		1770	3539		1770	3350	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	141	11	33	0	5	16	54	547	0	16	397	174
RTOR Reduction (vph)	0	11	0	0	12	0	0	0	0	0	52	0
Lane Group Flow (vph)	0	174	0	0	9	0	54	547	0	16	519	0
Confl. Peds. (#/hr)			3			5			8			7
Turn Type	Perm	NA			NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		13.3			13.3		2.2	20.6		0.6	18.7	
Effective Green, g (s)		13.3			13.3		2.2	20.6		0.6	18.7	
Actuated g/C Ratio		0.28			0.28		0.05	0.43		0.01	0.39	
Clearance Time (s)		4.1			4.1		4.0	4.8		4.0	5.1	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		388			463		82	1538		22	1321	
v/s Ratio Prot					0.01		c0.03	0.15		0.01	c0.15	
v/s Ratio Perm		c0.13										
v/c Ratio		0.45			0.02		0.66	0.36		0.73	0.39	
Uniform Delay, d1		14.0			12.3		22.2	9.0		23.3	10.3	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.8			0.0		17.5	0.1		76.4	0.2	
Delay (s)		14.9			12.4		39.7	9.1		99.7	10.5	
Level of Service		B			B		D	A		F	B	
Approach Delay (s)		14.9			12.4			11.9			12.9	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	12.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	47.4	Sum of lost time (s)	13.2
Intersection Capacity Utilization	47.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	83	520	45	20	461	200	30	10	10	160	20	49
Future Volume (vph)	83	520	45	20	461	200	30	10	10	160	20	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.9		4.4	5.2			4.9		4.9	4.9	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	0.99			1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.95			0.97		1.00	0.89	
Flt Protected	0.95	1.00		0.95	1.00			0.97		0.95	1.00	
Satd. Flow (prot)	1770	3490		1770	3344			1760		1770	1649	
Flt Permitted	0.95	1.00		0.95	1.00			0.81		0.72	1.00	
Satd. Flow (perm)	1770	3490		1770	3344			1461		1343	1649	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	90	565	49	22	501	217	33	11	11	174	22	53
RTOR Reduction (vph)	0	6	0	0	54	0	0	9	0	0	42	0
Lane Group Flow (vph)	90	608	0	22	664	0	0	46	0	174	33	0
Confl. Peds. (#/hr)			3			11						3
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	5.0	28.8		0.5	24.0			11.5		11.5	11.5	
Effective Green, g (s)	5.0	28.8		0.5	24.0			11.5		11.5	11.5	
Actuated g/C Ratio	0.09	0.52		0.01	0.44			0.21		0.21	0.21	
Clearance Time (s)	4.4	4.9		4.4	5.2			4.9		4.9	4.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	160	1827		16	1459			305		280	344	
v/s Ratio Prot	c0.05	0.17		0.01	c0.20						0.02	
v/s Ratio Perm								0.03		c0.13		
v/c Ratio	0.56	0.33		1.38	0.46			0.15		0.62	0.10	
Uniform Delay, d1	24.0	7.6		27.2	10.9			17.8		19.8	17.6	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	4.5	0.1		361.4	0.2			0.2		4.2	0.1	
Delay (s)	28.4	7.7		388.6	11.1			18.0		24.0	17.7	
Level of Service	C	A		F	B			B		C	B	
Approach Delay (s)		10.3			22.4			18.0			22.1	
Approach LOS		B			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	17.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	55.0	Sum of lost time (s)	14.5
Intersection Capacity Utilization	50.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	72	385	233	70	398	50	229	10	30	20	20	54
Future Volume (vph)	72	385	233	70	398	50	229	10	30	20	20	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.2		4.4	5.9		4.9	4.9			4.9	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00			1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	0.99			0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Frt	1.00	0.94		1.00	0.98		1.00	0.89			0.92	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.99	
Satd. Flow (prot)	1770	3310		1770	3480		1770	1636			1687	
Flt Permitted	0.95	1.00		0.95	1.00		0.69	1.00			0.94	
Satd. Flow (perm)	1770	3310		1770	3480		1286	1636			1610	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	78	418	253	76	433	54	249	11	33	22	22	59
RTOR Reduction (vph)	0	121	0	0	12	0	0	23	0	0	41	0
Lane Group Flow (vph)	78	550	0	76	475	0	249	21	0	0	62	0
Confl. Peds. (#/hr)			3						3			3
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	3.8	18.0		3.6	17.1		15.9	15.9			15.9	
Effective Green, g (s)	3.8	18.0		3.6	17.1		15.9	15.9			15.9	
Actuated g/C Ratio	0.07	0.35		0.07	0.33		0.31	0.31			0.31	
Clearance Time (s)	4.4	5.2		4.4	5.9		4.9	4.9			4.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)	129	1145		122	1144		393	500			492	
v/s Ratio Prot	c0.04	c0.17		0.04	0.14			0.01				
v/s Ratio Perm							c0.19				0.04	
v/c Ratio	0.60	0.48		0.62	0.42		0.63	0.04			0.13	
Uniform Delay, d1	23.4	13.3		23.5	13.6		15.5	12.7			13.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	7.8	0.3		9.5	0.2		3.3	0.0			0.1	
Delay (s)	31.1	13.7		33.0	13.8		18.9	12.7			13.1	
Level of Service	C	B		C	B		B	B			B	
Approach Delay (s)		15.5			16.4			17.9			13.1	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	16.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	52.0	Sum of lost time (s)	15.2
Intersection Capacity Utilization	54.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	700	5	600	423	1240	0	0	1010	400
Future Volume (vph)	0	0	0	700	5	600	423	1240	0	0	1010	400
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				5.6	5.6	5.6	4.2	6.3			6.3	
Lane Util. Factor				0.95	0.95	1.00	0.97	0.95			0.91	
Frt				1.00	1.00	0.85	1.00	1.00			0.95	
Flt Protected				0.95	0.95	1.00	0.95	1.00			1.00	
Satd. Flow (prot)				1681	1689	1583	3433	3539			4852	
Flt Permitted				0.95	0.95	1.00	0.95	1.00			1.00	
Satd. Flow (perm)				1681	1689	1583	3433	3539			4852	
Peak-hour factor, PHF	0.92	0.92	0.92	0.73	0.25	0.98	0.86	0.93	0.92	0.92	0.97	0.87
Adj. Flow (vph)	0	0	0	959	20	612	492	1333	0	0	1041	460
RTOR Reduction (vph)	0	0	0	0	0	37	0	0	0	0	57	0
Lane Group Flow (vph)	0	0	0	489	490	575	492	1333	0	0	1444	0
Turn Type				Split	NA	Perm	Prot	NA			NA	
Protected Phases				8	8		5	2			6	
Permitted Phases						8						
Actuated Green, G (s)				51.9	51.9	51.9	23.5	72.2			44.5	
Effective Green, g (s)				51.9	51.9	51.9	23.5	72.2			44.5	
Actuated g/C Ratio				0.38	0.38	0.38	0.17	0.53			0.33	
Clearance Time (s)				5.6	5.6	5.6	4.2	6.3			6.3	
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)				641	644	604	593	1878			1587	
v/s Ratio Prot				0.29	0.29		c0.14	0.38			c0.30	
v/s Ratio Perm						c0.36						
v/c Ratio				0.76	0.76	0.95	0.83	0.71			0.91	
Uniform Delay, d1				36.7	36.6	40.8	54.3	24.0			43.8	
Progression Factor				1.00	1.00	1.00	1.55	0.87			1.00	
Incremental Delay, d2				5.4	5.3	25.1	2.5	0.8			9.3	
Delay (s)				42.0	41.9	65.9	86.5	21.8			53.2	
Level of Service				D	D	E	F	C			D	
Approach Delay (s)		0.0			51.2			39.2			53.2	
Approach LOS		A			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	47.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	136.0	Sum of lost time (s)	16.1
Intersection Capacity Utilization	81.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	170	0	517	0	0	0	0	1553	410	420	1290	0
Future Volume (vph)	170	0	517	0	0	0	0	1553	410	420	1290	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0					6.3	6.3	4.2	6.3	
Lane Util. Factor	0.95	0.95	0.88					0.95	1.00	0.97	0.91	
Frt	1.00	1.00	0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95	0.95	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1681	1681	2787					3539	1583	3433	5085	
Flt Permitted	0.95	0.95	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1681	1681	2787					3539	1583	3433	5085	
Peak-hour factor, PHF	0.67	0.92	0.85	0.92	0.92	0.92	0.92	0.93	0.82	0.82	0.92	0.92
Adj. Flow (vph)	254	0	608	0	0	0	0	1670	500	512	1402	0
RTOR Reduction (vph)	0	0	535	0	0	0	0	0	98	0	0	0
Lane Group Flow (vph)	127	127	73	0	0	0	0	1670	402	512	1402	0
Turn Type	Split	NA	Perm					NA	Perm	Prot	NA	
Protected Phases	4	4						2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	16.3	16.3	16.3					60.2	60.2	32.6	97.0	
Effective Green, g (s)	16.3	16.3	16.3					60.2	60.2	32.6	97.0	
Actuated g/C Ratio	0.12	0.12	0.12					0.44	0.44	0.24	0.71	
Clearance Time (s)	5.0	5.0	5.0					6.3	6.3	4.2	6.3	
Vehicle Extension (s)	3.0	3.0	3.0					3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	201	201	334					1566	700	822	3626	
v/s Ratio Prot	c0.08	0.08						c0.47		c0.15	0.28	
v/s Ratio Perm			0.03						0.25			
v/c Ratio	0.63	0.63	0.22					1.07	0.57	0.62	0.39	
Uniform Delay, d1	57.0	57.0	54.1					37.9	28.3	46.2	7.7	
Progression Factor	1.00	1.00	1.00					1.00	1.00	1.22	1.39	
Incremental Delay, d2	6.3	6.3	0.3					42.8	3.4	0.6	0.2	
Delay (s)	63.3	63.3	54.4					80.7	31.7	57.0	10.9	
Level of Service	E	E	D					F	C	E	B	
Approach Delay (s)		57.0			0.0			69.4			23.3	
Approach LOS		E			A			E			C	

Intersection Summary				
HCM 2000 Control Delay	49.4	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.81			
Actuated Cycle Length (s)	136.0	Sum of lost time (s)	19.5	
Intersection Capacity Utilization	81.3%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	360	16	203	70	31	50	529	1413	140	90	1387	400
Future Volume (vph)	360	16	203	70	31	50	529	1413	140	90	1387	400
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3	6.3	6.3	4.9	4.9		4.4	5.7		4.4	6.5	6.5
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95		0.97	0.95		1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.92		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	0.96	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1692	1583	1681	1614		3433	3491		1770	3539	1583
Flt Permitted	0.95	0.96	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1681	1692	1583	1681	1614		3433	3491		1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	391	17	221	76	34	54	575	1536	152	98	1508	435
RTOR Reduction (vph)	0	0	181	0	39	0	0	4	0	0	0	124
Lane Group Flow (vph)	203	205	40	68	57	0	575	1684	0	98	1508	311
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			4									6
Actuated Green, G (s)	19.5	19.5	19.5	12.9	12.9		10.8	47.1		5.7	41.2	41.2
Effective Green, g (s)	19.5	19.5	19.5	12.9	12.9		10.8	47.1		5.7	41.2	41.2
Actuated g/C Ratio	0.18	0.18	0.18	0.12	0.12		0.10	0.44		0.05	0.39	0.39
Clearance Time (s)	6.3	6.3	6.3	4.9	4.9		4.4	5.7		4.4	6.5	6.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	307	309	289	203	195		348	1543		94	1369	612
v/s Ratio Prot	0.12	c0.12		c0.04	0.04		c0.17	c0.48		0.06	0.43	
v/s Ratio Perm			0.03									0.20
v/c Ratio	0.66	0.66	0.14	0.33	0.29		1.65	1.09		1.04	1.10	0.51
Uniform Delay, d1	40.4	40.4	36.5	42.9	42.7		47.9	29.7		50.4	32.6	24.9
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	5.3	5.3	0.2	1.0	0.8		306.1	52.0		104.8	57.1	3.0
Delay (s)	45.7	45.7	36.7	43.9	43.5		353.9	81.7		155.2	89.8	27.9
Level of Service	D	D	D	D	D		F	F		F	F	C
Approach Delay (s)		42.5			43.6			150.9			79.7	
Approach LOS		D			D			F			E	

Intersection Summary				
HCM 2000 Control Delay	105.6	HCM 2000 Level of Service	F	
HCM 2000 Volume to Capacity ratio	0.99			
Actuated Cycle Length (s)	106.5	Sum of lost time (s)	22.1	
Intersection Capacity Utilization	84.8%	ICU Level of Service	E	
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	5	0	430	5	575	20	1277	520	533	937	0
Future Volume (vph)	5	5	0	430	5	575	20	1277	520	533	937	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0	4.0	4.0	6.1	4.0	4.0	5.8	
Lane Util. Factor		1.00		0.97	0.95	0.95	1.00	0.95	1.00	0.97	0.95	
Frpb, ped/bikes		1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		1.00		1.00	0.85	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.98		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1817		3433	1508	1504	1770	3539	1583	3433	3539	
Flt Permitted		0.98		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1817		3433	1508	1504	1770	3539	1583	3433	3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	5	0	467	5	625	22	1388	565	579	1018	0
RTOR Reduction (vph)	0	0	0	0	237	236	0	0	189	0	0	0
Lane Group Flow (vph)	0	10	0	467	81	76	22	1388	376	579	1018	0
Confl. Peds. (#/hr)			1									
Turn Type	Split	NA		Split	NA	Perm	Prot	NA	pm+ov	Prot	NA	
Protected Phases	4	4		8	8		5	2	8	1	6	
Permitted Phases						8			2			
Actuated Green, G (s)		7.3		31.0	31.0	31.0	2.5	53.9	84.9	17.4	69.1	
Effective Green, g (s)		7.3		31.0	31.0	31.0	2.5	53.9	84.9	17.4	69.1	
Actuated g/C Ratio		0.06		0.24	0.24	0.24	0.02	0.42	0.66	0.14	0.54	
Clearance Time (s)		4.0		4.0	4.0	4.0	4.0	6.1	4.0	4.0	5.8	
Vehicle Extension (s)		3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		103		833	366	365	34	1493	1052	467	1914	
v/s Ratio Prot		c0.01		c0.14	0.05		0.01	c0.39	0.09	c0.17	0.29	
v/s Ratio Perm						0.05			0.15			
v/c Ratio		0.10		0.56	0.22	0.21	0.65	0.93	0.36	1.24	0.53	
Uniform Delay, d1		57.1		42.4	38.7	38.6	62.2	35.1	9.4	55.2	18.9	
Progression Factor		1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.4		0.9	0.3	0.3	35.3	10.4	0.2	125.1	0.3	
Delay (s)		57.5		43.2	39.0	38.8	97.4	45.5	9.6	180.3	19.2	
Level of Service		E		D	D	D	F	D	A	F	B	
Approach Delay (s)		57.5			40.8			35.8			77.6	
Approach LOS		E			D			D			E	

Intersection Summary			
HCM 2000 Control Delay	51.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	127.7	Sum of lost time (s)	18.1
Intersection Capacity Utilization	81.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	44	32	15	83	43	374	11	699	91	898	376	16
Future Volume (vph)	44	32	15	83	43	374	11	699	91	898	376	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	0.95	0.95	1.00	0.95		0.97	0.91	
Frpb, ped/bikes	1.00	0.98		1.00	0.96	0.95	1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.95		1.00	0.88	0.85	1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1734		1770	1491	1423	1770	3449		3433	5041	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1734		1770	1491	1423	1770	3449		3433	5041	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	48	35	16	90	47	407	12	760	99	976	409	17
RTOR Reduction (vph)	0	15	0	0	127	196	0	8	0	0	3	0
Lane Group Flow (vph)	48	36	0	90	103	28	12	851	0	976	423	0
Confl. Peds. (#/hr)			20			20			20			20
Confl. Bikes (#/hr)			10			10			10			10
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8						
Actuated Green, G (s)	4.0	9.2		8.0	13.2	13.2	0.7	34.9		33.8	68.0	
Effective Green, g (s)	4.0	9.2		8.0	13.2	13.2	0.7	34.9		33.8	68.0	
Actuated g/C Ratio	0.04	0.09		0.08	0.13	0.13	0.01	0.34		0.33	0.65	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	68	153		136	189	180	11	1158		1116	3299	
v/s Ratio Prot	0.03	0.02		c0.05	c0.07		0.01	c0.25		c0.28	0.08	
v/s Ratio Perm						0.02						
v/c Ratio	0.71	0.24		0.66	0.54	0.16	1.09	0.73		0.87	0.13	
Uniform Delay, d1	49.4	44.1		46.6	42.5	40.4	51.6	30.4		33.1	6.8	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.03	1.00		1.00	1.00	
Incremental Delay, d2	28.3	0.8		11.5	3.2	0.4	304.6	2.5		7.8	0.0	
Delay (s)	77.6	44.9		58.1	45.7	40.8	357.9	32.8		40.9	6.8	
Level of Service	E	D		E	D	D	F	C		D	A	
Approach Delay (s)		60.8			45.7			37.2			30.5	
Approach LOS		E			D			D			C	

Intersection Summary			
HCM 2000 Control Delay	36.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	103.9	Sum of lost time (s)	18.0
Intersection Capacity Utilization	82.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (veh/h)	448	82	21	336	32	447	112
Future Volume (Veh/h)	448	82	21	336	32	447	112
Sign Control	Stop			Free		Free	
Grade	0%			0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	487	89	23	365	0	486	122
Pedestrians	20			20			
Lane Width (ft)	12.0			12.0			
Walking Speed (ft/s)	4.0			4.0			
Percent Blockage	2			2			
Right turn flare (veh)							
Median type				None		None	
Median storage veh)							
Upstream signal (ft)				920		480	
pX, platoon unblocked	0.99	0.99	0.99		0.00		
vC, conflicting volume	734	283	628		0		
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	706	249	599		0		
tC, single (s)	6.8	6.9	4.1		0.0		
tC, 2 stage (s)							
tF (s)	3.5	3.3	2.2		0.0		
p0 queue free %	0	88	98		0		
cM capacity (veh/h)	351	717	946		0		

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3	SB 4
Volume Total	325	251	23	182	182	243	243	122	0
Volume Left	325	162	23	0	0	0	0	0	0
Volume Right	0	89	0	0	0	0	0	122	0
cSH	351	428	946	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.93	0.59	0.02	0.11	0.11	0.14	0.14	0.07	0.00
Queue Length 95th (ft)	238	91	2	0	0	0	0	0	0
Control Delay (s)	66.1	24.7	8.9	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	F	C	A						
Approach Delay (s)	48.0		0.5			0.0			
Approach LOS	E								

Intersection Summary			
Average Delay		17.7	
Intersection Capacity Utilization		41.8%	ICU Level of Service	A
Analysis Period (min)		15	

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	110	15	201	76	60	300
Future Volume (vph)	110	15	201	76	60	300
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frpb, ped/bikes	1.00	0.98	0.99		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	0.96		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1546	3366		1770	3539
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1546	3366		1770	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	120	16	218	83	65	326
RTOR Reduction (vph)	0	13	39	0	0	0
Lane Group Flow (vph)	120	3	262	0	65	326
Confl. Bikes (#/hr)		10		10		
Turn Type	Prot	Perm	NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8				
Actuated Green, G (s)	8.3	8.3	19.1		2.7	26.3
Effective Green, g (s)	8.3	8.3	19.1		2.7	26.3
Actuated g/C Ratio	0.19	0.19	0.44		0.06	0.60
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	336	294	1474		109	2134
v/s Ratio Prot	c0.07		c0.08		c0.04	0.09
v/s Ratio Perm		0.00				
v/c Ratio	0.36	0.01	0.18		0.60	0.15
Uniform Delay, d1	15.3	14.3	7.5		19.9	3.8
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.7	0.0	0.1		8.5	0.0
Delay (s)	16.0	14.3	7.5		28.4	3.8
Level of Service	B	B	A		C	A
Approach Delay (s)	15.8		7.5			7.9
Approach LOS	B		A			A

Intersection Summary			
HCM 2000 Control Delay	9.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.26		
Actuated Cycle Length (s)	43.6	Sum of lost time (s)	13.5
Intersection Capacity Utilization	28.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

APPENDIX N

PEAK HOUR INTERSECTION AND QUEUEING ANALYSIS WORKSHEETS PROJECT ACCESS

HCM Signalized Intersection Capacity Analysis
22: Camino Del Sur & South Proj Drwy

3/15/2016

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	52	10	86	332	8	75	469
Future Volume (vph)	52	10	86	332	8	75	469
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		4.0	5.5	4.0	5.5	5.5
Lane Util. Factor	0.97		1.00	0.95	1.00	0.95	1.00
Frpb, ped/bikes	0.99		1.00	1.00	1.00	1.00	0.95
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00	1.00
Frt	0.98		1.00	1.00	1.00	1.00	0.85
Flt Protected	0.96		0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3346		1770	3539	1770	3539	1510
Flt Permitted	0.96		0.95	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3346		1770	3539	1770	3539	1510
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	57	11	93	361	9	82	510
RTOR Reduction (vph)	10	0	0	0	0	0	273
Lane Group Flow (vph)	58	0	93	361	9	82	237
Confl. Peds. (#/hr)		20					20
Confl. Bikes (#/hr)		10					10
Turn Type	Prot		Prot	NA	Prot	NA	Perm
Protected Phases	4		5	2	1	6	
Permitted Phases							6
Actuated Green, G (s)	5.4		4.7	25.6	0.4	21.3	21.3
Effective Green, g (s)	5.4		4.7	25.6	0.4	21.3	21.3
Actuated g/C Ratio	0.12		0.10	0.56	0.01	0.46	0.46
Clearance Time (s)	5.0		4.0	5.5	4.0	5.5	5.5
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	393		181	1973	15	1642	700
v/s Ratio Prot	c0.02		c0.05	0.10	0.01	0.02	
v/s Ratio Perm							c0.16
v/c Ratio	0.15		0.51	0.18	0.60	0.05	0.34
Uniform Delay, d1	18.2		19.5	5.0	22.7	6.7	7.8
Progression Factor	1.00		1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2		2.5	0.0	51.0	0.0	0.3
Delay (s)	18.4		22.0	5.0	73.7	6.8	8.1
Level of Service	B		C	A	E	A	A
Approach Delay (s)	18.4			8.5		8.9	
Approach LOS	B			A		A	

Intersection Summary			
HCM 2000 Control Delay	9.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	45.9	Sum of lost time (s)	14.5
Intersection Capacity Utilization	43.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	448	82	21	245	32	242	112
Future Volume (vph)	448	82	21	245	32	242	112
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.0	4.5	4.5
Lane Util. Factor	0.97		1.00	0.95	1.00	0.95	1.00
Frpb, ped/bikes	0.99		1.00	1.00	1.00	1.00	0.95
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00	1.00
Frt	0.98		1.00	1.00	1.00	1.00	0.85
Flt Protected	0.96		0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3363		1770	3539	1770	3539	1506
Flt Permitted	0.96		0.95	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3363		1770	3539	1770	3539	1506
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	487	89	23	266	35	263	122
RTOR Reduction (vph)	18	0	0	0	0	0	87
Lane Group Flow (vph)	558	0	23	266	35	263	35
Confl. Peds. (#/hr)		20					20
Confl. Bikes (#/hr)		10					10
Turn Type	Prot		Prot	NA	Prot	NA	Perm
Protected Phases	4		5	2	1	6	
Permitted Phases							6
Actuated Green, G (s)	13.4		0.8	11.4	0.9	11.0	11.0
Effective Green, g (s)	13.4		0.8	11.4	0.9	11.0	11.0
Actuated g/C Ratio	0.35		0.02	0.29	0.02	0.28	0.28
Clearance Time (s)	4.5		4.5	4.5	4.0	4.5	4.5
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1164		36	1042	41	1005	428
v/s Ratio Prot	c0.17		0.01	c0.08	c0.02	0.07	
v/s Ratio Perm							0.02
v/c Ratio	0.48		0.64	0.26	0.85	0.26	0.08
Uniform Delay, d1	9.9		18.8	10.4	18.8	10.7	10.1
Progression Factor	1.00		1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.3		31.7	0.1	85.0	0.1	0.1
Delay (s)	10.2		50.5	10.5	103.8	10.8	10.2
Level of Service	B		D	B	F	B	B
Approach Delay (s)	10.2			13.7		18.4	
Approach LOS	B			B		B	

Intersection Summary			
HCM 2000 Control Delay	13.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	38.7	Sum of lost time (s)	13.5
Intersection Capacity Utilization	45.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	52	10	86	408	8	138	469
Future Volume (vph)	52	10	86	408	8	138	469
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		4.0	5.5	4.0	5.5	5.5
Lane Util. Factor	0.97		1.00	0.95	1.00	0.95	1.00
Frpb, ped/bikes	0.99		1.00	1.00	1.00	1.00	0.95
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00	1.00
Frt	0.98		1.00	1.00	1.00	1.00	0.85
Flt Protected	0.96		0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3346		1770	3539	1770	3539	1509
Flt Permitted	0.96		0.95	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3346		1770	3539	1770	3539	1509
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	57	11	93	443	9	150	510
RTOR Reduction (vph)	10	0	0	0	0	0	269
Lane Group Flow (vph)	58	0	93	443	9	150	241
Confl. Peds. (#/hr)		20					20
Confl. Bikes (#/hr)		10					10
Turn Type	Prot		Prot	NA	Prot	NA	Perm
Protected Phases	4		5	2	1	6	
Permitted Phases							6
Actuated Green, G (s)	5.4		4.7	26.3	0.4	22.0	22.0
Effective Green, g (s)	5.4		4.7	26.3	0.4	22.0	22.0
Actuated g/C Ratio	0.12		0.10	0.56	0.01	0.47	0.47
Clearance Time (s)	5.0		4.0	5.5	4.0	5.5	5.5
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	387		178	1997	15	1670	712
v/s Ratio Prot	c0.02		c0.05	0.13	0.01	0.04	
v/s Ratio Perm							c0.16
v/c Ratio	0.15		0.52	0.22	0.60	0.09	0.34
Uniform Delay, d1	18.5		19.9	5.1	23.0	6.8	7.7
Progression Factor	1.00		1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2		2.8	0.1	51.0	0.0	0.3
Delay (s)	18.7		22.6	5.1	74.1	6.8	8.0
Level of Service	B		C	A	E	A	A
Approach Delay (s)	18.7			8.2		8.6	
Approach LOS	B			A		A	

Intersection Summary			
HCM 2000 Control Delay	9.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	46.6	Sum of lost time (s)	14.5
Intersection Capacity Utilization	43.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	448	82	21	336	32	447	112
Future Volume (vph)	448	82	21	336	32	447	112
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.0	4.5	4.5
Lane Util. Factor	0.97		1.00	0.95	1.00	0.95	1.00
Frpb, ped/bikes	0.99		1.00	1.00	1.00	1.00	0.95
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00	1.00
Frt	0.98		1.00	1.00	1.00	1.00	0.85
Flt Protected	0.96		0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3361		1770	3539	1770	3539	1507
Flt Permitted	0.96		0.95	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3361		1770	3539	1770	3539	1507
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	487	89	23	365	35	486	122
RTOR Reduction (vph)	18	0	0	0	0	0	81
Lane Group Flow (vph)	558	0	23	365	35	486	41
Confl. Peds. (#/hr)		20					20
Confl. Bikes (#/hr)		10					10
Turn Type	Prot		Prot	NA	Prot	NA	Perm
Protected Phases	4		5	2	1	6	
Permitted Phases							6
Actuated Green, G (s)	13.7		0.9	14.3	1.2	14.1	14.1
Effective Green, g (s)	13.7		0.9	14.3	1.2	14.1	14.1
Actuated g/C Ratio	0.32		0.02	0.34	0.03	0.33	0.33
Clearance Time (s)	4.5		4.5	4.5	4.0	4.5	4.5
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1091		37	1199	50	1182	503
v/s Ratio Prot	c0.17		0.01	0.10	c0.02	c0.14	
v/s Ratio Perm							0.03
v/c Ratio	0.51		0.62	0.30	0.70	0.41	0.08
Uniform Delay, d1	11.5		20.5	10.3	20.3	10.8	9.6
Progression Factor	1.00		1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4		28.2	0.1	35.0	0.2	0.1
Delay (s)	11.9		48.7	10.4	55.3	11.1	9.7
Level of Service	B		D	B	E	B	A
Approach Delay (s)	11.9			12.7		13.2	
Approach LOS	B			B		B	

Intersection Summary			
HCM 2000 Control Delay	12.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	42.2	Sum of lost time (s)	13.5
Intersection Capacity Utilization	48.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Queues
21: Camino Del Sur & North Proj Drwy/Private Dr M

11/13/2017

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	5	18	93	168	166	13	413	653	552
v/c Ratio	0.04	0.07	0.34	0.43	0.42	0.09	0.49	0.64	0.18
Control Delay	33.6	24.7	29.9	9.7	8.0	33.9	21.1	23.1	6.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.6	24.7	29.9	9.7	8.0	33.9	21.1	23.1	6.6
Queue Length 50th (ft)	1	4	23	3	0	4	51	76	16
Queue Length 95th (ft)	14	26	99	56	47	26	143	#268	88
Internal Link Dist (ft)		228		385			400		795
Turn Bay Length (ft)					150	150		180	
Base Capacity (vph)	140	676	351	779	774	140	1654	1395	3987
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.03	0.26	0.22	0.21	0.09	0.25	0.47	0.14

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	NBL	NBT	SBU	SBT	SBR
Lane Group Flow (vph)	68	93	361	9	82	510
v/c Ratio	0.09	0.26	0.14	0.05	0.04	0.48
Control Delay	13.4	20.4	6.4	25.6	12.9	3.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.4	20.4	6.4	25.6	12.9	3.9
Queue Length 50th (ft)	4	15	15	2	6	0
Queue Length 95th (ft)	22	80	81	18	28	66
Internal Link Dist (ft)	251		840		400	
Turn Bay Length (ft)		150		150		
Base Capacity (vph)	2249	593	3282	197	3205	1389
Starvation Cap Reductn	0	0	0	0	0	60
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.16	0.11	0.05	0.03	0.38

Intersection Summary

Queues
21: Camino Del Sur & North Proj Drwy/Private Dr M

11/13/2017

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	46	40	92	213	210	3	785	917	325
v/c Ratio	0.35	0.23	0.46	0.60	0.57	0.04	0.74	0.79	0.09
Control Delay	57.6	36.8	53.1	16.8	12.3	54.7	35.2	35.4	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.6	36.8	53.1	16.8	12.3	54.7	35.2	35.4	6.7
Queue Length 50th (ft)	29	17	56	15	0	2	232	272	21
Queue Length 95th (ft)	#76	52	124	92	69	13	369	425	55
Internal Link Dist (ft)		453		385			400		795
Turn Bay Length (ft)					150	150		180	
Base Capacity (vph)	136	376	269	553	558	84	1392	1530	3892
Starvation Cap Reductn	0	0	0	0	0	0	2	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.11	0.34	0.39	0.38	0.04	0.56	0.60	0.08

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	NBL	NBT	SBU	SBT	SBR
Lane Group Flow (vph)	576	23	266	35	263	122
v/c Ratio	0.46	0.07	0.25	0.10	0.24	0.23
Control Delay	10.9	19.7	11.3	19.0	11.2	4.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.9	19.7	11.3	19.0	11.2	4.5
Queue Length 50th (ft)	27	3	15	4	15	0
Queue Length 95th (ft)	137	29	67	38	66	31
Internal Link Dist (ft)	400		840		400	
Turn Bay Length (ft)		150		150		
Base Capacity (vph)	3016	542	3142	571	3142	1326
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.04	0.08	0.06	0.08	0.09

Intersection Summary

Queues

21: Camino Del Sur & North Proj Drwy/Private Dr M

11/13/2017

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	11	22	93	195	197	14	494	692	617
v/c Ratio	0.09	0.09	0.37	0.45	0.45	0.11	0.57	0.69	0.20
Control Delay	37.3	24.1	33.8	8.8	7.7	37.5	24.0	26.3	7.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.3	24.1	33.8	8.8	7.7	37.5	24.0	26.3	7.4
Queue Length 50th (ft)	3	4	26	4	0	4	67	91	19
Queue Length 95th (ft)	23	27	99	60	53	27	173	#294	99
Internal Link Dist (ft)		228		385			400		795
Turn Bay Length (ft)					150	150		180	
Base Capacity (vph)	127	585	319	736	735	127	1509	1268	3703
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.04	0.29	0.26	0.27	0.11	0.33	0.55	0.17

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	NBL	NBT	SBU	SBT	SBR
Lane Group Flow (vph)	68	93	443	9	150	510
v/c Ratio	0.10	0.26	0.18	0.05	0.07	0.48
Control Delay	13.7	20.8	6.4	26.0	12.5	3.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.1
Total Delay	13.7	20.8	6.4	26.0	12.5	3.9
Queue Length 50th (ft)	5	16	19	2	12	0
Queue Length 95th (ft)	22	80	99	18	45	66
Internal Link Dist (ft)	251		840		400	
Turn Bay Length (ft)		150		150		
Base Capacity (vph)	2205	582	3282	194	3185	1384
Starvation Cap Reductn	0	0	0	0	0	120
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.16	0.13	0.05	0.05	0.40

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	48	51	90	230	224	12	859	976	426
v/c Ratio	0.47	0.29	0.50	0.71	0.58	0.16	0.80	0.84	0.12
Control Delay	67.5	39.1	58.1	30.0	12.3	59.1	39.6	39.7	6.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.5	39.1	58.1	30.0	12.3	59.1	39.6	39.7	6.9
Queue Length 50th (ft)	33	23	60	57	0	8	276	314	30
Queue Length 95th (ft)	#94	62	123	147	71	31	#436	#481	70
Internal Link Dist (ft)		453		385			400		795
Turn Bay Length (ft)					150	150		180	
Base Capacity (vph)	103	334	227	490	530	75	1253	1404	3704
Starvation Cap Reductn	0	0	0	0	0	0	13	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.15	0.40	0.47	0.42	0.16	0.69	0.70	0.12

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	NBL	NBT	SBU	SBT	SBR
Lane Group Flow (vph)	576	23	365	35	486	122
v/c Ratio	0.49	0.07	0.31	0.17	0.38	0.20
Control Delay	12.5	21.5	11.7	25.3	11.6	4.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.5	21.5	11.7	25.3	11.6	4.2
Queue Length 50th (ft)	32	3	21	5	30	0
Queue Length 95th (ft)	136	29	80	41	119	31
Internal Link Dist (ft)	400		840		400	
Turn Bay Length (ft)		150		150		
Base Capacity (vph)	2860	434	3177	204	3043	1289
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.05	0.11	0.17	0.16	0.09

Intersection Summary

APPENDIX O

CAMINO DEL SUR/ SOUTHERLY PROJECT DRIVEWAY SIGNAL WARRANT ANALYSIS

CAMINO DEL SUR/ SOUTHERLY DRIVEWAY SIGNAL WARRANT

Based on a preliminary analysis of the Camino Del Sur/ Southerly Driveway intersection, LOS F operations are forecasted in the Year 2035 With Project if the intersection is unsignalized. The improvement needed to improve LOS operations to acceptable levels would be to install a traffic signal.

A traffic signal warrant analysis has been completed to determine if a signal would meet warrants under future conditions. As outlined in Chapter 4C, "Traffic Control Signal Needs Studies," of the *2012 California Manual on Uniform Traffic Control Devices* (California MUTCD), the peak hour warrant (Warrant 3) was analyzed for the subject intersection to determine if a traffic signal would be warranted under Opening Day With Project and Year 2035 With Project conditions.

The lane configurations at the "tee" intersection propose the following:

- Camino Del Sur Southbound: 2 thru lanes; 1 right-turn lane; 1 U-turn lane
- Camino Del Sur Northbound: 2 thru lanes; 1 left-turn lane
- Southerly Driveway Eastbound: 1 left-turn lane; 1 shared left-turn/right-turn lane

Table A below provides an overview of the existing geometric conditions at the intersection.

TABLE A
PROPOSED LANE CONDITIONS

Intersection	Major Street	Number of Lanes per Approach	
		Major Street	Minor Street
Camino Del Sur / Southerly Driveway	Camino Del Sur	2	2

Note:

1. Per the MUTCD Section 4C.01(09), "site-specific traffic characteristics should dictate whether an approach is considered as one lane or two lanes. For example, for an approach with one lane for through and right-turning traffic plus a left-turn lane, if engineering judgment indicates that it should be considered a one-lane approach because the traffic using the left-turn lane is minor, the total traffic volume approaching the intersection should be applied against the signal warrants as a one-lane approach." Thus, a one lane approach was applied to the minor street approach.

Table B provides the hourly traffic volumes used in the analysis.

TABLE B
YEAR 2035 WITH PROJECT TRAFFIC VOLUMES

Time of Day	Vehicles per hour on major street (Total of both approaches)	Vehicles per hour on higher-volume minor-street approach (One direction only)
Opening Day With Project		
7:00-9:00 AM	978	62
4:00-6:00 PM	684	530
Year 2035 With Project		
7:00-9:00 AM	1,117	62
4:00-6:00 PM	980	530

Note:

1. Volumes shown represent peak one-hour timeframe between the AM and PM peak periods.

1.0 WARRANT 3 – PEAK HOUR

1.1 Warrant 3 – Methodolgy

Warrant 3: Peak-Hour Vehicular Volume—The Peak-Hour Vehicular Volume signal Warrant is intended for use at a location where traffic conditions are such that for a minimum one hour of an average day, the minor-street traffic suffers undue delay when entering or crossing the major street. The need for a traffic control signal shall be considered if an engineering study finds that the criteria in either Category A or Category B are met. Category A examines the peak hour volume and delay conditions for the same one hour of an average day. Category B compares the traffic volumes on the major and minor street approaches for one hour of an average day against a set threshold to consider installing a traffic signal. If either Category A or B is met, a signal is warranted.

Category A. If all of the three conditions exist for the same 1 hour (any four consecutive 15-minute periods) of an average day:

1. The total stopped time delay experienced by the traffic on one minor-street approach (one direction only) controlled by a STOP sign equals or exceeds: 4 Vehicles-hours for a one-lane approach; or 5 vehicle-hours for a two-lane approach, and
2. The volume on the same-minor street approach (one direction only) equals or exceeds 100 vehicles per hour for one moving lane of traffic or 150 vehicles per hour for two moving lanes, and
3. The total entering volume serviced during the hour equals or exceeds 650 vehicles per hour for the intersections with three approaches or 800 vehicles per hour for intersections with four or more approaches.

Category B. The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume on the minor street approach (one direction only) for 1 hour (or any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

If the posted or statutory speed limit or the 85th-percentile speed on the major street exceeds 40 mph, or if the intersection lies within the built-up area of an isolated community having a population of less than 10,000, Figure 4C-4 may be used in place of Figure 4C-3 to satisfy the criteria in the second category. Since the proposed speed on Camino Del Sur is at least 35 mph, Figure 4C-3 was used in the analysis.

1.2 Calculations

Table C and ***Table D*** summarize Warrant 3 calculations. The unsignalized peak hour intersection analysis indicate LOS B/C during the AM/PM peak hours under Opening Day and LOS C/F during the AM/PM peak hours in Year 2035 for the stop-controlled eastbound approach. To calculate the total vehicle hours to assess Category A-1, the following formulas were used:

Opening Day With Project
AM peak hour = (13.4 seconds x 62 vehicles/hour) ÷ 3600 sec/hour = 0.23 vehicle hours
PM peak hour = (23.7 seconds x 530 vehicles/hour) ÷ 3600 sec/hour = 3.49 vehicle hours

Year 2035 With Project
AM peak hour = (15.1 seconds x 62 vehicles/hour) ÷ 3600 sec/hour = 0.26 vehicle hours
PM peak hour = (66.1 seconds x 530 vehicles/hour) ÷ 3600 sec/hour = 9.73 vehicle hours

According to the calculations above, the total vehicle hours experienced in the PM peak hour conditions in the Year 2035 exceed the thresholds allowed by Category A-1.

For Categories A-2 and A-3, as seen in *Table C* and *Table D*, the AM peak hour traffic volumes fall below the curve and the PM peak hour traffic volumes rise above the curve in Year 2035 when plotted on Figure 4C-3 of the California MUTCD (*provided later in this section of the Appendices*). Thus, **Category A of Warrant 3 is not satisfied in Opening Day (Year 2020) but is satisfied for Year 2035 plus Project conditions.**

As shown in the graphic depicted following the table below, the PM peak hour volumes are above the threshold for a two or more lane approach major and two lane minor for Year 2035 plus Project conditions, thus **Category B of Warrant 3 is not satisfied in Opening Day (Year 2020) but is satisfied for Year 2035 plus Project conditions.**

TABLE C
WARRANT 3: PEAK HOUR – OPENING DAY WITH PROJECT

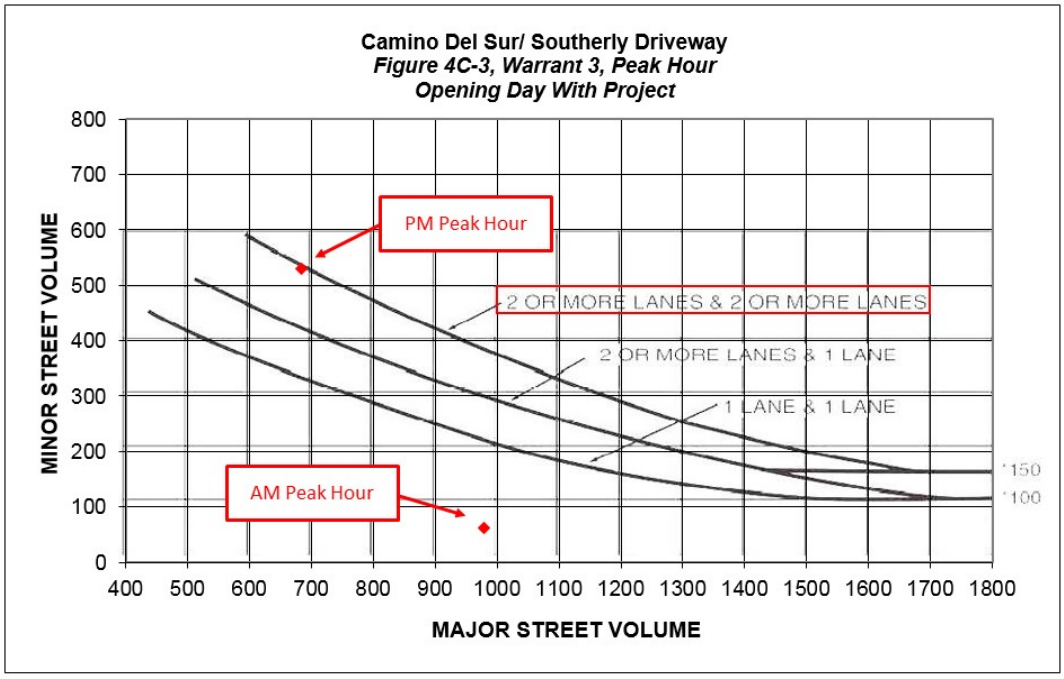
Warrant 3 – Peak Hour	Category A *or* Category B Satisfied *	**Yes** ☐	**No** ☑
Category A (All Parts 1, 2, and 3 below must be satisfied)	Satisfied *	**Yes** ☐	**No** ☑
1. The total delay experienced for traffic on one minor-street approach controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach and five vehicle-hours for a two-lane approach; AND		**Yes** ☐	**No** ☑
2. The volume on the same-minor street approach equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND		**Yes** ☑	**No** ☐
3. The entering volume serviced during the hour equals or exceeds 800 vph for the intersections with four or more approaches or 650 vehicles per hour for intersections with three approaches.		**Yes** ☑	**No** ☐
Category B	Satisfied *	**Yes** ☐	**No** ☑

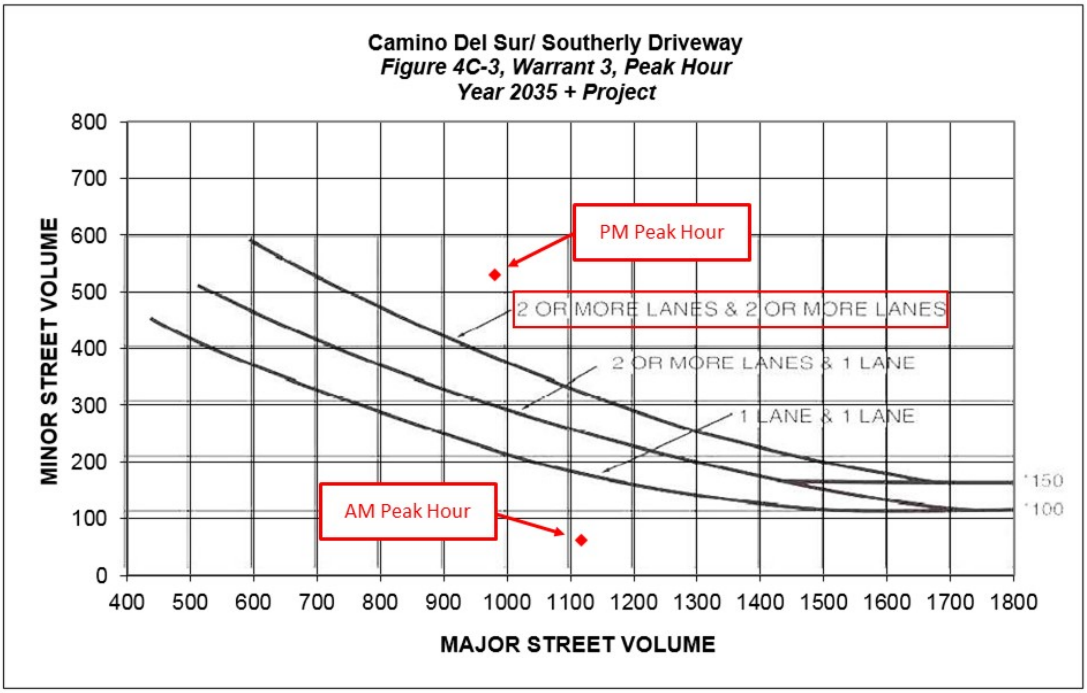
Approach Lanes	**One**	**Two or More**	**Warrant Volume**	**AM**	**PM**
Both Approaches -Major Street		X	See Figure 4C-3 below	978	684
Highest Approach -Minor Street		X	See Figure 4C-3 below	62	530
The plotted points fall above the applicable curve on Figure 4C-3.				**Yes** ☐	**No** ☑

TABLE D
WARRANT 3: PEAK HOUR – YEAR 2035 WITH PROJECT

Warrant 3 – Peak Hour	Category A *or* Category B Satisfied *	**Yes** ✓	**No**
Category A (All Parts 1, 2, and 3 below must be satisfied)	Satisfied *	**Yes** ✓	**No**
4. The total delay experienced for traffic on one minor-street approach controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach and five vehicle-hours for a two-lane approach; AND		**Yes** ✓	**No**
5. The volume on the same-minor street approach equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND		**Yes** ✓	**No**
6. The entering volume serviced during the hour equals or exceeds 800 vph for the intersections with four or more approaches or 650 vehicles per hour for intersections with three approaches.		**Yes** ✓	**No**
Category B	Satisfied *	**Yes** ✓	**No**

Approach Lanes	**One**	**Two or More**	**Warrant Volume**	**AM**	**PM**
Both Approaches -Major Street		X	See Figure 4C-3 below	1,117	980
Highest Approach -Minor Street		X	See Figure 4C-3 below	62	530
The plotted points fall above the applicable curve on Figure 4C-3.				**Yes** ✓	**No**


Camino Del Sur/ Southerly Driveway
Figure 4C-3, Warrant 3, Peak Hour
Opening Day With Project
MINOR STREET VOLUME
MAJOR STREET VOLUME
PM Peak Hour
AM Peak Hour
2 OR MORE LANES & 2 OR MORE LANES
2 OR MORE LANES & 1 LANE
1 LANE & 1 LANE
150
100


Camino Del Sur/ Southerly Driveway
Figure 4C-3, Warrant 3, Peak Hour
Year 2035 + Project
MINOR STREET VOLUME
MAJOR STREET VOLUME
PM Peak Hour
AM Peak Hour
2 OR MORE LANES & 2 OR MORE LANES
2 OR MORE LANES & 1 LANE
1 LANE & 1 LANE
150
100

1.3 Conclusion

Based on the above in *Tables C and D* and the graphics depicted in Figure 4C-3, **Warrants are Met** under Year 2035 With Project conditions.

It is therefore recommended that a traffic signal be installed at the Southerly Driveway intersection with Camino Del Sur to mitigate the Project's cumulative impacts, to the satisfaction of the City Engineer.

APPENDIX P

FAIR SHARE CALCULATIONS

THE PRESERVE AT TORREY HIGHLANDS
FAIR SHARE CALCULATIONS FOR CUMULATIVE TRAFFIC IMPACTS
FEBRUARY XX, 2016 TRAFFIC IMPACT STUDY

City Formula:

$$\text{Fair Share \%} = \frac{\text{Project Traffic Volumes}}{\text{Buildout (With Project) Traffic Volumes} - \text{Existing Traffic Volumes}}$$

*Calculation represents City of San Diego standard fair share formula for cumulative traffic impacts.

TRA-3

Black Mountain Road/ SR 56 Westbound Ramps

*Intersection fair share contributions are calculated to result in higher fair-share percentage depending on higher of AM and PM Project peak hour volumes

$$\frac{55}{4{,}291 - 3{,}834} = 12.0\ \%$$

TRA-4

Black Mountain Road/ SR 56 Eastbound Ramps

*Intersection fair share contributions are calculated to result in higher fair-share percentage depending on higher of AM and PM Project peak hour volumes

$$\frac{66}{4{,}360 - 3{,}938} = 15.6\%$$

TRA-5

Black Mountain Road/ Park Village Road

*Intersection fair share contributions are calculated to result in higher fair-share percentage depending on higher of AM and PM Project peak hour volumes

$$\frac{103}{4{,}682 - 3{,}983} = 14.7\%$$

TRA-6

Black Mountain Road from SR 56 Eastbound Ramps to Park Village Road

* Street segment fair share contributions are calculated using average daily traffic volumes

$$\frac{474}{40{,}867 - 35{,}440} = 8.7\%$$

APPENDIX Q

PEAK HOUR INTERSECTION ANALYSIS WORKSHEETS
POST-MITIGATION

HCM Signalized Intersection Capacity Analysis
6: Camino Del Sur & SR 56 WB Ramps

11/13/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	719	0	900	0	1015	780	0	959	230
Future Volume (vph)	0	0	0	719	0	900	0	1015	780	0	959	230
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				5.3	5.3	5.3		6.3	6.3		6.3	6.3
Lane Util. Factor				0.95	0.95	0.88		0.95	1.00		0.95	0.88
Frpb, ped/bikes				1.00	1.00	0.98		1.00	1.00		1.00	1.00
Flpb, ped/bikes				1.00	1.00	1.00		1.00	1.00		1.00	1.00
Frt				1.00	1.00	0.85		1.00	0.85		1.00	0.85
Flt Protected				0.95	0.95	1.00		1.00	1.00		1.00	1.00
Satd. Flow (prot)				1681	1681	2728		3539	1583		3539	2787
Flt Permitted				0.95	0.95	1.00		1.00	1.00		1.00	1.00
Satd. Flow (perm)				1681	1681	2728		3539	1583		3539	2787
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	782	0	978	0	1103	848	0	1042	250
RTOR Reduction (vph)	0	0	0	0	0	47	0	0	448	0	0	132
Lane Group Flow (vph)	0	0	0	391	391	931	0	1103	400	0	1042	118
Confl. Peds. (#/hr)						1						
Turn Type				Split	NA	Perm		NA	Perm		NA	Perm
Protected Phases				8	8			2			6	
Permitted Phases						8			2			6
Actuated Green, G (s)				36.0	36.0	36.0		42.4	42.4		42.4	42.4
Effective Green, g (s)				36.0	36.0	36.0		42.4	42.4		42.4	42.4
Actuated g/C Ratio				0.40	0.40	0.40		0.47	0.47		0.47	0.47
Clearance Time (s)				5.3	5.3	5.3		6.3	6.3		6.3	6.3
Vehicle Extension (s)				3.0	3.0	3.0		3.0	3.0		3.0	3.0
Lane Grp Cap (vph)				672	672	1091		1667	745		1667	1312
v/s Ratio Prot				0.23	0.23			c0.31			0.29	
v/s Ratio Perm						c0.34			0.25			0.04
v/c Ratio				0.58	0.58	0.85		0.66	0.54		0.63	0.09
Uniform Delay, d1				21.1	21.1	24.6		18.3	16.8		17.8	13.1
Progression Factor				1.00	1.00	1.00		1.00	1.00		1.00	1.00
Incremental Delay, d2				1.3	1.3	6.6		2.1	2.8		1.8	0.1
Delay (s)				22.4	22.4	31.2		20.4	19.6		19.6	13.3
Level of Service				C	C	C		C	B		B	B
Approach Delay (s)		0.0			27.3			20.0			18.4	
Approach LOS		A			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	22.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.6
Intersection Capacity Utilization	69.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	600	5	787	0	0	0	0	1195	1131	0	898	690
Future Volume (vph)	600	5	787	0	0	0	0	1195	1131	0	898	690
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6	4.6					6.3	6.3		6.3	6.3
Lane Util. Factor	0.95	0.95	0.88					0.95	1.00		0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.99					1.00	0.98		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00					1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85					1.00	0.85		1.00	0.85
Flt Protected	0.95	0.95	1.00					1.00	1.00		1.00	1.00
Satd. Flow (prot)	1681	1687	2747					3539	1548		3539	1583
Flt Permitted	0.95	0.95	1.00					1.00	1.00		1.00	1.00
Satd. Flow (perm)	1681	1687	2747					3539	1548		3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	652	5	855	0	0	0	0	1299	1229	0	976	750
RTOR Reduction (vph)	0	0	177	0	0	0	0	0	379	0	0	271
Lane Group Flow (vph)	326	331	678	0	0	0	0	1299	850	0	976	479
Confl. Peds. (#/hr)			2						1			
Turn Type	Split	NA	Perm					NA	Perm		NA	Perm
Protected Phases	4	4						2			6	
Permitted Phases			4						2			6
Actuated Green, G (s)	41.5	41.5	41.5					92.6	92.6		92.6	92.6
Effective Green, g (s)	41.5	41.5	41.5					92.6	92.6		92.6	92.6
Actuated g/C Ratio	0.29	0.29	0.29					0.64	0.64		0.64	0.64
Clearance Time (s)	4.6	4.6	4.6					6.3	6.3		6.3	6.3
Vehicle Extension (s)	3.0	3.0	3.0					3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	481	482	786					2260	988		2260	1010
v/s Ratio Prot	0.19	0.20						0.37			0.28	
v/s Ratio Perm			c0.25						c0.55			0.30
v/c Ratio	0.68	0.69	0.86					0.57	0.86		0.43	0.47
Uniform Delay, d1	45.8	46.0	49.0					15.0	21.0		13.1	13.6
Progression Factor	1.00	1.00	1.00					1.00	1.00		1.00	1.00
Incremental Delay, d2	3.8	4.0	9.6					1.1	9.7		0.6	1.6
Delay (s)	49.6	50.0	58.7					16.0	30.7		13.7	15.2
Level of Service	D	D	E					B	C		B	B
Approach Delay (s)		54.8			0.0			23.2			14.3	
Approach LOS		D			A			C			B	

Intersection Summary			
HCM 2000 Control Delay	28.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	145.0	Sum of lost time (s)	10.9
Intersection Capacity Utilization	97.1%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	540	30	310	641	670	0	0	1270	830
Future Volume (vph)	0	0	0	540	30	310	641	670	0	0	1270	830
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				8.6	8.6	8.6	7.2	9.3			9.3	
Lane Util. Factor				0.95	0.95	1.00	0.97	0.95			0.91	
Frt				1.00	1.00	0.85	1.00	1.00			0.94	
Flt Protected				0.95	0.96	1.00	0.95	1.00			1.00	
Satd. Flow (prot)				1681	1698	1583	3433	3539			4771	
Flt Permitted				0.95	0.96	1.00	0.95	1.00			1.00	
Satd. Flow (perm)				1681	1698	1583	3433	3539			4771	
Peak-hour factor, PHF	0.92	0.92	0.92	0.82	0.55	0.73	0.88	0.87	0.92	0.92	0.89	0.83
Adj. Flow (vph)	0	0	0	659	55	425	728	770	0	0	1427	1000
RTOR Reduction (vph)	0	0	0	0	0	208	0	0	0	0	84	0
Lane Group Flow (vph)	0	0	0	356	358	217	728	770	0	0	2343	0
Turn Type				Split	NA	Perm	Prot	NA			NA	
Protected Phases				8	8		5	2			6	
Permitted Phases						8						
Actuated Green, G (s)				31.4	31.4	31.4	31.8	106.7			70.7	
Effective Green, g (s)				28.4	28.4	28.4	28.8	103.7			67.7	
Actuated g/C Ratio				0.19	0.19	0.19	0.19	0.69			0.45	
Clearance Time (s)				5.6	5.6	5.6	4.2	6.3			6.3	
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)				318	321	299	659	2446			2153	
v/s Ratio Prot				c0.21	0.21		c0.21	0.22			c0.49	
v/s Ratio Perm						0.14						
v/c Ratio				1.12	1.12	0.73	1.10	0.31			1.23dr	
Uniform Delay, d1				60.8	60.8	57.2	60.6	9.1			41.1	
Progression Factor				1.00	1.00	1.00	1.00	1.00			1.00	
Incremental Delay, d2				86.7	85.0	8.5	67.3	0.3			48.2	
Delay (s)				147.5	145.8	65.7	127.9	9.5			89.4	
Level of Service				F	F	E	F	A			F	
Approach Delay (s)		0.0			116.4			67.0			89.4	
Approach LOS		A			F			E			F	

Intersection Summary			
HCM 2000 Control Delay	88.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	25.1
Intersection Capacity Utilization	98.1%	ICU Level of Service	F
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	190	0	409	0	0	0	0	1121	390	490	1320	0
Future Volume (vph)	190	0	409	0	0	0	0	1121	390	490	1320	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0					6.3	6.3	4.2	6.3	
Lane Util. Factor	0.95	0.95	0.88					0.91	1.00	0.97	0.91	
Frt	1.00	1.00	0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95	0.95	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1681	1681	2787					5085	1583	3433	5085	
Flt Permitted	0.95	0.95	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1681	1681	2787					5085	1583	3433	5085	
Peak-hour factor, PHF	0.81	0.92	0.80	0.92	0.92	0.92	0.92	0.86	0.76	0.94	0.98	0.92
Adj. Flow (vph)	235	0	511	0	0	0	0	1303	513	521	1347	0
RTOR Reduction (vph)	0	0	455	0	0	0	0	0	228	0	0	0
Lane Group Flow (vph)	117	118	56	0	0	0	0	1303	285	521	1347	0
Turn Type	Split	NA	Perm					NA	Perm	Prot	NA	
Protected Phases	4	4						2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	13.8	13.8	13.8					34.0	34.0	20.7	58.9	
Effective Green, g (s)	13.8	13.8	13.8					34.0	34.0	20.7	58.9	
Actuated g/C Ratio	0.11	0.11	0.11					0.27	0.27	0.17	0.47	
Clearance Time (s)	5.0	5.0	5.0					6.3	6.3	4.2	6.3	
Vehicle Extension (s)	3.0	3.0	3.0					3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	185	185	307					1383	430	568	2396	
v/s Ratio Prot	0.07	c0.07						c0.26		c0.15	0.26	
v/s Ratio Perm			0.02						0.18			
v/c Ratio	0.63	0.64	0.18					0.94	0.66	0.92	0.56	
Uniform Delay, d1	53.2	53.2	50.5					44.5	40.4	51.3	23.8	
Progression Factor	1.00	1.00	1.00					1.00	1.00	1.00	1.00	
Incremental Delay, d2	6.9	7.0	0.3					13.8	7.8	19.7	1.0	
Delay (s)	60.1	60.2	50.8					58.4	48.2	71.0	24.7	
Level of Service	E	E	D					E	D	E	C	
Approach Delay (s)		53.7			0.0			55.5			37.6	
Approach LOS		D			A			E			D	

Intersection Summary			
HCM 2000 Control Delay	47.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	125.0	Sum of lost time (s)	19.5
Intersection Capacity Utilization	98.1%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	530	71	328	160	46	120	126	801	60	150	1689	210
Future Volume (vph)	530	71	328	160	46	120	126	801	60	150	1689	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3	6.3	6.3	4.9	4.9		4.4	5.7		4.4	6.5	6.5
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95		0.97	0.91		1.00	0.91	1.00
Frt	1.00	1.00	0.85	1.00	0.90		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	0.96	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1704	1583	1681	1588		3433	5032		1770	5085	1583
Flt Permitted	0.95	0.96	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1681	1704	1583	1681	1588		3433	5032		1770	5085	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	576	77	357	174	50	130	137	871	65	163	1836	228
RTOR Reduction (vph)	0	0	188	0	54	0	0	5	0	0	0	79
Lane Group Flow (vph)	323	330	169	157	143	0	137	931	0	163	1836	149
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			4									6
Actuated Green, G (s)	29.9	29.9	29.9	18.7	18.7		6.2	41.4		15.7	50.1	50.1
Effective Green, g (s)	29.9	29.9	29.9	18.7	18.7		6.2	41.4		15.7	50.1	50.1
Actuated g/C Ratio	0.24	0.24	0.24	0.15	0.15		0.05	0.33		0.12	0.39	0.39
Clearance Time (s)	6.3	6.3	6.3	4.9	4.9		4.4	5.7		4.4	6.5	6.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	395	401	372	247	233		167	1640		218	2005	624
v/s Ratio Prot	0.19	c0.19		c0.09	0.09		0.04	0.18		c0.09	c0.36	
v/s Ratio Perm			0.11									0.09
v/c Ratio	0.82	0.82	0.45	0.64	0.61		0.82	0.57		0.75	0.92	0.24
Uniform Delay, d1	46.0	46.0	41.6	50.9	50.8		59.8	35.4		53.7	36.4	25.7
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	12.4	12.8	0.9	5.3	4.8		26.4	1.4		13.1	8.0	0.9
Delay (s)	58.3	58.8	42.4	56.2	55.5		86.3	36.8		66.8	44.5	26.6
Level of Service	E	E	D	E	E		F	D		E	D	C
Approach Delay (s)		52.9			55.8			43.1			44.3	
Approach LOS		D			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	46.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	127.0	Sum of lost time (s)	22.1
Intersection Capacity Utilization	80.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	360	16	203	70	31	50	529	1413	140	90	1387	400
Future Volume (vph)	360	16	203	70	31	50	529	1413	140	90	1387	400
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3	6.3	6.3	4.9	4.9		4.4	5.7		4.4	6.5	6.5
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95		0.97	0.91		1.00	0.91	1.00
Frt	1.00	1.00	0.85	1.00	0.92		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	0.96	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1692	1583	1681	1614		3433	5017		1770	5085	1583
Flt Permitted	0.95	0.96	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1681	1692	1583	1681	1614		3433	5017		1770	5085	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	391	17	221	76	34	54	575	1536	152	98	1508	435
RTOR Reduction (vph)	0	0	181	0	37	0	0	7	0	0	0	176
Lane Group Flow (vph)	203	205	40	68	59	0	575	1681	0	98	1508	259
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			4									6
Actuated Green, G (s)	20.1	20.1	20.1	13.1	13.1		17.9	49.1		8.8	39.2	39.2
Effective Green, g (s)	20.1	20.1	20.1	13.1	13.1		17.9	49.1		8.8	39.2	39.2
Actuated g/C Ratio	0.18	0.18	0.18	0.12	0.12		0.16	0.44		0.08	0.35	0.35
Clearance Time (s)	6.3	6.3	6.3	4.9	4.9		4.4	5.7		4.4	6.5	6.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	300	302	283	195	188		546	2191		138	1773	552
v/s Ratio Prot	0.12	c0.12		c0.04	0.04		c0.17	0.34		0.06	c0.30	
v/s Ratio Perm			0.02									0.16
v/c Ratio	0.68	0.68	0.14	0.35	0.31		1.05	0.77		0.71	0.85	0.47
Uniform Delay, d1	43.1	43.1	38.9	45.7	45.5		47.2	26.8		50.6	33.9	28.5
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	5.9	6.0	0.2	1.1	1.0		53.2	2.6		15.8	5.4	2.8
Delay (s)	49.0	49.1	39.1	46.8	46.5		100.5	29.5		66.3	39.2	31.3
Level of Service	D	D	D	D	D		F	C		E	D	C
Approach Delay (s)		45.6			46.6			47.5			38.9	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	43.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	112.4	Sum of lost time (s)	22.1
Intersection Capacity Utilization	73.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

END OF APPENDICES

APPENDIX E

Air Quality Technical Report

Air Quality Technical Report
for The Preserve at Torrey Highlands Project

Prepared for:

City of San Diego
Development Services Department
Land Development Review Division
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JUNE 2018

Printed on 30% post-consumer recycled material.

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SUMMARY OF FINDINGS

The Preserve at Torrey Highlands Project (proposed project) would include a community plan amendment, rezone and site development permit to construct a 450,000-square-foot commercial office development. Specifically, the project would construct a three building commercial campus comprised of four stories, five stories and six stories, respectively with one level of subterranean parking, one, one-story amenity building, and one above-grade parking structure.

Various site improvements would also be constructed that include associated hardscape (surface parking, driveways, and walkways) and landscape. The project proposes to meet at a minimum of LEED Silver certification.

The air quality impact analysis evaluates the potential for significant adverse impacts to the ambient air quality due to construction and operational emissions resulting from the proposed project. Construction of the proposed project would result in a temporary addition of pollutants to the local airshed caused by soil disturbance, fugitive dust emissions, and combustion pollutants from on-site construction equipment, as well as from off-site trucks hauling construction materials. The analysis concludes that the daily construction emissions would be below the City's significance thresholds for criteria pollutants, except for NO_x. With implementation of mitigation during construction including the use of and Tier 4 Final, or where Tier 4 Final equipment is not available, Tier 3 equipment (MM-AQ-1 and MM-AQ-2), emissions would be reduced to a level that is less than significant. Operational emissions were estimated to be below the City's significance thresholds; therefore, impacts during project operation would be less than significant.

The maximally exposed individual resident would be at east of the project site at the future Merge 56 development. With incorporation of MM-AQ-1 and MM-AQ-2, cancer risk and chronic hazard index are estimated at 8.50 in 1 million and 0.005, respectively. Diesel exhaust emissions from construction of the project exhibit cancer risks below the 10 in 1 million threshold and chronic hazard index less than 1. Based on this analysis, the sensitive receptors in close proximity of the project would not be exposed to TACs at levels above significance thresholds established by SDAPCD.

In addition, because the proposed project would require a community plan amendment and rezone, the project would be considered inconsistent with the applicable air quality plan. As the project would result in project-specific impacts, the project would also result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard. The project would also not create objectionable odors affecting a substantial number of people.

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1 INTRODUCTION

1.1 Regional and Local Setting

The project site is located on 11.10 acres (including APNs 306-050-1600 and 306-050-1800) of vacant, undeveloped land located approximately ¼ mile south of State Route (SR) 56 along the west side of the planned extension of Camino del Sur in San Diego, California (see Figures 1 and 2). The proposed project site is designated Commercial Employment, Retail, and Services in the San Diego General Plan. Additionally, the project site is designated Commercial Limited (CL) under the Torrey Highlands Subarea Plan, with an Agricultural Residential (AR-1-1) zone.

The land immediately surrounding the project site is primarily vacant and undeveloped. The site is surrounded on three sides by the City's Multi-Habitat Preservation Area (MHPA). A gas station is located north of the project site just south of SR 56 and the SR 56 Bike Trail on the east side of Camino del Sur. Commercial and residential land uses are located north and west of the project site. Specifically, the Kilroy Santa Fe Summit Intuit Corporate Campus is located northwest of the site and consists of four buildings totaling 480,000 square feet of commercial office, in addition to a 492,000-square foot parking structure. This corporate campus is entitled for an expansion in the future to build an additional 350,000 square feet of office space (see Figure 3, Site Plan).

1.2 Project Description

The project proposes a community plan amendment, rezone and site development permit to construct a 450,000-square-foot commercial office development. The project, however, would be consistent with the General Plan designation of Commercial Employment, Retail, and Services. Specifically, the project would construct a three building commercial campus comprised of four stories, five stories and six stories, respectively with one level of subterranean parking, one, one-story amenity building, and one above-grade parking structure.

Various site improvements would also be constructed that include associated hardscape (surface parking, driveways, and walkways) and landscape. The project proposes to meet at a minimum LEED Silver certification.

Parking Facilities

The project would provide 1,800 parking spaces, including 64 surface spaces, 240 subterranean spaces, and 1,496 spaces in a parking structure. The parking structure would include five levels above ground and two levels below-ground.

Access

Access to the project site would be provided via two signalized driveways off Camino Del Sur. Currently, Camino Del Sur terminates at Torrey Santa Fe Road. The extension of Camino Del Sur is part of a separate application (Project No. 360009 - "Merge 56"). In the event that the extension of Camino Del Sur is not completed by Merge 56 prior to project construction, the project includes the extension of Camino Del Sur to the southerly project boundary as an optional offsite project component. The extension of Camino Del Sur would be constructed along the westerly project frontage complete with curb, gutter and sidewalk with a paved travel way of 30 feet, providing one lane in each direction. This cross-section could later be reutilized as the southbound travel way to achieve the ultimate classification of the roadway.

1.3 Construction Assumptions and Analysis Methodology

1.3.1 Criteria Pollutant Emissions Estimates

Emissions from the construction phase of the project were estimated using the California Emissions Estimator Model (CalEEMod), Version 2016.3.2, available online (www.caleemod.com).

For the purposes of modeling, it was assumed that construction of the proposed project would commence in fall 2018. Earthwork for the project would require the export of approximately 49,000 cubic yards of soil. Construction of the project from start to finish is estimated to take approximately 22 months. The analysis contained herein is based on the following assumptions (duration of phases is approximate):

- Site Preparation – 7 days
- Grading – 17 days
- Utilities – 2.5 months
- Building Construction (~~phase~~ stage 1) – 1.5 years
- Building Construction (~~phase~~ stage 2) – 1 year
- Building Construction (~~phase~~ stage 3) – 1.5 years
- Site work – 1.5 years
- Paving – 2 months
- Application of Architectural Coating (~~phase~~ stage 1) – 8 months
- Application of Architectural Coating (~~phase~~ stage 2) – 1 year
- Application of Architectural Coating (~~phase~~ stage 3) – 9.5 months

- Landscaping – 6 months

The construction phasing and equipment mix used for estimating the construction emissions of the project is based on information provided by the applicant (see Appendix A for details). For the analysis, it was generally assumed that heavy construction equipment would be operating at the site for approximately 8 hours per day, 5 days per week (22 days per month) during project construction. Construction-worker trips, vendor trip and haul truck trip estimates by construction phase were also provided by the project applicant.

A detailed depiction of the construction schedule—including information regarding subphases and equipment used during each subphase—is included in Appendix A of this report. The information contained in Appendix A was used as CalEEMod model inputs.

1.3.2 Construction Health Risk

Cancer Risk

Cancer risk is defined as the increase in lifetime probability (chance) of an individual developing cancer due to exposure to a carcinogenic compound, typically expressed as the increased probability in 1 million. The cancer risk from inhalation of a TAC is estimated by calculating the inhalation (and if applicable, ingestion) dose in units of milligrams/kilogram body weight per day based on an ambient concentration in units of micrograms per cubic meter ($\mu g/m^3$), breathing rate, and exposure period and multiplying the dose by the inhalation cancer potency factor, expressed as (milligrams/kilogram body weight per day)$^{-1}$. Cancer risks are typically calculated for all carcinogenic TACs and summed to calculate the overall increase in cancer risk to an individual. The calculation procedure assumes that cancer risk is proportional to concentrations at any level of exposure and that risks due to different carcinogens are additive. This approach is generally considered a conservative assumption at low doses and is consistent with the current OEHHA regulatory approach. Exposure to carcinogenic TACs does not imply that the exposed individual would contract cancer; rather, the cancer risk is a probability of developing cancer if other factors (e.g., heredity, exposure to environmental or workplace risks that compromise the immune system, overall health) would result in an increased susceptibility to developing cancer.

The cancer risk calculations were performed by multiplying the predicted dispersion modeled output data by the TAC emissions and the appropriate risk values. The exposure and risk equations that were used to calculate the cancer risk at receptors are integrated in the CARB Hotspots Analysis and Reporting Program, Version 2 (HARP 2) (CARB 2015a) model, in accordance with the 2015 Risk Assessment Guidelines Manual (OEHHA 2015).

The following equations were used to calculate the cancer risk using the model output data and estimated TAC emissions associated with diesel exhaust.

Cancer risk = DOSE * CPF * ASF * ED/AT * FAH

DOSE = (C_{air} * DBR * A * EF * 10^{-6})

$C_{air} = ER * X/Q$

Where:

- DOSE: Daily inhalation dose (mg/kg-day)
- CPF: Cancer potency factor $(mg/kg\text{-}day)^{-1}$
- ASF: Age sensitivity factor for a specified age group (unitless)
- ED: Exposure duration (in years) for a specified age group
- AT: Averaging time for lifetime cancer risk (years)
- FAH: Fraction of time spent at home (unitless)
- C_{air}: Average air concentration of TAC from the air dispersion model ($\mu g/m^3$)
- DBR: Daily breathing rate (L/kg body weight-day)
- EF: Exposure frequency (unitless), days/365 days
- A: Inhalation absorption factor (unitless)
- 10^{-6}: Micrograms to milligrams conversion, liters to cubic meters conversion
- ER: Emission rates (grams/second)
- X/Q: Model output data ($\mu g/m^3$)/(grams/second)

NonCancer Health Impacts

The noncancer health impact of an inhaled TAC is measured by the hazard quotient, which is the ratio of the ambient concentration of a TAC in units of $\mu g/m^3$ divided by the reference exposure level (REL), also in units of $\mu g/m^3$. The REL is the concentration at or below which no adverse health effects are anticipated. The REL is typically based on health effects on a particular target organ system, such as the respiratory system, liver, or central nervous system. Hazard quotients of individual TACs are then summed for each target organ system to obtain a hazard index. For DPM, the target organ system is the respiratory system.

In addition to the potential cancer risk, DPM has chronic (i.e., long-term) noncancer health impacts. The chronic hazard index (HIC) for DPM was calculated by dividing the maximum modeled annual average concentration of TACs by its REL as implemented by HARP 2.

The chronic hazard quotients were calculated for DPM using the following equations (OEHHA 2015).

$HIC = (C_{air} / REL)$

Where:

- HIC: Chronic hazard index
- Cair: Annual average concentration (µg/m3)
- REL: Chronic reference exposure level ($\mu g/m^3$)

Office of Environmental Health Hazard Assessment's Guidance

OEHHA's most recent guidance is the 2015 Risk Assessment Guidelines Manual (OEHHA 2015), which was adopted in 2015 to replace the 2003 HRA Guidance Manual. The Children's Environmental Health Protection Act of 1999 (Senate Bill 25), which requires explicit consideration of infants and children in assessing risks from air toxics, requires revisions of the methods for both noncancer and cancer risk assessment and of the exposure assumptions in the 2003 HRA Guidance Manual. In response to Senate Bill 25, OEHHA released three technical support documents addressing RELs (OEHHA 2008), cancer potency (OEHHA 2009), and exposure assessment and stochastic analysis (OEHHA 2012) and adopted the 2015 Risk Assessment Guidelines Manual (OEHHA 2015). The technical support document for RELs and continuing work to re-evaluate TACs to ensure adequate protection for infants and children has led to revisions of RELs for approximately 10 chemicals and chemical families. The basic methodology for evaluating acute and chronic health effects using the RELs otherwise remained the same as in the previous guidance manual. Moreover, RELs are designed to protect the most sensitive individuals in the population, including infants and children, by selecting appropriate toxicological data and including margins of safety. Accordingly, the evaluation methods are assumed to protect children and other sensitive subpopulations (groups of more highly susceptible individuals) from adverse health effects in the event of exposure (OEHHA 2008).

The cancer risk methodology described in the exposure assessment and stochastic analysis technical support document and the 2015 Risk Assessment Guidelines Manual accounts for the higher sensitivity of infants and children by applying age-specific daily breathing rates (DBRs) and age-sensitivity factors (ASFs). According to the technical support document, "accounting for effects of early-in life exposure requires accounting for both the increased

potency of early in life exposure to carcinogens and the greater exposure on a per [kilogram] body weight that occurs early in life due to behavioral and physiological differences between infants and children, and adults" (OEHHA 2012). In part, early-life periods are accounted for through the use of ASFs. Compared to the previous guidance, which relied on a single breathing rate for all ages, the revised guidance includes age-specific DBRs that reflect the differences for infants, children, and adults. This HRA uses HARP 2, which incorporates RELs and cancer potency factors, which are periodically updated, and health effects calculations based on the 2015 Risk Assessment Guidelines Manual. Accordingly, this HRA evaluates and reflects conservative, health-protective methodologies to assess health impacts to adults, as well as infants, children, and other sensitive subpopulations.

Modeling Methodology

Dispersion Model

For risk assessment purposes, PM_{10} in diesel exhaust is considered DPM, originating mainly from off-road equipment operating at a defined location for a given length of time at a given distance from sensitive receptors. Less-intensive, more-dispersed emissions result from on-road vehicle exhaust (e.g., heavy-duty diesel trucks). These emissions could result in elevated concentrations of DPM at nearby receptors, which could lead to an increase in the risk of cancer or other health impacts. The dispersion modeling was performed using American Meteorological Society/ Environmental Protection Agency Regulatory Model (AERMOD) View Version 9.5.0, which is the model SDAPCD recommends for atmospheric dispersion of emissions. AERMOD is a steady-state Gaussian plume model that incorporates air dispersion based on planetary boundary layer turbulence structure and scaling concepts, including treatment of surface and elevated sources, building downwash, and simple and complex terrain (EPA 2017).

Principal parameters of AERMOD for project construction include the following:

- **Dispersion Model:** AERMOD was run with all sources emitting unit emissions (1 g/s) to obtain the "X/Q" values. X/Q is a dispersion factor that is the average effluent concentration normalized by source strength, and is used as a way to simplify the representation of emissions from many sources. The X/Q values of ground-level concentrations (GLCs) were determined for construction emissions using AERMOD and the maximum concentrations determined for the 1-hour and Period averaging periods.
- **Meteorological Data:** The latest 3-year meteorological data (2010–2012) for the Kearney Mesa station (Station ID 93107) from SDAPCD were downloaded, and then input to AERMOD. For cancer or chronic noncancer risk assessments, the average cancer risk of all years modeled was used.

- **Urban and Rural Options:** Typically, urban areas have more surface roughness and structures and low-albedo surfaces that absorb more sunlight, and thus, more heat, relative to rural areas. However, according to SDAPCD guidelines, the rural dispersion option was selected due to the project's proximity to the ocean.
- **Terrain Characteristics:** The terrain in the vicinity of the modeled project site is generally flat. The elevation of the modeled site is approximately 380 feet above sea level. Digital elevation model files were imported into AERMOD so that complex terrain features were evaluated as appropriate.
- **Discrete Receptors:** A uniform Cartesian grid was placed over the project site with 20-meter spacing and converted into discrete receptors to represent residents' adjacent to the project.
- **Source Equipment Operating Scenarios:** Air dispersion modeling of construction equipment and diesel vehicles was conducted using emissions generated by CalEEMod, conservatively assuming the emissions would occur 8 hours per day, 260 days per year. The emissions were modeled as a raised area source.
- **Source Release Characterizations:** For modeling construction emissions impacts using AERMOD, it was assumed that the construction activities would occur onsite over a 3-year period, consistent with the construction schedule. Table 1 shows the release characteristics used in the AERMOD model.

Table 1
Area Source Parameters for Health Risk Assessment

Parameter	Units	Value
Emission rate	grams per second	1
Release height	meters	4.6
Plume height	meters	1.2

Assessment Methodology

In March 2015, the OEHHA approved the new 2015 Risk Assessment Guidelines Manual (OEHHA 2015). The SDAPCD requires that all HRAs prepared for CEQA documents follow SDAPCD policies in conjunction with the 2015 Risk Assessment Guidelines Manual. To implement the OEHHA guidance based on project information, the SDAPCD has developed a three-tiered approach where each successive tier is progressively more refined with each progressive level being less conservative. SDAPCD's Tier 1 approach is a screening assessment methodology that incorporates very conservative assumption methodologies when specific

information about a project and its impact locations to actual or assumed receptor locations are unknown. The Tier 2 approach provides a more accurate analysis since it requires specific modeling input for project sources and proximate receptors that refine the Tier 1 approach. Based on the known information pertaining to the project site, construction activities, and proximate sensitive receptors, the Tier 2 analysis was performed for the HRA. For the residential health risk associated with construction, the HRA assumes exposure would start in the third trimester of pregnancy and occur 8 hours per day, 5 days per week, for 36 months to account for the short-term construction activity duration.

1.4 Operational Assumptions and Analysis Methodology

As shown in the Traffic Impact Assessment completed for the proposed project (LLG 2018), the project is calculated to generate 5,264 daily trips with 684 trips (616 inbound/68 outbound) in AM peak hours and 737 trips (147 inbound/590 outbound) during PM peak hours. CalEEMod was used to estimate daily emissions from proposed vehicular sources. CalEEMod default data, including temperature, trip characteristics, variable start information, emissions factors, and trip distances, were conservatively used for the model inputs. Project-related traffic was assumed to include a mixture of vehicles in accordance with the model outputs for traffic. Emission factors representing the vehicle mix and emissions for 2020 (project buildout) were used to estimate emissions associated with operation of the proposed project.

In addition to estimating mobile source emissions, CalEEMod was used to estimate emissions from the project's energy use, which includes natural gas combustion. CalEEMod was also used to estimate emissions from the project's area sources, which include landscaping, consumer products, and architectural coatings for building maintenance.

2 AIR QUALITY

2.1 Existing Conditions

This section describes the existing conditions in the project area and identifies the resources that could be affected by the proposed project.

2.1.1 Climate and Topography

The weather of the San Diego region, as in most of Southern California, is influenced by the Pacific Ocean and its semi-permanent high-pressure systems that result in dry, warm summers and mild, occasionally wet winters. The average temperature ranges (in degrees Fahrenheit (°F)) from the mid-40s to the high 90s. Most of the region's precipitation falls from November to April, with infrequent (approximately 10%) precipitation during the summer. The average seasonal precipitation along the coast is approximately 10 inches; the amount increases with elevation as moist air is lifted over the mountains.

The topography in the San Diego region varies greatly, from beaches on the west to mountains and desert on the east; along with local meteorology, it influences the dispersal and movement of pollutants in the air basin. The mountains to the east prohibit dispersal of pollutants in that direction and help trap them in inversion layers.

The interaction of ocean, land, and the Pacific High Pressure Zone maintains clear skies for much of the year and influences the direction of prevailing winds (westerly to northwesterly). Local terrain is often the dominant factor inland, and winds in inland mountainous areas tend to blow through the valleys during the day and down the hills and valleys at night.

2.1.2 Air Pollution Climatology

The project site is located within the San Diego Air Basin (basin or SDAB) and is subject to the SDAPCD guidelines and regulations. The basin is one of 15 air basins that geographically divide the State of California. The basin is currently classified as a federal nonattainment area for ozone (O_3) and a state nonattainment area for particulate matter with an aerodynamic diameter equal to or less than 10 microns (PM_{10}), particulate matter with an aerodynamic diameter equal to or less than 2.5 microns ($PM_{2.5}$), and O_3.

The basin lies in the southwest corner of California and comprises the entire San Diego region, covering 4,260 square miles, and is an area of high air pollution potential. The basin experiences warm summers, mild winters, infrequent rainfalls, light winds, and moderate humidity. This

usually mild climatological pattern is interrupted infrequently by periods of extremely hot weather, winter storms, or Santa Ana winds.

The basin experiences frequent temperature inversions. Subsidence inversions occur during the warmer months as descending air associated with the Pacific High Pressure Zone meets cool marine air. The boundary between the two layers of air creates a temperature inversion that traps pollutants. The other type of inversion, a radiation inversion, develops on winter nights when air near the ground cools by heat radiation and air aloft remains warm. The shallow inversion layer formed between these two air masses also can trap pollutants. As the pollutants become more concentrated in the atmosphere, photochemical reactions occur that produce O_3, commonly known as smog.

Light daytime winds, predominately from the west, further aggravate the condition by driving air pollutants inland, toward the mountains. During the fall and winter, air quality problems are created due to carbon monoxide (CO) and oxides of nitrogen (NO_x) emissions. CO concentrations are generally higher in the morning and late evening. In the morning, CO levels are elevated due to cold temperatures and the large number of motor vehicles traveling. Higher CO levels during the late evenings are a result of stagnant atmospheric conditions trapping CO in the area. Since CO is produced almost entirely from automobiles, the highest CO concentrations in the basin are associated with heavy traffic. Nitrogen dioxide (NO_2) levels are also generally higher during fall and winter days.

Under certain conditions, atmospheric oscillation results in the offshore transport of air from the Los Angeles region to San Diego County. This often produces high O_3 concentrations, as measured at air pollutant monitoring stations within the County. The transport of air pollutants from Los Angeles to San Diego has also occurred within the stable layer of the elevated subsidence inversion, where high levels of O_3 are transported.

2.1.3 Sensitive Receptors

Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. People most likely to be affected by air pollution include children, the elderly, athletes, and people with cardiovascular and chronic respiratory diseases. Facilities and structures where these air pollution-sensitive people live or spend considerable amounts of time are known as sensitive receptors. Land uses where air pollution-sensitive individuals are most likely to spend time include schools and schoolyards, parks and playgrounds, daycare centers, nursing homes, hospitals, and residential communities (sensitive sites or sensitive land uses) (CARB 2005). The closest off-site sensitive receptors to the project are single family residential land uses to the southeast, located approximately 0.25 mile from the project site.

2.2 Pollutants and Effects

Criteria air pollutants are defined as pollutants for which the federal and state governments have established ambient air quality standards, or criteria, for outdoor concentrations to protect public health. The federal and state standards have been set, with an adequate margin of safety, at levels above which concentrations could be harmful to human health and welfare. These standards are designed to protect the most sensitive persons from illness or discomfort. Pollutants of concern include: O_3, NO_2, CO, sulfur dioxide (SO_2), PM_{10}, $PM_{2.5}$, and lead (Pb). These pollutants are discussed in the following paragraphs.[1] In California, sulfates, vinyl chloride, hydrogen sulfide, and visibility-reducing particles are also regulated as criteria air pollutants.

Ozone. O_3 is a colorless gas that is formed in the atmosphere when volatile organic compounds (VOCs), sometimes referred to as reactive organic gases (ROGs), and NO_x react in the presence of ultraviolet sunlight. O_3 is not a primary pollutant; it is a secondary pollutant formed by complex interactions of two pollutants directly emitted into the atmosphere. The primary sources of VOCs and NO_x, the precursors of O_3, are automobile exhaust and industrial sources. Meteorology and terrain play major roles in O_3 formation and ideal conditions occur during summer and early autumn, on days with low wind speeds or stagnant air, warm temperatures, and cloudless skies. Short-term exposures (lasting for a few hours) to O_3 at levels typically observed in Southern California can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes.

Nitrogen Dioxide. Most NO_2, like O_3, is not directly emitted into the atmosphere but is formed by an atmospheric chemical reaction between nitric oxide (NO) and atmospheric oxygen. NO and NO_2 are collectively referred to as NO_x and are major contributors to O_3 formation. High concentrations of NO_2 can cause breathing difficulties and result in a brownish-red cast to the atmosphere with reduced visibility. There is some indication of a relationship between NO_2 and chronic pulmonary fibrosis and some increase in bronchitis in children (2 and 3 years old) has also been observed at concentrations below 0.3 parts per million by volume (ppm).

Carbon Monoxide. CO is a colorless and odorless gas formed by the incomplete combustion of fossil fuels. CO is emitted almost exclusively from motor vehicles, power plants, refineries, industrial boilers, ships, aircraft, and trains. In urban areas, such as the project location, automobile exhaust accounts for the majority of CO emissions. CO is a non-reactive air pollutant

[1] The descriptions of health effects for each of the criteria air pollutants associated with project construction and operation are based on the EPA's Six Common Air Pollutants (EPA 2015a) and the CARB Glossary of Air Pollutant Terms (CARB 2015b).

that dissipates relatively quickly; therefore, ambient CO concentrations generally follow the spatial and temporal distributions of vehicular traffic. CO concentrations are influenced by local meteorological conditions; primarily wind speed, topography, and atmospheric stability. CO from motor vehicle exhaust can become locally concentrated when surface-based temperature inversions are combined with calm atmospheric conditions, a typical situation at dusk in urban areas between November and February. The highest levels of CO typically occur during the colder months of the year when inversion conditions are more frequent. In terms of health, CO competes with oxygen, often replacing it in the blood, thus reducing the blood's ability to transport oxygen to vital organs. The results of excess CO exposure can be dizziness, fatigue, and impairment of central nervous system functions.

Sulfur Dioxide. SO_2 is a colorless, pungent gas formed primarily by the combustion of sulfur-containing fossil fuels. Main sources of SO_2 are coal and oil used in power plants and industries; as such, the highest levels of SO_2 are generally found near large industrial complexes. In recent years, SO_2 concentrations have been reduced by the increasingly stringent controls placed on stationary source emissions of SO_2 and limits on the sulfur content of fuels. SO_2 is an irritant gas that attacks the throat and lungs and can cause acute respiratory symptoms and diminished ventilator function in children. SO_2 can also yellow plant leaves and erode iron and steel.

Particulate Matter. Particulate matter pollution consists of very small liquid and solid particles floating in the air, which can include smoke, soot, dust, salts, acids, and metals. Particulate matter can form when gases emitted from industries and motor vehicles undergo chemical reactions in the atmosphere. $PM_{2.5}$ and PM_{10} represent fractions of particulate matter. Fine particulate matter, or $PM_{2.5}$, is roughly 1/28 the diameter of a human hair. $PM_{2.5}$ results from fuel combustion (e.g., motor vehicles, power generation, and industrial facilities), residential fireplaces, and wood stoves. In addition, $PM_{2.5}$ can be formed in the atmosphere from gases such as sulfur oxides (SO_x), NO_x, and VOC. Inhalable or coarse particulate matter, or PM_{10}, is about 1/7 the thickness of a human hair. Major sources of PM_{10} include crushing or grinding operations; dust stirred up by vehicles traveling on roads; wood burning stoves and fireplaces; dust from construction, landfills, and agriculture; wildfires and brush/waste burning; industrial sources; windblown dust from open lands; and atmospheric chemical and photochemical reactions.

$PM_{2.5}$ and PM_{10} pose a greater health risk than larger-size particles. When inhaled, these tiny particles can penetrate the human respiratory system's natural defenses and damage the respiratory tract. $PM_{2.5}$ and PM_{10} can increase the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infections. Very small particles of substances, such as Pb, sulfates, and nitrates, can cause lung damage directly or be absorbed into the blood stream, causing damage elsewhere in the body. Additionally, these substances can transport absorbed gases, such as chlorides or ammonium,

into the lungs, also causing injury. Whereas PM_{10} tends to collect in the upper portion of the respiratory system, $PM_{2.5}$ is so tiny that it can penetrate deeper into the lungs and damage lung tissues. Suspended particulates also damage and discolor surfaces on which they settle, as well as produce haze and reduce regional visibility.

Lead. Lead in the atmosphere occurs as particulate matter. Sources of lead include leaded gasoline, the manufacturing of batteries, paint, ink, ceramics, and ammunition and secondary lead smelters. Prior to 1978, mobile emissions were the primary source of atmospheric lead. Between 1978 and 1987, the phase-out of leaded gasoline reduced the overall inventory of airborne lead by nearly 95%. With the phase-out of leaded gasoline, secondary lead smelters, battery recycling, and manufacturing facilities are becoming lead-emission sources of greater concern.

Prolonged exposure to atmospheric lead poses a serious threat to human health. Health effects associated with exposure to lead include gastrointestinal disturbances, anemia, kidney disease, and in severe cases, neuromuscular and neurological dysfunction. Of particular concern are low-level lead exposures during infancy and childhood. Such exposures are associated with decrements in neurobehavioral performance including intelligence quotient performance, psychomotor performance, reaction time, and growth.

Toxic Air Contaminants. A substance is considered toxic if it has the potential to cause adverse health effects in humans, including increasing the risk of cancer upon exposure, or acute and/or chronic noncancer health effects. A toxic substance released into the air is considered a toxic air contaminant (TAC). Examples include certain aromatic and chlorinated hydrocarbons, certain metals, and asbestos. TACs are generated by a number of sources, including stationary sources such as dry cleaners, gas stations, combustion sources, and laboratories; mobile sources such as automobiles; and area sources such as landfills. Adverse health effects associated with exposure to TACs may include carcinogenic (i.e., cancer-causing) and noncarcinogenic effects. Noncarcinogenic effects typically affect one or more target organ systems and may be experienced either on short-term (acute) or long-term (chronic) exposure to a given TAC.

2.3 Regulatory Setting

This section describes the applicable regulatory plans, policies, and ordinances for the proposed project.

2.3.1 Federal

Federal Clean Air Act

The federal Clean Air Act, passed in 1970 and last amended in 1990, forms the basis for the national air pollution control effort. The U.S. Environmental Protection Agency (EPA) is

responsible for implementing most aspects of the Clean Air Act, including setting National Ambient Air Quality Standards (NAAQS) for major air pollutants, setting hazardous air pollutant standards, approving state attainment plans, setting motor vehicle emission standards, issuing stationary source emission standards and permits, and establishing acid rain control measures, stratospheric O_3 protection measures, and enforcement provisions. Under the Clean Air Act, NAAQS are established for criteria pollutants: O_3, CO, NO_2, SO_2, PM_{10}, $PM_{2.5}$, and lead.

The NAAQS describe acceptable air quality conditions designed to protect the health and welfare of the citizens of the nation. The NAAQS (other than for O_3, NO_2, SO_2, PM_{10}, $PM_{2.5}$, and those based on annual averages or arithmetic mean) are not to be exceeded more than once per year. NAAQS for O_3, NO_2, SO_2, PM_{10}, and $PM_{2.5}$ are based on statistical calculations over 1- to 3-year periods, depending on the pollutant. The Clean Air Act requires the EPA to reassess the NAAQS at least every 5 years to determine whether adopted standards are adequate to protect public health based on current scientific evidence. States with areas that exceed the NAAQS must prepare a state implementation plan that demonstrates how those areas will attain the standards within mandated time frames.

2.3.2 State

California Air Resources Board

The federal CAA delegates the regulation of air pollution control and the enforcement of the NAAQS to the states. In California, the task of air quality management and regulation has been legislatively granted to the California Air Resources Board (CARB), with subsidiary responsibilities assigned to air quality management districts and air pollution control districts at the regional and county levels. CARB, which became part of the California Environmental Protection Agency in 1991, is responsible for ensuring implementation of the California Clean Air Act of 1988, responding to the CAA, and regulating emissions from motor vehicles and consumer products.

CARB established the California Ambient Air Quality Standards (CAAQS), which are generally more restrictive than the NAAQS. The CAAQS describe adverse conditions; that is, pollution levels must be below these standards before a basin can attain the standard. Air quality is considered “in attainment” if pollutant levels are continuously below the CAAQS and violate the standards no more than once each year. The CAAQS for O_3, CO, SO_2 (1-hour and 24-hour), NO_2, PM_{10}, $PM_{2.5}$, and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded.

The NAAQS and CAAQS are presented in Table 2.

Table 2
Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[a]	National Standards[b]	
		Concentration[c]	*Primary[c,d]*	*Secondary[c,e]*
O_3	1 hour	0.09 ppm (180 μg/m³)	—	Same as Primary Standard[f]
	8 hours	0.070 ppm (137 μg/m³)	0.070 ppm (137 μg/m³)[f]	
NO_2[g]	1 hour	0.18 ppm (339 μg/m³)	0.100 ppm (188 μg/m³)	Same as Primary Standard
	Annual Arithmetic Mean	0.030 ppm (57 μg/m³)	0.053 ppm (100 μg/m³)	
CO	1 hour	20 ppm (23 mg/m³)	35 ppm (40 mg/m³)	None
	8 hours	9.0 ppm (10 mg/m³)	9 ppm (10 mg/m³)	
SO_2[h]	1 hour	0.25 ppm (655 μg/m³)	0.075 ppm (196 μg/m³)	—
	3 hours	—	—	0.5 ppm (1,300 μg/m³)
	24 hours	0.04 ppm (105 μg/m³)	0.14 ppm (for certain areas)[g]	—
	Annual	—	0.030 ppm (for certain areas)[g]	—
PM_{10}[i]	24 hours	50 μg/m³	150 μg/m³	Same as Primary Standard
	Annual Arithmetic Mean	20 μg/m³	—	
$PM_{2.5}$[i]	24 hours	—	35 μg/m³	Same as Primary Standard
	Annual Arithmetic Mean	12 μg/m³	12.0 μg/m³	15.0 μg/m³
Lead[j,k]	30-day Average	1.5 μg/m³	—	—
	Calendar Quarter	—	1.5 μg/m³ (for certain areas)[k]	Same as Primary Standard
	Rolling 3-Month Average	—	0.15 μg/m³	
Hydrogen sulfide	1 hour	0.03 ppm (42 μg/m³)	—	—
Vinyl chloride[j]	24 hours	0.01 ppm (26 μg/m³)	—	—
Sulfates	24- hours	25 μg/m³	—	—
Visibility reducing particles	8 hour (10:00 a.m. to 6:00 p.m. PST)	Insufficient amount to produce an extinction coefficient of 0.23 per kilometer due to the number of particles when the relative humidity is less than 70%	—	—

Source: CARB 2016a.

Notes: μg/m3 = micrograms per cubic meter; mg/m3= milligrams per cubic meter; ppm = parts per million by volume; O3 = ozone; NO2 = nitrogen dioxide; CO = carbon monoxide; SO2 = sulfur dioxide; PM10 = particulate matter with an aerodynamic diameter less than or equal to 10 microns; PM2.5 = particulate matter with an aerodynamic diameter less than or equal to 2.5 microns.

[a] California standards for O3, CO, SO2 (1-hour and 24-hour), NO2, suspended particulate matter (PM10, PM2.5), and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. CAAQS are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

[b] National standards (other than O3, NO2, SO2, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once per year. The O3 standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over 3 years, is equal to or less than the standard. For PM10, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m3 is equal to or less than 1. For PM2.5, the 24-hour standard is attained when 98% of the daily concentrations, averaged over 3 years, are equal to or less than the standard.

[c] Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based on a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

[d] National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.

[e] National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

[f] On October 1, 2015, the national 8-hour O3 primary and secondary standards were lowered from 0.075 to 0.070 ppm.

[g] To attain the national 1-hour standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 parts per billion (ppb). Note that the national 1-hour standard is in units of ppb. California standards are in units of ppm. To directly compare the national 1-hour standard to the California standards, the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

[h] On June 2, 2010, a new 1-hour SO2 standard was established, and the existing 24-hour and annual primary standards were revoked. To attain the national 1-hour standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO2 national standards (24-hour and annual) remain in effect until 1 year after an area is designated for the 2010 standard, except that in areas designated nonattainment of the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

[i] On December 14, 2012, the national annual PM2.5 primary standard was lowered from 15 µg/m3 to 12.0 µg/m3. The existing national 24-hour PM2.5 standards (primary and secondary) were retained at 35 µg/m3, as was the annual secondary standard of 15 µg/m3. The existing 24-hour PM10 standards (primary and secondary) of 150 µg/m3 were also retained. The form of the annual primary and secondary standards is the annual mean averaged over 3 years.

[j] CARB has identified lead and vinyl chloride as TACs with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

[k] The national standard for lead was revised on October 15, 2008, to a rolling 3-month average. The 1978 lead standard (1.5 µg/m3 as a quarterly average) remains in effect until 1 year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved..

Toxic Air Contaminants

A substance is considered toxic if it has the potential to cause adverse health effects in humans, including increasing the risk of cancer upon exposure or acute (short-term) and/or chronic (long-term) noncancer health effects. A toxic substance released into the air is considered a toxic air contaminant (TAC). Examples include certain aromatic and chlorinated hydrocarbons, DPM, certain metals, and asbestos. TACs are generated by a number of sources, including stationary sources such as dry cleaners, gas stations, combustion sources, and laboratories; mobile sources, such as automobiles; and area sources, such as landfills. Adverse health effects associated with exposure to TACs may include carcinogenic (i.e., cancer-causing) and noncarcinogenic effects. Noncarcinogenic effects typically affect one or more target organ systems and may be experienced through either acute or chronic exposure to a given TAC.

California's air toxics control program began in 1983 with the passage of Assembly Bill 1807, the Toxic Air Contaminant Identification and Control Act, better known as the Tanner Bill. The Tanner Bill established a regulatory process for the scientific and public review of individual toxic compounds. When a compound becomes listed as a TAC under the Tanner Bill, the CARB

normally establishes minimum statewide emission-control measures to be adopted by air quality management districts and air pollution control districts. By 1992, 18 of the 189 federal hazardous air pollutants had been listed by CARB as state TACs. In April 1993, CARB added 171 substances to the state program to make the state TAC list equal to the federal list of hazardous air pollutants. In 1998, CARB designated DPM as a TAC (CARB 1998). The exhaust from diesel engines is a complex mixture of gases, vapors, and particles, many of which are known human carcinogens. DPM has established cancer risk factors and relative exposure values for long-term chronic health hazard impacts. No short-term, acute relative exposure values are established for DPM.

The second major component of California's air toxics program, supplementing the Tanner process, was provided by the passage of Assembly Bill 2588, the Air Toxics "Hot Spots" Information and Assessment Act of 1987. Assembly Bill 2588 currently regulates over 600 compounds, including all of the Tanner Bill–designated TACs.

Additionally, Proposition 65, passed by California voters in 1986, requires that a list of carcinogenic and reproductive toxicants found in the environment be compiled; the discharge of these toxicants into drinking water be prohibited; and warnings of public exposure by air, land, or water be posted if a significant adverse public health risk is posed. The emission of any listed substances by a facility would require a public warning unless health risks could be demonstrated to be less than significant. For carcinogens, Proposition 65 defines the "no significant risk level" as the level of exposure that would result in an increased cancer risk of greater than 1 in 100,000 over a 70-year lifetime (27 CCR 25711). The "no significant risk level" is 1 in 1,000 of the "no observable effect level" for reproductive toxicants.

In 2000, CARB approved a comprehensive Diesel Risk Reduction Plan to reduce diesel emissions from new and existing diesel-fueled vehicles and engines. The regulation is anticipated to result in an 80% decrease in statewide diesel health risk by 2020 compared with the diesel risk in 2000. Additional regulations apply to new trucks and diesel fuel, including the On-Road Heavy-Duty Diesel Vehicle (In-Use) Regulation, On-Road Heavy-Duty (New) Vehicle Program, In-Use Off-Road Diesel Vehicle Regulation, and New Off-Road Compression-Ignition (Diesel) Engines and Equipment program. These regulations and programs have timetables by which manufacturers must comply and existing operators must upgrade their diesel-powered equipment. Several Airborne Toxic Control Measures reduce diesel emissions, including In-Use Off-Road Diesel-Fueled Fleets (13 CCR 2449 et seq.) and In-Use On-Road Diesel-Fueled Vehicles (13 CCR 2025).

2.3.3 Local

The following local/regional regulations pertaining to air quality would apply to the proposed project.

San Diego Air Pollution Control District

While CARB is responsible for the regulation of mobile emission sources within the state, local AQMDs and APCDs are responsible for enforcing standards and regulating stationary sources. The project site is located within the basin and is subject to the guidelines and regulations of the SDAPCD.

In the basin, O_3 and particulate matter are the pollutants of main concern, since exceedances of state ambient air quality standards for those pollutants are experienced here in most years. For this reason, the basin has been designated as a nonattainment area for the state PM_{10}, $PM_{2.5}$, and O_3 standards. The basin is also a federal O_3 attainment (maintenance) area for 1997 8-hour O_3 standard, a O_3 nonattainment area for the 2008 8-hour O_3 standard, and a CO maintenance area (western and central part of the basin only). The project area is in the CO maintenance area.

The SDAPCD and the San Diego Association of Governments (SANDAG) are responsible for developing and implementing the clean air plan for attainment and maintenance of the ambient air quality standards in the basin. The County *Regional Air Quality Strategy* (RAQS) was initially adopted in 1991, and is updated on a triennial basis, most recently in 2009 (SDAPCD 2009a). The RAQS outlines SDAPCD's plans and control measures designed to attain the state air quality standards for O_3. The RAQS relies on information from CARB and SANDAG, including mobile and area source emissions, and information regarding projected growth in the cities and San Diego County, to project future emissions and determine the strategies necessary for the reduction of emissions through regulatory controls. CARB mobile source emission projections and SANDAG growth projections are based on population, vehicle trends, and land use plans developed by the cities and San Diego County as part of the development of their general plans.

The *Eight-Hour Ozone Attainment Plan for San Diego County* indicates that local controls and state programs would allow the region to reach attainment of the federal 1997 8-hour O_3 standard by 2009 (SDAPCD 2007). In this plan, SDAPCD relies on the RAQS to demonstrate how the region will comply with the federal O_3 standard. The RAQS details how the region will manage and reduce O_3 precursors (NO_x and VOCs) by identifying measures and regulations intended to reduce these contaminants. The control measures identified in the RAQS generally focus on stationary sources; however, the emissions inventories and projections in the RAQS address all potential sources, including those under the authority of

CARB and the EPA. Incentive programs for reduction of emissions from heavy-duty diesel vehicles, off-road equipment, and school buses are also established in the RAQS. In the *Redesignation Request and Maintenance Plan for the 1997 National Ozone Standard for San Diego County*, the basin did not reach attainment of the federal 1997 standard until 2011 (SDAPCD 2012). This plan, however, demonstrates the region's attainment of the 1997 O_3 NAAQS and outlines the plan for maintaining attainment status.

In December 2005, SDAPCD prepared a report titled *Measures to Reduce Particulate Matter in San Diego County* to address implementation of Senate Bill (SB) 656 in San Diego County (SB 656 required evaluation of additional controls to reduce ambient concentrations of PM_{10} and $PM_{2.5}$) (SDAPCD 2005). In the report, SDAPCD evaluated the implementation of source-control measures that would reduce particulate matter emissions associated with residential wood combustion; various construction activities including earthmoving, demolition, and grading; bulk material storage and handling; carryout and trackout removal and cleanup methods; inactive disturbed land; disturbed open areas; unpaved parking lots/staging areas; unpaved roads; and windblown dust.

As stated, the SDAPCD is responsible for planning, implementing, and enforcing federal and state ambient standards in the basin. The following rules and regulations apply to all sources in the jurisdiction of SDAPCD:

- **SDAPCD Regulation IV: Prohibitions; Rule 51: Nuisance.** Prohibits the discharge, from any source, of such quantities of air contaminants or other materials that cause or have a tendency to cause injury, detriment, nuisance, annoyance to people and/or the public, or damage to any business or property (SDAPCD 1969).
- **SDAPCD Regulation IV: Prohibitions; Rule 55: Fugitive Dust.** Regulates fugitive dust emissions from any commercial construction or demolition activity capable of generating fugitive dust emissions, including active operations, open storage piles, and inactive disturbed areas, as well as track-out and carry-out onto paved roads beyond a project site (SDAPCD 2009b).
- **SDAPCD Regulation IV: Prohibitions; Rule 67.0.1: Architectural Coatings.** Requires manufacturers, distributors, and end users of architectural and industrial maintenance coatings to reduce VOC emissions from the use of these coatings, primarily by placing limits on the VOC content of various coating categories (SDAPCD 2001).

2.4 Local Air Quality

2.4.1 San Diego Air Basin Attainment Designation

Pursuant to the 1990 CAA amendments, the EPA classifies air basins (or portions thereof) as "attainment" or "nonattainment" for each criteria air pollutant, based on whether the NAAQS have been achieved. Generally, if the recorded concentrations of a pollutant are lower than the standard, the area is classified as "attainment" for that pollutant. If an area exceeds the standard, the area is classified as "nonattainment" for that pollutant. As previously discussed, these standards are set by the EPA or CARB for the maximum level of a given air pollutant that can exist in the outdoor air without unacceptable effects on human health or the public welfare. If there is not enough data available to determine whether the standard is exceeded in an area, the area is designated as "unclassified" or "unclassifiable." The designation of "unclassifiable/ attainment" means that the area meets the standard or is expected to be meet the standard despite a lack of monitoring data. Areas that achieve the standards after a nonattainment designation are redesignated as maintenance areas and must have approved maintenance plans to ensure continued attainment of the standards. The California Clean Air Act, like its federal counterpart, called for the designation of areas as "attainment" or "nonattainment," but based on CAAQS rather than NAAQS. The attainment classifications for the criteria pollutants are listed in Table 3.

Table 3
San Diego Air Basin Attainment Classification

Pollutant	Federal Designation	State Designation
O_3 (1-hour)	Attainment[a]	**Nonattainment**
O_3 (8-hour – 1997) (8-hour – 2008)	Attainment (Maintenance) **Nonattainment (Moderate)**	**Nonattainment**
NO_2	Unclassifiable/Attainment	Attainment
CO	Attainment (Maintenance)	Attainment
SO_2	Unclassifiable/Attainment	Attainment
PM_{10}	Unclassifiable/Attainment	**Nonattainment**
$PM_{2.5}$	Unclassifiable/Attainment	**Nonattainment**
Lead	Unclassifiable/Attainment	Attainment
Sulfates	No federal standard	Attainment
Hydrogen sulfide	No federal standard	Unclassified
Visibility-reducing particles	No federal standard	Unclassified
Vinyl chloride	No federal standard	No designation

Sources: EPA 2016b (federal); CARB 2016b (state).
Notes: Bold text = not in attainment; Attainment = meets the standards; Attainment (Maintenance) = achieve the standards after a nonattainment designation; Nonattainment = does not meet the standards; Unclassified or Unclassifiable = insufficient data to classify; Unclassifiable/Attainment = meets the standard or is expected to be meet the standard despite a lack of monitoring data.

[a] The federal 1-hour standard of 0.12 parts per million was in effect from 1979 through June 15, 2005. The revoked standard is referenced here because it was employed for such a long period and because this benchmark is addressed in SIPs.

The SDAB is designated as an attainment area for the 1997 8-hour O_3 NAAQS and as a nonattainment area for the 2008 8-hour O_3 NAAQS. The SDAB is designated as a nonattainment area for O_3, PM_{10}, and $PM_{2.5}$ CAAQS. The portion of the SDAB where the Project Area is located is designated as attainment or unclassifiable/unclassified for all other criteria pollutants under the NAAQS and CAAQS.

2.4.2 Air Quality Monitoring Data

The SDAPCD operates a network of ambient air monitoring stations throughout San Diego County, which measure ambient concentrations of pollutants and determine whether the ambient air quality meets the CAAQS and the NAAQS. The SDAPCD monitors air quality conditions at 10 locations throughout the basin. The nearest SDAPCD-operated monitoring station in which criteria pollutants data was collected is the San Diego – Kearny Villa Road monitoring station which was located approximately 7.5 miles south of the project site. Ambient concentrations of pollutants from 2012 through 2014 are presented in Table 4.

Table 4
Ambient Air Quality Data

Pollutant	Averaging Time	2012	2013	2014	Most Stringent Ambient Air Quality Standard	Monitoring Station
O_3	8-hour	0.076 ppm	0.070 ppm	0.081 ppm	0.070 ppm (State)	San Diego - Kearny Villa Road[a]
	1-hour	0.099 ppm	0.081 ppm	0.099 ppm	0.090 ppm (State)	
NO_2	1-hour	0.057 ppm	0.067 ppm	0.051 ppm	0.100 ppm (National)	San Diego - Kearny Villa Road[a]
	Annual	N/A	0.011 ppm	0.010 ppm	0.030 ppm (State)	
CO	1-hour	N/A	N/A	N/A	20 ppm (State)	San Diego - Kearny Villa Road[a]
	8-hour[b]	1.85 ppm	N/A	N/A	9.0 ppm (State)	
SO_2	24-hour[b]	0.001 ppm	0.001 ppm	N/A	0.04 ppm (State)	San Diego - Kearny Villa Road[a]
	Annual	N/A	N/A	N/A	0.030 ppm (National)	
PM_{10}	24-hour	35.0 µg/m³	38.0 µg/m³	39.0 µg/m³	50 µg/m³ (State)	San Diego - Kearny Villa Road[a]
	Annual	N/A	20.0 µg/m³	19.5 µg/m³	20 µg/m³ (State)	
$PM_{2.5}$	24-hour	20.1 µg/m³	22.0 µg/m³	20.2 µg/m³	35 µg/m³ (National)	San Diego - Kearny Villa Road[a]
	Annual	N/A	8.3 µg/m³	8.2 µg/m³	12 µg/m³ (National)	

Sources: CARB 2014b

Notes: ppm = parts per million; µg/m3 = micrograms per cubic meter; O_3 = ozone; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; NO_2 = nitrogen dioxide; N/A = not available; CO = carbon monoxide; SO_2 = sulfur dioxide.

Data were taken from CARB iADAM (2015; http://www.arb.ca.gov/adam) or EPA AirData (2015; http://www.epa.gov/airdata/) and represent the highest concentrations experienced over a given year. Exceedances of federal and state standards are only shown for ozone and particulate matter. Daily exceedances for particulate matter are estimated days because PM_{10} and $PM_{2.5}$ are not monitored daily. All other criteria pollutants did not exceed either federal or state standards during the years shown. There is no federal standard for 1-hour ozone, annual PM_{10}, or 24-hour $S0_2$, nor is there a state 24-hour standard for $PM_{2.5}$.

[a] San Diego – Kearny Villa Road Monitoring Station is located at 6125A Kearny Villa Road, San Diego, California.

[b] Data taken from El Cajon – Redwood Avenue Station

2.5 Thresholds of Significance

The State of California has developed guidelines to address the significance of air quality impacts based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines (14 CCR 15000 et seq.), which provides guidance that a project would have a significant environmental impact if it would:

1. Conflict with or obstruct the implementation of the applicable air quality plan;
2. Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
3. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for O_3 precursors);
4. Expose sensitive receptors to substantial pollutant concentrations; or
5. Create objectionable odors affecting a substantial number of people.

SDAPCD

Criteria Air Pollutant Emissions

As part of its air quality permitting process, the SDAPCD has established thresholds in Rule 20.2 requiring the preparation of Air Quality Impact Assessments (AQIA) for permitted stationary sources. The SDAPCD sets forth quantitative emission thresholds below which a stationary source would not have a significant impact on ambient air quality. Project-related air quality impacts estimated in this environmental analysis would be considered significant if any of the applicable significance thresholds presented in Table 5, San Diego Air Pollution Control District Air Quality Significance Thresholds, are exceeded.

For CEQA purposes, these screening criteria can be used as numeric methods to demonstrate that a project's total emissions would not result in a significant impact to air quality.

Table 5
San Diego Air Pollution Control District Air Quality Significance Thresholds

Construction Emissions	
Pollutant	*Total Emissions (Pounds per Day)*
Respirable Particulate Matter (PM_{10})	100
Fine Particulate Matter ($PM_{2.5}$)	55

Table 5
San Diego Air Pollution Control District Air Quality Significance Thresholds

Construction Emissions			
Pollutant	*Total Emissions (Pounds per Day)*		
Oxides of Nitrogen (NO_x)	250		
Oxides of Sulfur (SO_x)	250		
Carbon Monoxide (CO)	550		
Volatile Organic Compounds (VOC)	137*		
Operational Emissions			
	Total Emissions		
Pollutant	*Pounds per Hour*	*Pounds per Day*	*Tons per Year*
Respirable Particulate Matter (PM_{10})	—	100	15
Fine Particulate Matter ($PM_{2.5}$)	—	55	10
Oxides of Nitrogen (NO_x)	25	250	40
Sulfur Oxides (SO_x)	25	250	40
Carbon Monoxide (CO)	100	550	100
Lead and Lead Compounds	—	3.2	0.6
Volatile Organic Compounds (VOC)	—	137*	13.7

Source: City of San Diego 2011; SDAPCD 1998
* VOC threshold based on the significance thresholds recommended by the Monterey Bay Unified Air Pollution Control District for the North Central Coast Air Basin, which has similar federal and state attainment status as the SDAB for O_3.

The thresholds listed in Table 5 represent screening-level thresholds that can be used to evaluate whether project-related emissions could cause a significant impact on air quality. Emissions below the screening-level thresholds would not cause a significant impact. In the event that emissions exceed these thresholds, modeling would be required to demonstrate that the project's total air quality impacts result in ground-level concentrations that are below the CAAQS and NAAQS, including appropriate background levels. For nonattainment pollutants, if emissions exceed the thresholds shown in Table 5, the project could have the potential to result in a cumulatively considerable net increase in these pollutants and thus could have a significant impact on the ambient air quality.

Health Risk

The SDAPCD's *Supplemental Guidelines for Submission of Air Toxics "Hot Spots" Program Health Risk Assessments* (SDAPCD 2015) provides guidance to perform HRAs within the San Diego Air Basin. Although the SDAPCD Guidance is specifically targeted towards health risk from air toxic emissions from stationary source operations, the thresholds were adapted here for informational purposes. The SDAPCD's current thresholds of significance for TAC emissions from the operations of permitted and non-permitted sources are presented in Table 6.

Table 6
SDAPCD CEQA TAC Emissions Thresholds

Carcinogens	Non-Carcinogens
	Chronic
Maximally exposed individual risk equals or exceeds 10 in 1 million	Hazard Index equals or exceeds 1 for the maximally exposed individual

Source: SDAPCD 2015.
Notes: CEQA = California Environmental Quality Act; SDAPCD = San Diego Air Pollution Control District

Odor

SDAPCD Rule 51 (Public Nuisance) prohibits emission of any material that causes nuisance to a considerable number of persons or endangers the comfort, health, or safety of any person. A project that proposes a use that would produce objectionable odors would be deemed to have a significant odor impact if it would affect a considerable number of off-site receptors.

City of San Diego

In order to determine the significance of the proposed project's emissions, the City's *Significance Determination Thresholds* (City of San Diego 2011) were utilized.

The City of San Diego Development Services Department updated its CEQA *Significance Determination Thresholds* guidance in January 2011 (City of San Diego 2011). This document provides guidance for City of San Diego staff, project proponents, and the public for determining whether, based on substantial evidence, a project may have a significant effect on the environment under Section 21082.2 of CEQA. With respect to air quality, this guidance recommends the use of the thresholds shown in Table 5 to determine significance.

The air quality section of the *Significance Determination Thresholds* guidance recognizes attainment status designations for the SDAB and its nonattainment status for both ozone and particulate matter. As such, the document recognizes that all new projects should include measures, pursuant to CEQA, to reduce project-related ozone and particulate matter emissions to ensure new development does not contribute to San Diego's nonattainment status for these pollutants.

2.6 Impact Analysis

This section evaluates the air quality impacts associated with the proposed project. The City's significance criteria described in Section 2.5, Thresholds of Significance, was used to evaluate impacts associated with the construction and operation of the proposed project.

2.6.1 Would the project conflict with or obstruct implementation of the applicable air quality plan?

The RAQS and SIP rely on information from CARB and SANDAG, including mobile and area source emissions, to project future emissions and to determine strategies for the reduction of emissions through regulatory controls. CARB source emission projections and SANDAG growth projections are based on population, vehicle trends, and land use plans developed by the cities and by the County. As such, projects that propose development that is consistent with the growth anticipated by the general plan(s) would be consistent with the growth projections of the SIP because associated emissions of criteria pollutants in a designated nonattainment area would be accounted for in these air quality plans. If a project proposes development that is greater than anticipated in SANDAG's growth projections, the project would in conflict with the RAQS and SIP, and could potentially result in a significant air quality impact.

The property is currently designated Commercial Limited (CL) under the Torrey Highlands Subarea Plan (community plan) and zoned AR-1-1, which allows for development of single-dwelling-unit homes at a required minimum of 10-acre lots. The project proposes an amendment to the Community Plan (CPA) and a rezone to allow for the development. The CPA would redesignate the site from Commercial Limited (CL) to Employment Center (EC) and a rezone from AR-1-1 to IP-3-1 (industrial park, which allows for research and development, office, and residential uses). The proposed CPA and rezone would allow a greater amount of development than the adopted community plan, and therefore, the project would not be consistent with the SANDAG projections for emissions in the area. As such, the project would be considered inconsistent with the RAQS and impacts would be significant.

As this impact would occur as a result of a change in land use, there is no mitigation available to reduce the impact. When the RAQS and SIP are updated, projects that are approved through General Plan/Community Plan amendments would be included in the SANDAG growth projections, and therefore updated in the RAQS and SIP. Impacts would be significant and unavoidable.

2.6.2 Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Construction

Construction of the proposed project would result in a temporary addition of pollutants to the local airshed caused by soil disturbance, fugitive dust emissions, and combustion pollutants from on-site construction equipment, as well as from off-site trucks hauling construction materials.

Construction emissions can vary substantially day to day, depending on the level of activity, the specific type of operation, and for dust, the prevailing weather conditions.

Pollutant emissions associated with construction activity were quantified using CalEEMod. Default values provided by the program were used where detailed project information was not available.

Implementation of the project would generate construction-related air pollutant emissions from three general activity categories: entrained dust, equipment and vehicle exhaust emissions, and architectural coatings. Entrained dust results from the exposure of earth surfaces to wind from the direct disturbance and movement of soil, resulting in PM_{10} and $PM_{2.5}$ emissions. The proposed project is subject to SDAPCD Rule 55, Fugitive Dust Control. This rule requires that the project take steps to restrict visible emissions of fugitive dust beyond the property line. Compliance with Rule 55 would limit fugitive dust (PM_{10} and $PM_{2.5}$) that may be generated during grading and construction activities. To account for dust control measures in the calculations, it was assumed that the active sites would be watered at least three times daily, resulting in an approximately 61% reduction of particulate matter.

Exhaust from internal combustion engines used by construction equipment and hauling trucks (dump trucks) and vendor trucks (delivery trucks) and worker vehicles would result in emissions of NO_x, ROC, CO, SO_x, PM_{10}, and $PM_{2.5}$. The application of architectural coatings, such as exterior/interior paint and other finishes, would also produce VOC emissions; however, the contractor is required to procure architectural coatings from a supplier in compliance with the requirements of SDAPCD Rule 67.0.1, Architectural Coatings. This rule requires manufacturers, distributors, and end users of architectural and industrial maintenance coatings to reduce VOC emissions from the use of these coatings, primarily by placing limits on the VOC content of various coating categories. VOC content used for this analysis include 150 grams per liter for exterior coatings and use of 50 grams per liter for interior coatings as outlined in SDAPCD Rule 67.0.1.

Table 7 shows the estimated maximum daily construction emissions associated with the construction of the proposed project. Complete details of the emissions calculations are provided in Appendix A of this document.

Table 7
Estimated Maximum Daily Construction Emissions

Construction Year	VOC (lb/day)	NO_x (lb/day)	CO (lb/day)	SO_x (lb/day)	PM_{10} (lb/day)	$PM_{2.5}$ (lb/day)
2018	23.55	284.40	165.52	0.47	42.14	22.79
2019	43.88	256.45	223.94	0.64	33.13	14.90
2020	41.17	197.22	187.52	0.54	27.43	11.76

Table 7
Estimated Maximum Daily Construction Emissions

Construction Year	VOC (lb/day)	NO_x (lb/day)	CO (lb/day)	SO_x (lb/day)	PM_{10} (lb/day)	$PM_{2.5}$ (lb/day)
Maximum Daily Emissions	**43.88**	**284.40**	**223.94**	**0.64**	**42.14**	**22.79**
Emission Threshold	*75*	*250*	*550*	*250*	*100*	*55*
Threshold Exceeded?	No	**Yes**	No	No	No	No

Notes: See Appendix A for complete results.
VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SOx = oxides of sulfur; PM_{10} = particulate matter with an aerodynamic diameter equal to or less than 10 microns; $PM_{2.5}$ = particulate matter with an aerodynamic diameter equal to or less than 2.5 microns; lb/day = pounds per day.

As shown in Table 7, daily construction emissions would not exceed the significance thresholds for VOC, CO, SO_x, PM_{10}, or $PM_{2.5}$; therefore, impacts during construction would be less than significant for these pollutants. Daily construction emissions would exceed the significance threshold for NO_x; therefore, mitigation measure MM-AQ-1 and MM-AQ-2 are provided.

MM-AQ-1 The project owner/permittee shall include verbatim in construction contracts the engine tier requirements in accordance with MM-AQ-2.

MM-AQ-2 Prior to the start of construction activities, the project owner/permittee, or its designee, shall ensure that all diesel-powered aerial lifts, forklifts, tractors, loaders, backhoes, and welders be powered with California Air Resources Board–certified Tier 4 Final engines, except where Tier 4 Final equipment is not available. All other diesel-powered construction equipment will be classified as Tier 3 or higher, at a minimum, except where Tier 3 equipment is not available. Engine Tier requirements in accordance with this measure shall be incorporated on all construction plans. An exemption from these requirements may be granted by the City of San Diego in the event that the owner/permittee documents that equipment with the required tier is not reasonably available and corresponding reductions in criteria air pollutant emissions are achieved from other construction equipment.[2] Before an exemption may be considered by the City of San Diego, the owner/permittee shall be required to demonstrate that at least two construction fleet owners/operators in the San Diego region were contacted and that those

[2] For example, if a Tier 4 Interim piece of equipment is not reasonably available at the time of construction and a lower tier equipment is used instead (e.g., Tier 3), another piece of equipment could be upgraded from a Tier 4 Interim to a higher tier (i.e., Tier 4 Final) or replaced with an alternative-fueled (not diesel-fueled) equipment to offset the emissions associated with using a piece of equipment that does not meet Tier 4 Interim standards.

owners/operators confirmed the requested equipment could not be located within the San Diego region.

Resulting emission following implementation of mitigation measure MM-AQ-1 and MM-AQ-2 are shown in Table 8.

Table 8
Estimated Maximum Daily Construction Emissions - Mitigated

Construction Year	VOC (lb/day)	NO_x (lb/day)	CO (lb/day)	SO_x (lb/day)	PM_{10} (lb/day)	$PM_{2.5}$ (lb/day)
2018	11.97	188.71	166.01	0.47	20.67	10.10
2019	31.99	188.08	226.85	0.64	27.09	9.24
2020	30.78	151.06	191.64	0.54	23.22	7.81
Maximum Daily Emissions	**31.99**	**188.71**	**226.85**	**0.64**	**27.09**	**10.10**
Emission Threshold	*75*	*250*	*550*	*250*	*100*	*55*
Threshold Exceeded?	No	No	No	No	No	No

Notes: See Appendix A for complete results.
VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SOx = oxides of sulfur; PM_{10} = particulate matter with an aerodynamic diameter equal to or less than 10 microns; $PM_{2.5}$ = particulate matter with an aerodynamic diameter equal to or less than 2.5 microns; lb/day = pounds per day.

As shown in Table 8, following implementation of mitigation measure MM-AQ-1 and MM-AQ-2, all criteria pollutant emission would be less than significant during construction.

Operation

Following the completion of construction activities, the proposed project would generate VOC, NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$ emissions from mobile and stationary sources, including vehicular traffic and area sources (water heating and landscaping).

Vehicular Traffic

The proposed project would impact air quality through the vehicular traffic generated by the proposed project. According to the proposed project's traffic report prepared by LLG, the proposed project would result in a total of 5,264 trips per day (LLG 2018).

Project-related traffic was assumed to include a mixture of vehicles in accordance with the model outputs for traffic. Emission factors representing the vehicle mix and emissions for 2020 were used to estimate emissions associated with full buildout of the proposed project.

Energy

In addition to estimating mobile source emissions, CalEEMod was also used to estimate emissions from the project's energy use, which includes natural gas combustion. CalEEMod default rates were applied to the proposed project.

Area Sources

CalEEMod was also used to estimate emissions from the project's area sources, which include landscaping, consumer products, and architectural coatings for building maintenance.

Table 9 presents the maximum daily emissions associated with the operation of the proposed project after all construction has been completed. The values shown for motor vehicles and area sources are the maximum summer or winter daily emissions results from CalEEMod.

Table 9
Estimated Daily Maximum Operational Emissions

Emission Source	VOC (lb/day)	NO_x (lb/day)	CO (lb/day)	SO_x (lb/day)	PM_{10} (lb/day)	$PM_{2.5}$ (lb/day)
Area	13.48	0.00	0.25	0.00	0.00	0.00
Energy	0.29	2.65	2.23	0.01	0.20	0.20
Mobile	9.37	38.32	102.43	0.33	27.00	7.43
Total	**23.14**	**40.97**	**104.91**	**0.35**	**27.20**	**7.63**
Emission Threshold	*55*	*250*	*550*	*250*	*100*	*55*
Threshold Exceeded?	No	No	No	No	No	No

Notes: See Appendix A for complete results.
VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = oxides of sulfur; PM_{10} = particulate matter with an aerodynamic diameter equal to or less than 10 microns; $PM_{2.5}$ = particulate matter with an aerodynamic diameter equal to or less than 2.5 microns; lb/day = pounds per day.
Emissions represent maximum of summer and winter. Summer emissions are representative of the conditions that may occur during the ozone season (May 1 to October 31), and winter emissions are representative of the conditions that may occur during the balance of the year (November 1 to April 30).

As shown in Table 9, the daily operational emissions from the proposed project would not exceed the significance thresholds for VOC, NO_x, CO, SO_x, PM_{10}, or $PM_{2.5}$. Therefore, operational emissions would be less than significant.

2.6.3 Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

The San Diego Air Pollution Control District (SDAPCD) and SANDAG are responsible for developing and implementing the clean air plans for attainment and maintenance of the ambient air quality standards in the basin—specifically, the State Implementation Plan (SIP) and Regional Air Quality Strategy (RAQS). These plans together plan for cumulative air quality for the state and the San Diego Air Basin. The SIP and RAQS rely on information from the California Air Resources Board (CARB) and SANDAG, including mobile and area source emissions as well as information regarding projected growth in the County as a whole and the cities in the County, to project future emissions and determine the strategies necessary for the reduction of emissions through regulatory controls. CARB mobile source emission projections and SANDAG growth projections are based on population, vehicle trends, and land use plans developed by the County and the cities in the County as part of the development of their general plans.

If a project proposes development that is greater than that anticipated in the general plan and SANDAG's growth projections, the project might conflict with the SIP and RAQS and may contribute to a potentially significant cumulative impact on air quality. The project site is currently designated as Commercial Employment, Retail, and Services in the City's General Plan, and as Commercial Limited (CL) land use under the existing Torrey Highlands Subarea Plan, which is part of the greater North City Future Urbanizing Framework Plan. The project would retain the General Plan land use designation but would change the Community Plan designation from Commercial Limited (CL) to Employment Center (EC). Because each community plan within the City of San Diego form the basis of the General Plan, a change in the community plan land use designation would equate to a change in the foundational assumptions upon which the General Plan is based. Therefore, because the project would require a Community Plan Amendment, the project would be considered inconsistent with the underlying growth estimates for the air basin used as the basis for the RAQS update. For these reasons, at a regional level, the project would be considered inconsistent with the underlying growth forecasts in the RAQS, and cumulative impacts would be significant. Although cumulative air quality impacts would be considered significant, the project's contribution to this cumulative impact, at the regional level, would not be cumulatively considerable.

Additionally, the San Diego Air Basin has been designated as a federal nonattainment area for ozone (O_3) and a state nonattainment area for O_3, particulate matter with an aerodynamic diameter equal to or less than 10 microns (PM_{10}), and particulate matter with an aerodynamic diameter equal to or less than 2.5 microns ($PM_{2.5}$) (see Section 5.5). PM_{10} and $PM_{2.5}$ emissions

associated with construction generally result in near-field impacts. The nonattainment status is the result of cumulative emissions from all sources of these air pollutants and their precursors within the basin. As discussed in Section 5.5, construction of the project along with construction of other cumulative projects listed on Table 6-1 would be short term and temporary in nature. The project's maximum daily particulate matter (PM_{10} or $PM_{2.5}$) emissions generated by construction equipment operation and haul-truck trips (exhaust particulate matter, or diesel particulate matter), combined with fugitive dust generated by equipment operation and vehicle travel, would be well below the City's daily thresholds. During construction, oxides of nitrogen (NO_x) emissions would exceed the maximum daily emission threshold; however, with implementation of **MM-AQ-1** and **MM-AQ-2**, NO_x emissions would be reduced to below a level of significance. Once construction of the project is completed, construction-related emissions would cease. Operational emissions for the project would be less than significant. Therefore, the project would not result in a cumulatively significant impact related to particulate matter emissions during construction or operation. Therefore, when considered with other foreseeable projects, implementation of the project would not result in significant cumulative impacts related air quality impacts and the project would result in a less-than-significant cumulative impact.

2.6.4 Would the project expose sensitive receptors to substantial pollutant concentrations?

Air quality varies as a direct function of the amount of pollutants emitted into the atmosphere, the size and topography of the air basin, and the prevailing meteorological conditions. Air quality problems arise when the rate of pollutant emissions exceeds the rate of dispersion. Reduced visibility, eye irritation, and adverse health impacts upon those persons termed "sensitive receptors" are the most serious hazards of existing air quality conditions in the area. Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. People most likely to be affected by air pollution, as identified by CARB, include children, the elderly, athletes, and people with cardiovascular and chronic respiratory diseases; however, for the purposes of this analysis, residents are also considered sensitive receptors. As such, sensitive receptors include residences, schools, playgrounds, child-care centers, athletic facilities, long-term health-care facilities, rehabilitation centers, convalescent centers, and retirement homes. The closest existing off-site sensitive receptors to the project are residential land uses approximately 0.25 mile from the project site boundary.

Construction Impacts

Toxic Air Contaminants

Criteria air pollutant emissions associated with temporary construction activity were quantified using the California Emissions Estimator Model (CalEEMod) version 2016.3.2. Construction schedule assumptions, including phase type, duration, and sequencing, were based on information provided by the applicant and are intended to represent a reasonable scenario based on the best information available.

Although residences are not officially designated as sensitive receptors per the City of San Diego's Significance Determination Thresholds (with the exception of medical patients in homes) (City of San Diego 2016), residences are considered sensitive receptors under the City's General Plan. Therefore, a Health Risk Assessment (HRA) was conducted to evaluate the risk to existing residents located in close proximity to the project. Nearby existing residences, the presumed to be existing Merge 56 project, and the KB Homes project were taken into consideration.

To assess health risk at proximate receptors, the HRA includes DPM emitted from exhaust from onsite construction equipment and diesel vehicles. Criteria air pollutant emissions associated with temporary construction activities were quantified using the California Emissions Estimator Model (CalEEMod) version 2016.3.2. Construction schedule assumptions, including phase type, duration, and sequencing is described in Section 1.3.1. To account for pass-by and onsite DPM emissions from diesel haul and vendor trucks at nearby sensitive receptors for purposes of the HRA, the truck trip lengths were assumed to be ¼-mile.

Table 10 presents the estimated annual construction exhaust emissions generated during construction of the project prior to implementation of MM-AQ-1 and MM-AQ-2. Details of the emission calculations are provided in Appendix B.

Table 10
Estimated Annual Onsite Construction Emissions – Exhaust Only

Year	ROG	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
	Tons per year					
2018	0.42	4.48	3.01	0.01	0.18	0.17
2019	3.02	19.98	15.27	0.03	0.81	0.77
2020	1.07	5.18	4.52	0.01	0.22	0.22

Notes: CO = carbon monoxide; NOx = oxides of nitrogen; PM10 = coarse particulate matter; PM2.5 = fine particulate matter; SOx = sulfur oxides; ROG = reactive organic compound
See Appendix B for complete results.

The emissions presented in Table 11 represent emissions following implementation of MM-AQ-1 and MM-AQ-2, which requires all diesel-powered aerial lifts, forklifts, tractors, loaders, backhoes, and welders be powered with CARB certified Tier 4 Final engines. Details of the emission calculations are provided in Appendix B.

Table 11
Estimated Annual Onsite Construction Emissions – Exhaust Only (Mitigated)

Year	ROG	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
	Tons per year					
2018	0.11	2.60	3.00	0.01	0.03	0.03
2019	1.58	13.20	15.55	0.03	0.17	0.17
2020	0.69	3.49	4.69	0.01	0.08	0.08

Notes: CO = carbon monoxide; NOx = oxides of nitrogen; PM10 = coarse particulate matter; PM2.5 = fine particulate matter; SOx = sulfur oxides; ROG = reactive organic compound
See Appendix B for complete results.

The cancer risk calculations were performed by multiplying the AERMOD-predicted DPM concentrations in $\mu g/m^3$ due to DPM emissions from trucks and construction equipment by the appropriate risk values. The exposure and risk equations that were used to calculate the cancer risk at residential receptors are taken from the OEHHA manual for health risk assessments prepared under the Air Toxics "Hot Spots" program (OEHHA 2008).

The potential exposure pathway for DPM includes inhalation only. The potential exposure through other pathways (e.g., ingestion) requires substance and site-specific data, and the specific parameters for DPM are not known for these pathways (CARB 1998). Cancer risks were evaluated using the inhalation cancer potency factor published by the OEHHA and CARB (CARB 2013). The cancer potency factor for DPM is 1.1 per milligram per kilogram of body weight per day (mg/kg-day). In accordance with CARB policy (CARB 2015c), the breathing rate equal to the 80th percentile, or 302 liters per kilogram of body weight per day, was used for the cancer risk calculations. Table 12 summarizes the construction HRA results based on the HRA methodology described above and contained in Appendix B.

Table 12
Construction Activity Health Risk Assessment Results

Impact Parameter	Units	Project Impact	CEQA Threshold	Level of Significance
Prior to Mitigation				
MICR—Residential	Per Million	37.1	10.0	**Potentially Significant**
HIC	Not Applicable	0.02	1.0	Less than Significant

Table 12
Construction Activity Health Risk Assessment Results

Impact Parameter	Units	Project Impact	CEQA Threshold	Level of Significance
With Mitigation				
MICR—Residential	Per Million	8.5	10.0	Less than Significant
HIC	Not Applicable	0.005	1.0	Less than Significant

Sources: Attachment B
Notes: MICR – Maximum Individual Cancer Risk; HIC – Chronic Hazard Index

The maximally exposed individual resident would be located east of the project site at the Merge 56 development, with cancer risk and chronic hazard index estimated at 37.1 in 1 million and 0.02, respectively. The results of the HRA demonstrate that the diesel exhaust emissions from construction of the project exhibit cancer risks above the 10 in 1 million threshold prior to mitigation, but below the chronic hazard index less than 1. Therefore, impacts to residential units at the presumed to be existing Merge 56 project would be potentially significant. Mitigation measures MM-AQ-1 and MM-AQ-2 would be implemented during construction. Following implementation of MM-AQ-1 and MM-AQ-2, impacts would be reduced to below a level of significance.

The results determined in this analysis reflect reasonable estimates of source emissions and exhaust characteristics, available meteorological data near the project site, and the use of currently approved air quality models. Given the limits of available tools for such an analysis, the actual impacts may vary from the estimates in this assessment. However, the combined use of the AERMOD dispersion model and the health impact calculations required by OEHHA and SDAPCD tend to over-estimate impacts such that they produce conservative (i.e., health-protective) results. Accordingly, the health impacts are not expected to be higher than those estimated in this assessment.

Operational Impacts

Carbon Monoxide – CO "Hotspots"

Mobile-source impacts occur on two basic scales of motion. Regionally, project-related travel will add to regional trip generation and increase the VMT within the local airshed and the SDAB. Locally, proposed project traffic will be added to the City's roadway system. If such traffic occurs during periods of poor atmospheric ventilation, consists of a large number of vehicles "cold-started" and operating at pollution-inefficient speeds, and operates on roadways already crowded with non-project traffic, there is a potential for the formation of microscale CO "hotspots" in the area immediately around points of congested traffic. Because of continued

improvement in mobile emissions at a rate faster than the rate of vehicle growth and/or congestion, the potential for CO hotspots in the basin is steadily decreasing.

Projects contributing to adverse traffic impacts may result in the formation of CO hotspots. To verify that the proposed project would not cause or contribute to a violation of the CO standard, a screening evaluation of the potential for CO hotspots was conducted. A traffic report (LLG 2018), evaluated the level of service (LOS) (i.e., increased congestion) impacts at intersections affected by the project. The potential for CO hotspots was evaluated based on the results of the traffic report. City of San Diego's *Significance Determination Thresholds* (City of San Diego 2011) CO hotspot screening guidance was followed to determine if the project would require a site-specific hotspot analysis. The City recommends that a quantitative analysis of CO hotspots be performed if a proposed development causes a six- or four-lane roadway to deteriorate to a LOS E or worse, causes a six-lane roadway to drop to LOS F, or if a proposed development is within 400 feet of a sensitive receptor and the LOS is D or worse. The project's traffic report (Linscott, Law and Greenspan, Engineers 2016) evaluated 23 key intersections, 21 surface street segments, and 4 freeway mainline segments in the proposed project vicinity to assess existing conditions, opening day (2020), and long-term (2035) conditions.

For opening day (2020) conditions, the traffic study determined that existing conditions plus the project would not deteriorate LOS at study area intersections to E or worse. The following study area intersections would continue to operate at LOS E or F conditions with the addition of project traffic.

1. Intersection #3 – Camino Del Sur and Wolverine Way for AM peak hour
2. Intersection #19 – Black Mountain Road and Park Village Road for AM peak hour

Table 13, Long-Term (2035) Conditions Without and With Project, summarizes the existing traffic conditions, long-term cumulative traffic conditions without the project, long-term cumulative traffic conditions with the project, whether the recommended mitigation measures are feasible, if the roadways are within 400 feet of sensitive receptors, and whether a quantitative CO hotspots analysis is required per the City's guidelines. Table 13 provides long-term cumulative traffic conditions for intersections that would result in a significant impact with addition of project traffic; it does not include traffic conditions for roadway segments and freeway mainline segments.

Table 13
Long-Term (2035) Conditions Without and With Project

Key Intersection	Time Period	Existing Condition	Year 2035 Without Project	Year 2035 With Project	Mitigation Feasible?	Within 400 feet of Sensitive Receptor?	Requires CO Hotspot Analysis?
		LOS	*LOS*	*LOS*	*Yes/No*	*Yes/No*	*Yes/No*
Camino Del Sur and SR-56 WB ramp	PM	C	D	D	No	Yes	Yes
Camino Del Sur and SR-56 EB ramp	PM	C	E	F	No	No	No
Black Mountain Road and SR-56 WB ramp	AM	F	F	F	Yes	Yes	Yes
Black Mountain Road and SR-56 EB ramp	AM	E	E	E	Yes	Yes	Yes
Black Mountain Road and Park Village Road	AM PM	E E	E F	F F	Yes	Yes	Yes

Source: Linscott, Law and Greenspan, Engineers 2016
Notes: NA = not applicable; CO = carbon monoxide; LOS = level of service; I-805 = Interstate 805; EB = eastbound; WB = westbound

As shown in Table 13, a total of four intersections would result in LOS E or worse and are within 400 feet of sensitive receptors therefore, requiring a qualitative CO hotspot analysis. These intersections include the following:

1. Intersection #6 – Camino Del Sur and SR-56 WB ramp for PM peak hour
2. Intersection #17 – Black Mountain Road and SR-56 WB ramp for AM peak hour
3. Intersection #18 – Black Mountain Road and SR-56 EB ramp for AM peak hour
4. Intersection #19 – Black Mountain Road and Park Village Road for AM and PM peak hour

In accordance with the City's *Significance Determination Thresholds* (City of San Diego 2011), a site-specific CO hotspot analysis was performed for these intersections during the long-term 2035 with project traffic conditions. The potential impact of the proposed project on local CO levels was assessed at these intersections with the California Department of Transportation (Caltrans) CL4 interface, based on the California LINE Source Dispersion Model (CALINE4), which allows microscale CO concentrations to be estimated along each roadway corridor or near intersections (Caltrans 1998a).

The modeling analysis was performed for worst-case wind angle, in which the model selects the wind angles that produce the highest CO concentrations at each of the receptors. The suburban land classification of 40 inches (100 centimeters) was used for the aerodynamic roughness coefficient, which determines the amount of local air turbulence that affects plume spreading. The at-grade option was used in the analysis; for at-grade sections, CALINE4 does not permit the plume to mix below ground level. The mixing zone, which is defined as the width of the roadway plus 10 feet (3 meters) on either side, was estimated for each roadway using Google Earth (2016). The calculations assume a mixing height of 3,280 feet (1,000 meters), a flat topographical condition between the source and the receptor (link height of 0 meters), and a meteorological condition of little to almost no wind (3.3 feet (1 meter) per second), consistent with Caltrans guidance (Caltrans 1998b).

The vehicle emission factor was predicted using CARB's mobile source emissions inventory model, EMFAC2014, and represents the weighted average emission rate of the local San Diego County vehicle fleet expressed in grams per mile per vehicle. Consistent with the traffic report, emission factors for 2035, representing the long-term 2035 with roadway connection traffic conditions, were used in the CALINE4 model. Emission factors were based on a 5-mile-per-hour (mph) average speed for all of the intersections, a temperature of 43°F,3 and an average humidity of 55%. The hourly traffic volume anticipated to travel on each link, in units of vehicles per hour, was based on the traffic report. Since project-generated traffic would have a direct impact for all of the intersections in the PM peak hours, vehicle counts for the PM hours were used. Modeling assumptions are outlined in Appendix C.

Four to six receptor locations at each intersection were modeled to determine CO ambient concentrations. A receptor was assumed on the sidewalk at each corner of the modeled intersections, for a total of four receptors adjacent to the intersection, to represent the possibility of extended outdoor exposure. CO concentrations were modeled at these locations to assess the maximum potential CO exposure that could occur in 2035. Additionally, sensitive receptors within 400 feet of a study intersection, such as residences or schools, were modeled. A receptor height of 5.9 feet (1.8 meters) was used in accordance with Caltrans recommendations for all receptor locations (Caltrans 1998b).

Background concentrations of CO from a three-year period were assessed from 2012-2014 and the highest value was applied for the purposes of a conservative analysis. The maximum 1-hour CO background concentration of 4.4 ppm, as measured in 2012 (EPA 2014), was assumed in the

[3] The Caltrans Institute of Transportation Studies *Transportation Project-Level Carbon Monoxide Protocol* (CO Protocol) (Caltrans 1997) guidance is to use the smallest mean minimum temperature observed in January over the past 3 years plus the temperature adjustment for the geographic location and time period. The smallest mean minimum at the Poway Valley station was 43°F in January 2016 (WRCC 2015). Assuming a 5°F correction factor for both AM and PM traffic conditions, average morning and evening temperature would be approximately 48°F (Caltrans 1997).

CALINE4 model. The model provides predicted concentrations in parts per million (ppm) at each of the receptor locations. To estimate an 8-hour average CO concentration, a persistence factor of 0.7, as is recommended for urban locations, was applied to the output values.

The results of the model are shown in Table 14, CALINE4 Predicted Carbon Monoxide Concentrations. Model input and output data are provided in Appendix C.

Table 14
CALINE4 Predicted Carbon Monoxide Concentrations

Intersection	Maximum Modeled Impact Long-Term 2035 (ppm)	
	1-hour	*8-hour*
Camino Del Sur and SR-56 WB ramp	4.9	3.4
Black Mountain Road and SR-56 WB ramp	4.8	3.4
Black Mountain Road and SR-56 EB ramp	4.9	3.4
Black Mountain Road and Park Village Road	4.9	3.4

Source: Caltrans 1998a (CALINE4).
Notes: CO = carbon monoxide; ppm = parts per million.
Modeled concentrations reflect background 1-hour concentration of 4.4 ppm.
8-hour concentrations were obtained by multiplying the 1-hour concentration by a factor of 0.7, as referenced in Caltrans 1997, Table B.15.

As shown in Table 14, maximum CO concentrations predicted for the 1-hour averaging period would be 4.8 ppm, which is below the state 1-hour CO standard of 20 ppm. Maximum predicted 8-hour CO concentrations of 3.4 ppm would be below the state CO standard of 9 ppm. Neither the 1-hour nor 8-hour state standard would be equaled or exceeded at any of the intersections studied. Accordingly, CO hotspot impacts would be less than significant.

Toxic Air Contaminants

No residual TAC emissions and corresponding cancer risk are anticipated after construction. The project is not anticipated to generate long-term, operational sources of TAC emissions because the project would only include business office uses. The project would not include heavy industrial uses or other land uses typically associated with stationary sources of TACs. Additionally, the project would not locate sensitive receptors next to a major source of TAC because business office space would not be associated with sensitive receptors. As such, the project would not result in substantial operational TAC emissions that may affect nearby receptors, nor would sensitive receptors be located at the project site that would be exposed to nearby sources of TACs.

Additionally, CARB has published the *Air Quality and Land Use Handbook: A Community Health Perspective* (CARB 2005), which identifies certain types of facilities or sources that may emit substantial quantities of TACs and therefore could conflict with sensitive land uses, such as

"schools and schoolyards, parks and playgrounds, daycare centers, nursing homes, hospitals, and residential communities." The *Air Quality and Land Use Handbook* is a guide for siting of new sensitive land uses, but it does not mandate specific separation distances to avoid potential health impacts. The enumerated facilities or sources include the following:

- High-traffic freeways and roads
- Distribution centers
- Rail yards
- Ports
- Refineries
- Chrome plating facilities
- Dry cleaners
- Large gas-dispensing facilities.

The project would not include any of these listed land uses, nor would it generate substantial TAC emissions that would conflict with surrounding sensitive receptors. Therefore, impacts would be less than significant.

2.6.5 Would the project create objectionable odors affecting a substantial number of people?

Odors would be generated from vehicles and/or equipment exhaust emissions during construction of the proposed project. Odors produced during construction would be attributable to concentrations of unburned hydrocarbons from tailpipes of construction equipment and architectural coatings. Such odors are temporary and generally occur at magnitudes that would not affect substantial numbers of people. Therefore, impacts associated with odors during construction would be considered less than significant.

Land uses and industrial operations associated with odor complaints include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. The proposed project would not result in the creation of a land use that is associated with odors. Therefore, project operations would result in an odor impact that is less than significant.

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3 REFERENCES CITED

13 CCR 2025. Final Regulation Order to Reduce Emissions of Diesel Particulate Matter, Oxides of Nitrogen, and Other Pollutants from In-Use Heavy-Duty Diesel-Fueled Vehicles.

14 CCR 15000–15387 and Appendices A–L. Guidelines for Implementation of the California Environmental Quality Act, as amended.

27 CCR 25711. Safe Drinking Water and Toxic Enforcement Act of 1986, Levels Based on State or Federal Standards.

CARB (California Air Resources Board). 1991. *Activity Patterns of California Residents*. Final Report. May 1991. Accessed October 2017. https://www.arb.ca.gov/research/apr/past/a6-177-33.pdf.

CARB. 1998. *Report to the Air Resources Board on the Proposed Identification of Diesel Exhaust as a Toxic Air Contaminant, Part A Exposure Assessment* (as approved by the Scientific Review Panel). April 1998.

CARB. 2004. *2004 Revision to the California State Implementation Plan for Carbon Monoxide. Updated Maintenance Plan for Ten Federal Planning Areas*. Table 2, Statewide CO Emission Trends, and Table 3, Total CO Emissions in Each Maintenance Area – San Diego. July 22, 2004. Accessed April 29, 2015. http://www.arb.ca.gov/planning/sip/co/final_2004_co_plan_update.pdf.

CARB. 2005. *Air Quality and Land Use Handbook: A Community Health Perspective.* April 2005. Accessed at: http://www.arb.ca.gov/ch/landuse.htm.

CARB. 2007. Architectural Coatings Program – Suggested Control Measure. August 2014. http://www.arb.ca.gov/coatings/arch/Approved_2007_SCM.pdf.

CARB. 2015a. Hotspots Analysis and Reporting Program Version 2 (HARP2) Risk Assessment Standalone Tool (RAST), Version 15197. Accessed October 2017. http://www.arb.ca.gov/toxics/harp/rast.htm.

CARB. 2015b. “Glossary of Air Pollution Terms.” CARB website. http://www.arb.ca.gov/html/gloss.htm.

CARB. 2015c. Risk Management Guidance for Stationary Sources of Air Toxics. May 27. Accessed August 2017. https://www.arb.ca.gov/toxics/rma/rma_guidancedraft052715.pdf.

CARB. 2016a. "Ambient Air Quality Standards." June 6, 2016. Accessed at: https://www.arb.ca.gov/research/aaqs/aaqs2.pdf.

CARB. 2016b. "Area Designations Maps / State and National." Updated May 2016. Accessed at: http://www.arb.ca.gov/desig/adm/adm.htm.

Caltrans (California Department of Transportation). 1997. *Transportation Project-Level Carbon Monoxide Protocol*. Appendix B, Table B.2. Prepared by the Institute of Transportation Studies, University of California, Davis. Revised December 1997.

Caltrans. 1998a. CALINE4 - A Dispersion Model for Predicting Air Pollutant Concentrations Near Roadways. Version 1.32. Written by Sonoma Technology, Inc. Petaluma, CA. Sponsored by the University of California, Davis Institute of Transportation Studies and Caltrans. http://www.dot.ca.gov/hq/InfoSvcs/EngApps/.

Caltrans. 1998b. *User's Guide for CL4: A User-Friendly Interface for the Caline4 Model for Transportation Project Impact Assessments*. User's Guide STI-997480-1814-UG. June 1998. http://www.dot.ca.gov/hq/env/air/documents/CL4Guide.pdf

CNRA (California Natural Resources Agency). 2009. *Final Statement of Reasons for the Amendments to the CEQA Guidelines*.

City of San Diego. 2011. *Significance Determination Thresholds*. https://www.sandiego.gov/sites/default/files/legacy/development-services/pdf/news/sdtceqa.pdf

County of San Diego. 2007. *Guidelines for Determining Significance and Report and Format and Content Requirements – Air Quality*. Land Use and Environment Group. Department of Planning and Land Use. Department of Public Works. March 19, 2007.

EPA. 2014. "AirData: Access to Air Pollution Data." Last updated October 8, 2014. Accessed at: http://www.epa.gov/airdata.

EPA. 2015a. "Six Common Air Pollutants." Last updated December 22, 2014. Accessed at: http://www.epa.gov/air/urbanair/.

EPA. 2015b. "Region 9: Air Programs, Air Quality Maps." Last updated February 26, 2015. Accessed at: http://www.epa.gov/region9/air/maps/index.html.

LLG. 2018. Traffic Impact Analysis – The Preserve at Torrey Highlands. March 2018.

OEHHA (Office of Environmental Health Hazard Assessment). 2008. *Air Toxics Hot Spots Risk Assessment Guidelines Technical Support Document for the Derivation of Noncancer Reference Exposure Levels*. As approved by the Scientific Review Panel, June 18, 2008. Accessed October 2017. http://www.oehha.ca.gov/air/hot_spots/2008/NoncancerTSD_final.pdf.

OEHHA. 2009. *Technical Support Document for Cancer Potency Factors: Methodologies for Derivation, Listing of Available Values, and Adjustments to Allow for Early Life Stage Exposures*. May 2009. Accessed August 2017. https://oehha.ca.gov/media/downloads/crnr/tsdcancerpotency.pdf.

OEHHA. 2012. *Air Toxics Hot Spots Program Risk Assessment Guidelines – Technical Support Document Exposure Assessment and Stochastic Analysis*. Accessed October 2017. http://www.oehha.ca.gov/air/hot_spots/pdf/2012tsd/TSDportfolio2012.pdf.

OEHHA. 2015. *Air Toxics Hot Spots Program Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments*. February 2015. Accessed October 2017. http://oehha.ca.gov/air/hot_spots/2015/2015GuidanceManual.pdf.

SDAPCD (San Diego Air Pollution Control District). 1969. Rules and Regulations. Regulation IV. Prohibitions. Rule 51. Nuisance. Effective January 1, 1969.

SDAPCD. 1998. Rule 20.2 – New Source Review Non-Major Stationary Sources. Adopted and effective May 17, 1994; revisions adopted and effective December 17, 1997. Revisions adopted November 4, 1998; effective December 17, 1998.

SDAPCD. 2001. Rules and Regulations. Regulation IV. Prohibitions. Rule 67. Architectural Coatings. Revised December 12, 2001.

SDAPCD. 2005. *Measures To Reduce Particulate Matter in San Diego County*. December 2005. http://www.sdapcd.org/planning/PM-Measures.pdf.

SDAPCD. 2007. *Eight-Hour Ozone Attainment Plan for San Diego County*. May 2007. http://www.sdapcd.org/planning/8-Hour-O3-Attain-Plan.pdf.

SDAPCD. 2009a. *2009 Regional Air Quality Strategy Revision*. April 2009. http://www.sdapcd.org/planning/2009-RAQS.pdf.

SDAPCD. 2009b. Rules and Regulations. Regulation IV. Prohibitions. Rule 55. Fugitive Dust. Adopted June 24, 2009; effective December 24, 2009.

SDAPCD. 2012. *Redesignation Request and Maintenance Plan for the 1997 National Ozone Standard for San Diego County*. San Diego, California: SDAPCD. December 15, 2012. http://www.sdapcd.org/planning/8_Hour_O3_Maint-Plan.pdf.

SDAPCD. 2014. California Air Toxics "Hot Spots" Information and Assessment Act (AB 2588). 2013 Air Toxics "Hot Spots" Program Report for San Diego County. June 18, 2014. http://www.sdapcd.org/homepage/public_part/workshops/2013_THS_Program_Report.pdf

SDAPCD. 2015. *Supplemental Guidelines for Submission of Air Toxics "Hot Spots" Program Health Risk Assessments (HRAs).* June 2015. Accessed October 2017. http://www.sdapcd.org/content/dam/sdc/apcd/PDF/Misc/APCD_HRA_Guidelines.pdf.

Western Regional Climate Center (WRCC). 2016. Poway Valley, CA (047111), Monthly Average of Minimum Daily Temperature. http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca7111. Accessed March 30, 2016.

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The Preserve atTorrey Highlands

Regional Map

Air Quality Technical Report Project No. 442880

CITY OF SAN DIEGO - DEVELOPMENT SERVICES

FIGURE 1

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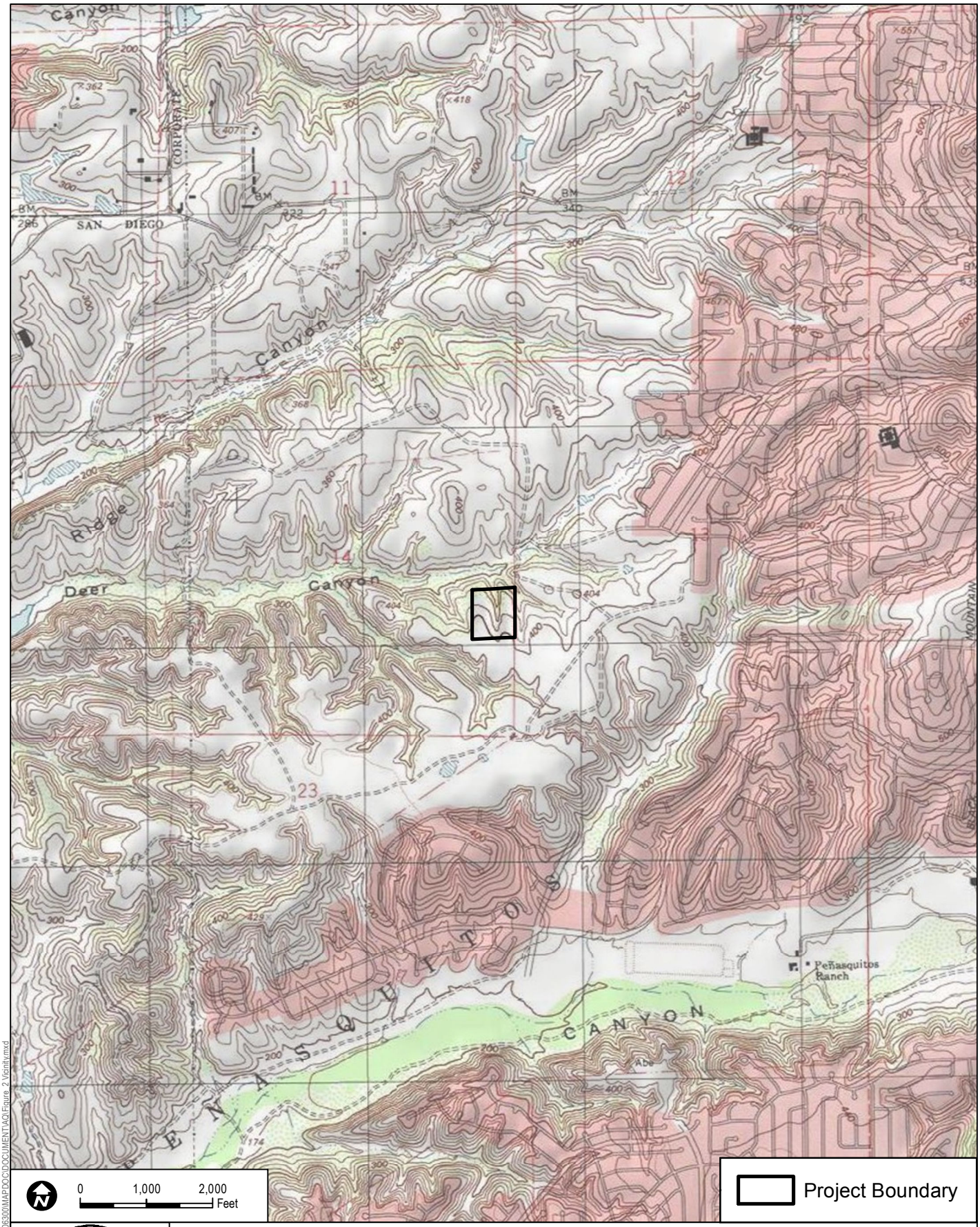

SOURCE: USGS 7.5-Minute Series Del Mar Quadrangle

The Preserve at Torrey Highlands

Vicinity Map

Air Quality Technical Report Project No. 442880

CITY OF SAN DIEGO - DEVELOPMENT SERVICES

FIGURE

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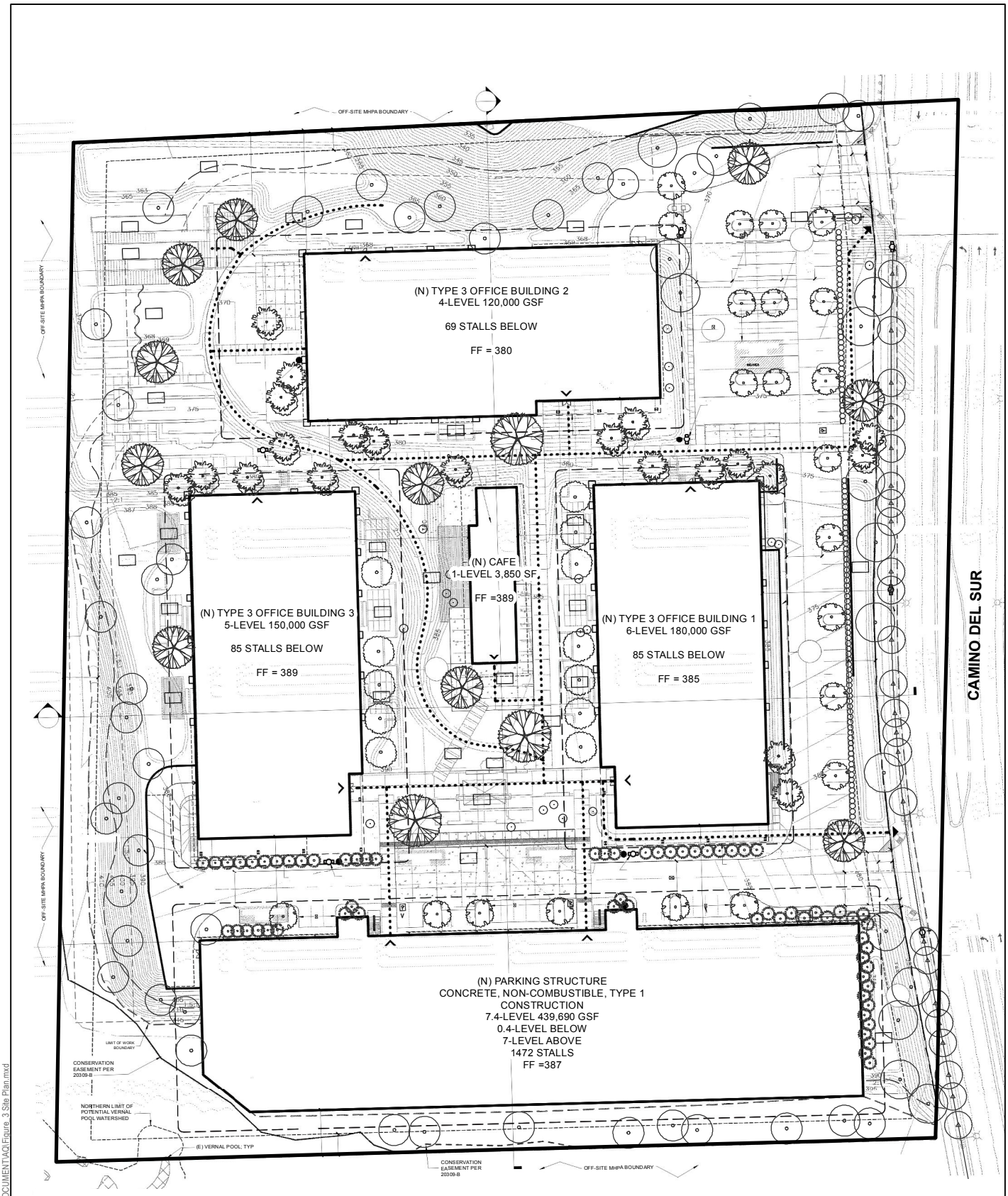

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SOURCE: Leppert, 2015

The Preserve at Torrey Highlands

Site Plan

Air Quality Technical Report Project No. 442880

CITY OF SAN DIEGO - DEVELOPMENT SERVICES

FIGURE 3

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APPENDIX A

CalEEMod Output Files

Torrey Highlands

San Diego County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	454.15	1000sqft	10.43	454,148.00	0
Enclosed Parking with Elevator	1,860.00	Space	13.94	607,152.00	0
Other Asphalt Surfaces	0.62	Acre	0.62	27,007.20	0
Parking Lot	71.00	Space	0.73	31,950.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2018
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - modified per project specifics

Construction Phase - construction schedule per applicant

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Trips and VMT - modified

Grading - modified

Architectural Coating - Arch coating based on CalEEMod calc methodolgy

Vehicle Trips - modified

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Area Coating - VOC content per SDAPCD Rule 67.0.1

Energy Use - modified

Construction Off-road Equipment Mitigation - Tier 2 equipment

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	227,074.00	90,000.00
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	227,074.00	122,029.00
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	227,074.00	60,000.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	681,222.00	270,000.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	681,222.00	360,000.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	681,222.00	180,000.00
tblArchitecturalCoating	ConstArea_Parking	39,967.00	0.00
tblArchitecturalCoating	ConstArea_Parking	39,967.00	0.00

tblArchitecturalCoating	ConstArea_Parking	39,967.00	0.00
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	100.00
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tblArchitecturalCoating	EF_Parking	250.00	0.00
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tblArchitecturalCoating	EF_Parking	250.00	0.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	100.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	100.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	100.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	50.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	50.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	50.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	100
tblAreaCoating	Area_EF_Parking	250	0
tblAreaCoating	Area_Nonresidential_Exterior	227074	544633
tblAreaCoating	Area_Nonresidential_Interior	681222	810000
tblAreaCoating	Area_Parking	39967	0
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	100	250
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	21.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	16.00
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tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	28.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	16.00
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tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
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tblConstEquipMitigation	Tier	No Change	Tier 3
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tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
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tblConstructionPhase	NumDays	35.00	240.00
tblConstructionPhase	NumDays	440.00	176.00
tblConstructionPhase	NumDays	440.00	412.00
tblConstructionPhase	NumDays	440.00	303.00
tblConstructionPhase	NumDays	440.00	369.00
tblConstructionPhase	NumDays	440.00	23.00
tblConstructionPhase	NumDays	45.00	17.00
tblConstructionPhase	NumDays	35.00	43.00
tblConstructionPhase	NumDays	20.00	6.00
tblConstructionPhase	NumDays	20.00	107.00
tblConstructionPhase	NumDays	20.00	55.00
tblConstructionPhase	NumDays	20.00	390.00
tblEnergyUse	LightingElect	1.75	2.63
tblEnergyUse	LightingElect	3.81	4.33

tblEnergyUse	LightingElect	0.35	0.88
tblEnergyUse	T24E	4.66	5.69
tblEnergyUse	T24NG	15.99	16.83
tblGrading	AcresOfGrading	85.00	10.43
tblGrading	AcresOfGrading	6.00	10.43
tblGrading	MaterialExported	0.00	51,740.00
tblLandUse	LandUseSquareFeet	454,150.00	454,148.00
tblLandUse	LandUseSquareFeet	744,000.00	607,152.00
tblLandUse	LandUseSquareFeet	28,400.00	31,950.00
tblLandUse	LotAcreage	16.74	13.94
tblLandUse	LotAcreage	0.64	0.73
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	5.00
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tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblTripsAndVMT	HaulingTripNumber	0.00	24.00
tblTripsAndVMT	HaulingTripNumber	0.00	110.00

tblTripsAndVMT	VendorTripNumber	0.00	16.00
tblTripsAndVMT	VendorTripNumber	0.00	16.00
tblTripsAndVMT	VendorTripNumber	0.00	12.00
tblVehicleTrips	ST_TR	2.46	2.37
tblVehicleTrips	SU_TR	1.05	0.98
tblVehicleTrips	WD_TR	11.03	11.59

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	22.7132	283.0708	165.5155	0.4721	34.3254	7.8051	42.1305	15.5792	7.1996	22.7788	0.0000	50,081.3922	50,081.3922	7.7523	0.0000	50,275.2010
2019	42.7307	255.6143	223.9381	0.6414	24.4238	8.6960	33.1198	6.6193	8.2671	14.8863	0.0000	64,844.6371	64,844.6371	7.3278	0.0000	65,027.8323
2020	40.0907	196.6884	187.5201	0.5405	21.0833	6.3407	27.4198	5.7050	6.0562	11.7485	0.0000	54,268.3155	54,268.3155	6.0147	0.0000	54,418.6823
Maximum	**42.7307**	**283.0708**	**223.9381**	**0.6414**	**34.3254**	**8.6960**	**42.1305**	**15.5792**	**8.2671**	**22.7788**	**0.0000**	**64,844.6371**	**64,844.6371**	**7.7523**	**0.0000**	**65,027.8323**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	11.1317	187.3797	166.0090	0.4721	17.8492	2.8110	20.6602	7.2985	2.7886	10.0870	0.0000	50,081.3922	50,081.3922	7.7523	0.0000	50,275.2010

2019	30.8352	187.2401	226.8454	0.6414	24.4238	2.6555	27.0793	6.6193	2.6109	9.2301	0.0000	64,844.6370	64,844.6370	7.3278	0.0000	65,027.8323
2020	29.6945	150.5358	191.6442	0.5405	21.0833	2.7673	23.2075	5.7050	2.7470	7.8026	0.0000	54,268.3154	54,268.3154	6.0147	0.0000	54,418.6823
Maximum	**30.8352**	**187.3797**	**226.8454**	**0.6414**	**24.4238**	**2.8110**	**27.0793**	**7.2985**	**2.7886**	**10.0870**	**0.0000**	**64,844.6370**	**64,844.6370**	**7.7523**	**0.0000**	**65,027.8323**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**32.10**	**28.59**	**-1.30**	**0.00**	**20.64**	**63.95**	**30.90**	**29.68**	**62.15**	**45.12**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	9/1/2018	9/8/2018	5	6	
2	Grading	Grading	9/8/2018	10/2/2018	5	17	
3	Utilities	Site Preparation	10/3/2018	12/17/2018	5	55	
4	Building Construction 1	Building Construction	10/3/2018	5/1/2020	5	412	
5	Building Construction 2	Building Construction	11/3/2018	1/1/2020	5	303	
6	Building Construction 3	Building Construction	12/1/2018	5/1/2020	5	369	
7	Sitework	Site Preparation	1/1/2019	7/1/2020	5	390	
8	Architectural Coating 2	Architectural Coating	5/1/2019	4/1/2020	5	240	
9	Parking Structure	Building Construction	6/1/2019	7/3/2019	5	23	
10	Cafe	Building Construction	6/1/2019	2/1/2020	5	176	
11	Architectural Coating 3	Architectural Coating	7/17/2019	5/1/2020	5	207	
12	Architectural Coating 1	Architectural Coating	8/1/2019	3/1/2020	5	153	
13	Landscape	Site Preparation	2/1/2020	7/1/2020	5	107	
14	Paving	Paving	2/1/2020	4/2/2020	5	43	

Acres of Grading (Site Preparation Phase): 10.43

Acres of Grading (Grading Phase): 10.43

Acres of Paving: 15.29

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 180,000; Non-Residential Outdoor: 60,000; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Scrapers	1	8.00	367	0.48
Site Preparation	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Grading	Excavators	0	8.00	158	0.38
Grading	Graders	0	8.00	187	0.41
Grading	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Scrapers	5	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	5	8.00	97	0.37
Utilities	Excavators	1	8.00	158	0.38
Utilities	Rubber Tired Dozers	0	8.00	247	0.40
Utilities	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Building Construction 1	Aerial Lifts	7	8.00	63	0.31
Building Construction 1	Cranes	1	8.00	231	0.29
Building Construction 1	Forklifts	2	8.00	89	0.20
Building Construction 1	Generator Sets	0	8.00	84	0.74
Building Construction 1	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction 1	Welders	5	8.00	46	0.45
Building Construction 2	Aerial Lifts	7	8.00	63	0.31
Building Construction 2	Cranes	1	8.00	231	0.29
Building Construction 2	Forklifts	2	8.00	89	0.20
Building Construction 2	Generator Sets	0	8.00	84	0.74
Building Construction 2	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction 2	Welders	5	8.00	46	0.45
Building Construction 3	Aerial Lifts	7	8.00	63	0.31
Building Construction 3	Cranes	1	8.00	231	0.29

Building Construction 3	Forklifts	2	8.00	89	0.20
Building Construction 3	Generator Sets	0	8.00	84	0.74
Building Construction 3	Tractors/Loaders/Backhoes	6	8.00	97	0.37
Building Construction 3	Welders	5	8.00	46	0.45
Sitework	Air Compressors	2	8.00	78	0.48
Sitework	Rubber Tired Dozers	0	8.00	247	0.40
Sitework	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Architectural Coating 2	Air Compressors	2	8.00	78	0.48
Parking Structure	Air Compressors	4	8.00	78	0.48
Parking Structure	Cranes	1	8.00	231	0.29
Parking Structure	Forklifts	2	8.00	89	0.20
Parking Structure	Generator Sets	0	8.00	84	0.74
Parking Structure	Rubber Tired Dozers	0	8.00	247	0.40
Parking Structure	Scrapers	0	8.00	367	0.48
Parking Structure	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Parking Structure	Welders	1	8.00	46	0.45
Cafe	Cranes	1	8.00	231	0.29
Cafe	Forklifts	1	8.00	89	0.20
Cafe	Generator Sets	0	8.00	84	0.74
Cafe	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Cafe	Welders	0	8.00	46	0.45
Architectural Coating 3	Air Compressors	2	8.00	78	0.48
Architectural Coating 1	Air Compressors	2	8.00	78	0.48
Landscape	Rubber Tired Dozers	0	8.00	247	0.40
Landscape	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Air Compressors	4	8.00	78	0.48
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	0	8.00	80	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	6	15.00	16.00	24.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	12	30.00	16.00	6,468.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Utilities	5	13.00	12.00	110.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction 1	17	425.00	184.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction 2	17	425.00	184.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction 3	21	425.00	184.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Sitework	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating 2	2	85.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Parking Structure	11	425.00	184.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Cafe	3	425.00	184.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating 3	2	85.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating 1	2	85.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Landscape	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

3.2 Site Preparation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Fugitive Dust					13.8877	0.0000	13.8877	6.8195	0.0000	6.8195			0.0000			0.0000
Off-Road	4.2774	47.2006	24.5498	0.0415		2.3393	2.3393		2.1522	2.1522		4,183.4734	4,183.4734	1.3024		4,216.0327
Total	**4.2774**	**47.2006**	**24.5498**	**0.0415**	**13.8877**	**2.3393**	**16.2270**	**6.8195**	**2.1522**	**8.9717**		**4,183.4734**	**4,183.4734**	**1.3024**		**4,216.0327**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0366	1.2723	0.2624	3.2200e-003	0.0805	5.0000e-003	0.0855	0.0218	4.7900e-003	0.0265		349.9018	349.9018	0.0308		350.6729
Vendor	0.0825	2.1081	0.5582	4.4600e-003	0.1083	0.0165	0.1248	0.0312	0.0158	0.0470		477.1038	477.1038	0.0378		478.0491
Worker	0.0639	0.0460	0.5135	1.3500e-003	0.1232	8.9000e-004	0.1241	0.0327	8.2000e-004	0.0335		134.5837	134.5837	4.6100e-003		134.6988
Total	**0.1830**	**3.4263**	**1.3341**	**9.0300e-003**	**0.3120**	**0.0224**	**0.3344**	**0.0856**	**0.0214**	**0.1070**		**961.5893**	**961.5893**	**0.0733**		**963.4209**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.4162	0.0000	5.4162	2.6596	0.0000	2.6596			0.0000			0.0000
Off-Road	0.9050	15.7872	24.1654	0.0415		0.5953	0.5953		0.5953	0.5953	0.0000	4,183.4734	4,183.4734	1.3024		4,216.0327
Total	**0.9050**	**15.7872**	**24.1654**	**0.0415**	**5.4162**	**0.5953**	**6.0115**	**2.6596**	**0.5953**	**3.2549**	**0.0000**	**4,183.4734**	**4,183.4734**	**1.3024**		**4,216.0327**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0366	1.2723	0.2624	3.2200e-003	0.0805	5.0000e-003	0.0855	0.0218	4.7900e-003	0.0265		349.9018	349.9018	0.0308		350.6729
Vendor	0.0825	2.1081	0.5582	4.4600e-003	0.1083	0.0165	0.1248	0.0312	0.0158	0.0470		477.1038	477.1038	0.0378		478.0491
Worker	0.0639	0.0460	0.5135	1.3500e-003	0.1232	8.9000e-004	0.1241	0.0327	8.2000e-004	0.0335		134.5837	134.5837	4.6100e-003		134.6988
Total	**0.1830**	**3.4263**	**1.3341**	**9.0300e-003**	**0.3120**	**0.0224**	**0.3344**	**0.0856**	**0.0214**	**0.1070**		**961.5893**	**961.5893**	**0.0733**		**963.4209**

3.3 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					13.1225	0.0000	13.1225	6.7555	0.0000	6.7555			0.0000			0.0000
Off-Road	9.3973	109.2263	64.3702	0.1084		4.9491	4.9491		4.5532	4.5532		10,908.2208	10,908.2208	3.3959		10,993.1177
Total	**9.3973**	**109.2263**	**64.3702**	**0.1084**	**13.1225**	**4.9491**	**18.0716**	**6.7555**	**4.5532**	**11.3086**		**10,908.2208**	**10,908.2208**	**3.3959**		**10,993.1177**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	3.4827	121.0176	24.9590	0.3060	6.6484	0.4760	7.1245	1.8221	0.4554	2.2775		33,281.8376	33,281.8376	2.9338		33,355.1829
Vendor	0.0825	2.1081	0.5582	4.4600e-003	0.1083	0.0165	0.1248	0.0312	0.0158	0.0470		477.1038	477.1038	0.0378		478.0491
Worker	0.1277	0.0920	1.0270	2.7000e-003	0.2464	1.7700e-003	0.2482	0.0654	1.6400e-003	0.0670		269.1674	269.1674	9.2100e-003		269.3976
Total	**3.6929**	**123.2176**	**26.5442**	**0.3132**	**7.0032**	**0.4943**	**7.4975**	**1.9186**	**0.4728**	**2.3914**		**34,028.1087**	**34,028.1087**	**2.9808**		**34,102.6297**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.1178	0.0000	5.1178	2.6346	0.0000	2.6346			0.0000			0.0000
Off-Road	2.4723	44.9486	61.1616	0.1084		1.6991	1.6991		1.6991	1.6991	0.0000	10,908.2208	10,908.2208	3.3959		10,993.1177
Total	**2.4723**	**44.9486**	**61.1616**	**0.1084**	**5.1178**	**1.6991**	**6.8168**	**2.6346**	**1.6991**	**4.3337**	**0.0000**	**10,908.2208**	**10,908.2208**	**3.3959**		**10,993.1177**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	3.4827	121.0176	24.9590	0.3060	6.6484	0.4760	7.1245	1.8221	0.4554	2.2775		33,281.8376	33,281.8376	2.9338		33,355.1829

Vendor	0.0825	2.1081	0.5582	4.4600e-003	0.1083	0.0165	0.1248	0.0312	0.0158	0.0470		477.1038	477.1038	0.0378		478.0491
Worker	0.1277	0.0920	1.0270	2.7000e-003	0.2464	1.7700e-003	0.2482	0.0654	1.6400e-003	0.0670		269.1674	269.1674	9.2100e-003		269.3976
Total	**3.6929**	**123.2176**	**26.5442**	**0.3132**	**7.0032**	**0.4943**	**7.4975**	**1.9186**	**0.4728**	**2.3914**		**34,028.1087**	**34,028.1087**	**2.9808**		**34,102.6297**

3.4 Utilities - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	1.3536	13.6148	12.6225	0.0176		0.8954	0.8954		0.8237	0.8237		1,770.6889	1,770.6889	0.5512		1,784.4699
Total	**1.3536**	**13.6148**	**12.6225**	**0.0176**	**0.0000**	**0.8954**	**0.8954**	**0.0000**	**0.8237**	**0.8237**		**1,770.6889**	**1,770.6889**	**0.5512**		**1,784.4699**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0183	0.6362	0.1312	1.6100e-003	0.0354	2.5000e-003	0.0379	9.7000e-003	2.3900e-003	0.0121		174.9509	174.9509	0.0154		175.3365
Vendor	0.0619	1.5811	0.4187	3.3400e-003	0.0812	0.0124	0.0936	0.0234	0.0118	0.0352		357.8278	357.8278	0.0284		358.5369
Worker	0.0553	0.0399	0.4450	1.1700e-003	0.1068	7.7000e-004	0.1076	0.0283	7.1000e-004	0.0290		116.6392	116.6392	3.9900e-003		116.7390
Total	**0.1355**	**2.2571**	**0.9949**	**6.1200e-003**	**0.2235**	**0.0156**	**0.2391**	**0.0614**	**0.0149**	**0.0763**		**649.4179**	**649.4179**	**0.0478**		**650.6123**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.2790	3.1150	13.2863	0.0176		0.1389	0.1389		0.1389	0.1389	0.0000	1,770.6889	1,770.6889	0.5512		1,784.4699
Total	**0.2790**	**3.1150**	**13.2863**	**0.0176**	**0.0000**	**0.1389**	**0.1389**	**0.0000**	**0.1389**	**0.1389**	**0.0000**	**1,770.6889**	**1,770.6889**	**0.5512**		**1,784.4699**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0183	0.6362	0.1312	1.6100e-003	0.0354	2.5000e-003	0.0379	9.7000e-003	2.3900e-003	0.0121		174.9509	174.9509	0.0154		175.3365
Vendor	0.0619	1.5811	0.4187	3.3400e-003	0.0812	0.0124	0.0936	0.0234	0.0118	0.0352		357.8278	357.8278	0.0284		358.5369
Worker	0.0553	0.0399	0.4450	1.1700e-003	0.1068	7.7000e-004	0.1076	0.0283	7.1000e-004	0.0290		116.6392	116.6392	3.9900e-003		116.7390
Total	**0.1355**	**2.2571**	**0.9949**	**6.1200e-003**	**0.2235**	**0.0156**	**0.2391**	**0.0614**	**0.0149**	**0.0763**		**649.4179**	**649.4179**	**0.0478**		**650.6123**

3.5 Building Construction 1 - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.9619	28.6146	26.5486	0.0396		1.6244	1.6244		1.5399	1.5399		3,733.7213	3,733.7213	1.0384		3,759.6807
Total	**3.9619**	**28.6146**	**26.5486**	**0.0396**		**1.6244**	**1.6244**		**1.5399**	**1.5399**		**3,733.7213**	**3,733.7213**	**1.0384**		**3,759.6807**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.9489	24.2427	6.4196	0.0513	1.2456	0.1896	1.4352	0.3586	0.1814	0.5400		5,486.6935	5,486.6935	0.4349		5,497.5650
Worker	1.8090	1.3028	14.5489	0.0383	3.4913	0.0251	3.5164	0.9261	0.0232	0.9492		3,813.2044	3,813.2044	0.1305		3,816.4664
Total	**2.7580**	**25.5455**	**20.9685**	**0.0896**	**4.7369**	**0.2147**	**4.9516**	**1.2846**	**0.2046**	**1.4892**		**9,299.8979**	**9,299.8979**	**0.5653**		**9,314.0314**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7638	14.8600	26.4847	0.0396		0.1530	0.1530		0.1530	0.1530	0.0000	3,733.7213	3,733.7213	1.0384		3,759.6807

Total	**0.7638**	**14.8600**	**26.4847**	**0.0396**		**0.1530**	**0.1530**		**0.1530**	**0.1530**	**0.0000**	**3,733.7213**	**3,733.7213**	**1.0384**		**3,759.6807**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.9489	24.2427	6.4196	0.0513	1.2456	0.1896	1.4352	0.3586	0.1814	0.5400		5,486.6935	5,486.6935	0.4349		5,497.5650
Worker	1.8090	1.3028	14.5489	0.0383	3.4913	0.0251	3.5164	0.9261	0.0232	0.9492		3,813.2044	3,813.2044	0.1305		3,816.4664
Total	**2.7580**	**25.5455**	**20.9685**	**0.0896**	**4.7369**	**0.2147**	**4.9516**	**1.2846**	**0.2046**	**1.4892**		**9,299.8979**	**9,299.8979**	**0.5653**		**9,314.0314**

3.5 Building Construction 1 - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.5005	26.4255	25.9721	0.0396		1.4034	1.4034		1.3310	1.3310		3,689.9591	3,689.9591	1.0127		3,715.2756
Total	**3.5005**	**26.4255**	**25.9721**	**0.0396**		**1.4034**	**1.4034**		**1.3310**	**1.3310**		**3,689.9591**	**3,689.9591**	**1.0127**		**3,715.2756**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.8469	22.8137	5.8898	0.0508	1.2456	0.1587	1.4043	0.3586	0.1518	0.5104		5,446.7061	5,446.7061	0.4205		5,457.2190
Worker	1.6688	1.1646	13.1500	0.0371	3.4913	0.0249	3.5162	0.9261	0.0229	0.9490		3,698.3485	3,698.3485	0.1181		3,701.3009
Total	**2.5156**	**23.9783**	**19.0398**	**0.0879**	**4.7369**	**0.1836**	**4.9205**	**1.2846**	**0.1748**	**1.4594**		**9,145.0545**	**9,145.0545**	**0.5386**		**9,158.5199**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7638	14.8600	26.4847	0.0396		0.1530	0.1530		0.1530	0.1530	0.0000	3,689.9591	3,689.9591	1.0127		3,715.2756
Total	**0.7638**	**14.8600**	**26.4847**	**0.0396**		**0.1530**	**0.1530**		**0.1530**	**0.1530**	**0.0000**	**3,689.9591**	**3,689.9591**	**1.0127**		**3,715.2756**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e

Category	lb/day											lb/day				
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.8469	22.8137	5.8898	0.0508	1.2456	0.1587	1.4043	0.3586	0.1518	0.5104		5,446.7061	5,446.7061	0.4205		5,457.2190
Worker	1.6688	1.1646	13.1500	0.0371	3.4913	0.0249	3.5162	0.9261	0.0229	0.9490		3,698.3485	3,698.3485	0.1181		3,701.3009
Total	**2.5156**	**23.9783**	**19.0398**	**0.0879**	**4.7369**	**0.1836**	**4.9205**	**1.2846**	**0.1748**	**1.4594**		**9,145.0545**	**9,145.0545**	**0.5386**		**9,158.5199**

3.5 Building Construction 1 - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1480	24.5589	25.5301	0.0396		1.2165	1.2165		1.1540	1.1540		3,632.1159	3,632.1159	0.9925		3,656.9290
Total	**3.1480**	**24.5589**	**25.5301**	**0.0396**		**1.2165**	**1.2165**		**1.1540**	**1.1540**		**3,632.1159**	**3,632.1159**	**0.9925**		**3,656.9290**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.6876	20.7475	5.2857	0.0504	1.2456	0.1015	1.3471	0.3586	0.0971	0.4557		5,410.3375	5,410.3375	0.3991		5,420.3155

Worker	1.5596	1.0508	12.0470	0.0360	3.4913	0.0245	3.5158	0.9261	0.0226	0.9486		3,581.6750	3,581.6750	0.1070		3,584.3487
Total	**2.2472**	**21.7983**	**17.3327**	**0.0863**	**4.7369**	**0.1260**	**4.8629**	**1.2846**	**0.1197**	**1.4043**		**8,992.0125**	**8,992.0125**	**0.5061**		**9,004.6642**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7638	14.8600	26.4847	0.0396		0.1530	0.1530		0.1530	0.1530	0.0000	3,632.1159	3,632.1159	0.9925		3,656.9290
Total	**0.7638**	**14.8600**	**26.4847**	**0.0396**		**0.1530**	**0.1530**		**0.1530**	**0.1530**	**0.0000**	**3,632.1159**	**3,632.1159**	**0.9925**		**3,656.9290**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.6876	20.7475	5.2857	0.0504	1.2456	0.1015	1.3471	0.3586	0.0971	0.4557		5,410.3375	5,410.3375	0.3991		5,420.3155
Worker	1.5596	1.0508	12.0470	0.0360	3.4913	0.0245	3.5158	0.9261	0.0226	0.9486		3,581.6750	3,581.6750	0.1070		3,584.3487
Total	**2.2472**	**21.7983**	**17.3327**	**0.0863**	**4.7369**	**0.1260**	**4.8629**	**1.2846**	**0.1197**	**1.4043**		**8,992.0125**	**8,992.0125**	**0.5061**		**9,004.6642**

3.6 Building Construction 2 - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.9619	28.6146	26.5486	0.0396		1.6244	1.6244		1.5399	1.5399		3,733.7213	3,733.7213	1.0384		3,759.6807
Total	**3.9619**	**28.6146**	**26.5486**	**0.0396**		**1.6244**	**1.6244**		**1.5399**	**1.5399**		**3,733.7213**	**3,733.7213**	**1.0384**		**3,759.6807**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.9489	24.2427	6.4196	0.0513	1.2456	0.1896	1.4352	0.3586	0.1814	0.5400		5,486.6935	5,486.6935	0.4349		5,497.5650
Worker	1.8090	1.3028	14.5489	0.0383	3.4913	0.0251	3.5164	0.9261	0.0232	0.9492		3,813.2044	3,813.2044	0.1305		3,816.4664
Total	**2.7580**	**25.5455**	**20.9685**	**0.0896**	**4.7369**	**0.2147**	**4.9516**	**1.2846**	**0.2046**	**1.4892**		**9,299.8979**	**9,299.8979**	**0.5653**		**9,314.0314**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e

Category	lb/day										lb/day					
Off-Road	0.7638	14.8600	26.4847	0.0396		0.1530	0.1530		0.1530	0.1530	0.0000	3,733.7213	3,733.7213	1.0384		3,759.6807
Total	**0.7638**	**14.8600**	**26.4847**	**0.0396**		**0.1530**	**0.1530**		**0.1530**	**0.1530**	**0.0000**	**3,733.7213**	**3,733.7213**	**1.0384**		**3,759.6807**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.9489	24.2427	6.4196	0.0513	1.2456	0.1896	1.4352	0.3586	0.1814	0.5400		5,486.6935	5,486.6935	0.4349		5,497.5650
Worker	1.8090	1.3028	14.5489	0.0383	3.4913	0.0251	3.5164	0.9261	0.0232	0.9492		3,813.2044	3,813.2044	0.1305		3,816.4664
Total	**2.7580**	**25.5455**	**20.9685**	**0.0896**	**4.7369**	**0.2147**	**4.9516**	**1.2846**	**0.2046**	**1.4892**		**9,299.8979**	**9,299.8979**	**0.5653**		**9,314.0314**

3.6 Building Construction 2 - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.5005	26.4255	25.9721	0.0396		1.4034	1.4034		1.3310	1.3310		3,689.9591	3,689.9591	1.0127		3,715.2756
Total	**3.5005**	**26.4255**	**25.9721**	**0.0396**		**1.4034**	**1.4034**		**1.3310**	**1.3310**		**3,689.9591**	**3,689.9591**	**1.0127**		**3,715.2756**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.8469	22.8137	5.8898	0.0508	1.2456	0.1587	1.4043	0.3586	0.1518	0.5104		5,446.7061	5,446.7061	0.4205		5,457.2190
Worker	1.6688	1.1646	13.1500	0.0371	3.4913	0.0249	3.5162	0.9261	0.0229	0.9490		3,698.3485	3,698.3485	0.1181		3,701.3009
Total	**2.5156**	**23.9783**	**19.0398**	**0.0879**	**4.7369**	**0.1836**	**4.9205**	**1.2846**	**0.1748**	**1.4594**		**9,145.0545**	**9,145.0545**	**0.5386**		**9,158.5199**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7638	14.8600	26.4847	0.0396		0.1530	0.1530		0.1530	0.1530	0.0000	3,689.9591	3,689.9591	1.0127		3,715.2756
Total	**0.7638**	**14.8600**	**26.4847**	**0.0396**		**0.1530**	**0.1530**		**0.1530**	**0.1530**	**0.0000**	**3,689.9591**	**3,689.9591**	**1.0127**		**3,715.2756**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.8469	22.8137	5.8898	0.0508	1.2456	0.1587	1.4043	0.3586	0.1518	0.5104		5,446.7061	5,446.7061	0.4205		5,457.2190
Worker	1.6688	1.1646	13.1500	0.0371	3.4913	0.0249	3.5162	0.9261	0.0229	0.9490		3,698.3485	3,698.3485	0.1181		3,701.3009
Total	**2.5156**	**23.9783**	**19.0398**	**0.0879**	**4.7369**	**0.1836**	**4.9205**	**1.2846**	**0.1748**	**1.4594**		**9,145.0545**	**9,145.0545**	**0.5386**		**9,158.5199**

3.6 Building Construction 2 - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1480	24.5589	25.5301	0.0396		1.2165	1.2165		1.1540	1.1540		3,632.1159	3,632.1159	0.9925		3,656.9290
Total	**3.1480**	**24.5589**	**25.5301**	**0.0396**		**1.2165**	**1.2165**		**1.1540**	**1.1540**		**3,632.1159**	**3,632.1159**	**0.9925**		**3,656.9290**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.6876	20.7475	5.2857	0.0504	1.2456	0.1015	1.3471	0.3586	0.0971	0.4557		5,410.3375	5,410.3375	0.3991		5,420.3155
Worker	1.5596	1.0508	12.0470	0.0360	3.4913	0.0245	3.5158	0.9261	0.0226	0.9486		3,581.6750	3,581.6750	0.1070		3,584.3487
Total	**2.2472**	**21.7983**	**17.3327**	**0.0863**	**4.7369**	**0.1260**	**4.8629**	**1.2846**	**0.1197**	**1.4043**		**8,992.0125**	**8,992.0125**	**0.5061**		**9,004.6642**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7638	14.8600	26.4847	0.0396		0.1530	0.1530		0.1530	0.1530	0.0000	3,632.1159	3,632.1159	0.9925		3,656.9290
Total	**0.7638**	**14.8600**	**26.4847**	**0.0396**		**0.1530**	**0.1530**		**0.1530**	**0.1530**	**0.0000**	**3,632.1159**	**3,632.1159**	**0.9925**		**3,656.9290**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.6876	20.7475	5.2857	0.0504	1.2456	0.1015	1.3471	0.3586	0.0971	0.4557		5,410.3375	5,410.3375	0.3991		5,420.3155
Worker	1.5596	1.0508	12.0470	0.0360	3.4913	0.0245	3.5158	0.9261	0.0226	0.9486		3,581.6750	3,581.6750	0.1070		3,584.3487

Total	**2.2472**	**21.7983**	**17.3327**	**0.0863**	**4.7369**	**0.1260**	**4.8629**	**1.2846**	**0.1197**	**1.4043**		**8,992.0125**	**8,992.0125**	**0.5061**		**9,004.6642**

3.7 Building Construction 3 - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	5.0264	39.1335	35.8955	0.0520		2.3696	2.3696		2.2255	2.2255		4,984.8251	4,984.8251	1.4279		5,020.5217
Total	**5.0264**	**39.1335**	**35.8955**	**0.0520**		**2.3696**	**2.3696**		**2.2255**	**2.2255**		**4,984.8251**	**4,984.8251**	**1.4279**		**5,020.5217**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.9489	24.2427	6.4196	0.0513	1.2456	0.1896	1.4352	0.3586	0.1814	0.5400		5,486.6935	5,486.6935	0.4349		5,497.5650
Worker	1.8090	1.3028	14.5489	0.0383	3.4913	0.0251	3.5164	0.9261	0.0232	0.9492		3,813.2044	3,813.2044	0.1305		3,816.4664
Total	**2.7580**	**25.5455**	**20.9685**	**0.0896**	**4.7369**	**0.2147**	**4.9516**	**1.2846**	**0.2046**	**1.4892**		**9,299.8979**	**9,299.8979**	**0.5653**		**9,314.0314**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9157	15.5183	35.8530	0.0520		0.1733	0.1733		0.1733	0.1733	0.0000	4,984.8251	4,984.8251	1.4279		5,020.5217
Total	**0.9157**	**15.5183**	**35.8530**	**0.0520**		**0.1733**	**0.1733**		**0.1733**	**0.1733**	**0.0000**	**4,984.8251**	**4,984.8251**	**1.4279**		**5,020.5217**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.9489	24.2427	6.4196	0.0513	1.2456	0.1896	1.4352	0.3586	0.1814	0.5400		5,486.6935	5,486.6935	0.4349		5,497.5650
Worker	1.8090	1.3028	14.5489	0.0383	3.4913	0.0251	3.5164	0.9261	0.0232	0.9492		3,813.2044	3,813.2044	0.1305		3,816.4664
Total	**2.7580**	**25.5455**	**20.9685**	**0.0896**	**4.7369**	**0.2147**	**4.9516**	**1.2846**	**0.2046**	**1.4892**		**9,299.8979**	**9,299.8979**	**0.5653**		**9,314.0314**

3.7 Building Construction 3 - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Off-Road	4.4317	35.7750	35.1829	0.0520		2.0275	2.0275		1.9052	1.9052		4,920.1266	4,920.1266	1.4019		4,955.1734
Total	**4.4317**	**35.7750**	**35.1829**	**0.0520**		**2.0275**	**2.0275**		**1.9052**	**1.9052**		**4,920.1266**	**4,920.1266**	**1.4019**		**4,955.1734**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.8469	22.8137	5.8898	0.0508	1.2456	0.1587	1.4043	0.3586	0.1518	0.5104		5,446.7061	5,446.7061	0.4205		5,457.2190
Worker	1.6688	1.1646	13.1500	0.0371	3.4913	0.0249	3.5162	0.9261	0.0229	0.9490		3,698.3485	3,698.3485	0.1181		3,701.3009
Total	**2.5156**	**23.9783**	**19.0398**	**0.0879**	**4.7369**	**0.1836**	**4.9205**	**1.2846**	**0.1748**	**1.4594**		**9,145.0545**	**9,145.0545**	**0.5386**		**9,158.5199**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9157	15.5183	35.8530	0.0520		0.1733	0.1733		0.1733	0.1733	0.0000	4,920.1265	4,920.1265	1.4019		4,955.1734
Total	**0.9157**	**15.5183**	**35.8530**	**0.0520**		**0.1733**	**0.1733**		**0.1733**	**0.1733**	**0.0000**	**4,920.1265**	**4,920.1265**	**1.4019**		**4,955.1734**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.8469	22.8137	5.8898	0.0508	1.2456	0.1587	1.4043	0.3586	0.1518	0.5104		5,446.7061	5,446.7061	0.4205		5,457.2190
Worker	1.6688	1.1646	13.1500	0.0371	3.4913	0.0249	3.5162	0.9261	0.0229	0.9490		3,698.3485	3,698.3485	0.1181		3,701.3009
Total	**2.5156**	**23.9783**	**19.0398**	**0.0879**	**4.7369**	**0.1836**	**4.9205**	**1.2846**	**0.1748**	**1.4594**		**9,145.0545**	**9,145.0545**	**0.5386**		**9,158.5199**

3.7 Building Construction 3 - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.9860	32.9795	34.6489	0.0520		1.7490	1.7490		1.6439	1.6439		4,835.1899	4,835.1899	1.3816		4,869.7305
Total	**3.9860**	**32.9795**	**34.6489**	**0.0520**		**1.7490**	**1.7490**		**1.6439**	**1.6439**		**4,835.1899**	**4,835.1899**	**1.3816**		**4,869.7305**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.6876	20.7475	5.2857	0.0504	1.2456	0.1015	1.3471	0.3586	0.0971	0.4557		5,410.3375	5,410.3375	0.3991		5,420.3155
Worker	1.5596	1.0508	12.0470	0.0360	3.4913	0.0245	3.5158	0.9261	0.0226	0.9486		3,581.6750	3,581.6750	0.1070		3,584.3487
Total	**2.2472**	**21.7983**	**17.3327**	**0.0863**	**4.7369**	**0.1260**	**4.8629**	**1.2846**	**0.1197**	**1.4043**		**8,992.0125**	**8,992.0125**	**0.5061**		**9,004.6642**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9157	15.5183	35.8530	0.0520		0.1733	0.1733		0.1733	0.1733	0.0000	4,835.1899	4,835.1899	1.3816		4,869.7305
Total	**0.9157**	**15.5183**	**35.8530**	**0.0520**		**0.1733**	**0.1733**		**0.1733**	**0.1733**	**0.0000**	**4,835.1899**	**4,835.1899**	**1.3816**		**4,869.7305**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

Vendor	0.6876	20.7475	5.2857	0.0504	1.2456	0.1015	1.3471	0.3586	0.0971	0.4557		5,410.3375	5,410.3375	0.3991		5,420.3155
Worker	1.5596	1.0508	12.0470	0.0360	3.4913	0.0245	3.5158	0.9261	0.0226	0.9486		3,581.6750	3,581.6750	0.1070		3,584.3487
Total	**2.2472**	**21.7983**	**17.3327**	**0.0863**	**4.7369**	**0.1260**	**4.8629**	**1.2846**	**0.1197**	**1.4043**		**8,992.0125**	**8,992.0125**	**0.5061**		**9,004.6642**

3.8 Sitework - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.7105	4.8944	4.9102	7.9200e-003		0.3434	0.3434		0.3434	0.3434		750.5281	750.5281	0.0634		752.1129
Total	**0.7105**	**4.8944**	**4.9102**	**7.9200e-003**	**0.0000**	**0.3434**	**0.3434**	**0.0000**	**0.3434**	**0.3434**		**750.5281**	**750.5281**	**0.0634**		**752.1129**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0196	0.0137	0.1547	4.4000e-004	0.0411	2.9000e-004	0.0414	0.0109	2.7000e-004	0.0112		43.5100	43.5100	1.3900e-003		43.5447
Total	**0.0196**	**0.0137**	**0.1547**	**4.4000e-004**	**0.0411**	**2.9000e-004**	**0.0414**	**0.0109**	**2.7000e-004**	**0.0112**		**43.5100**	**43.5100**	**1.3900e-003**		**43.5447**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1585	3.6186	4.8864	7.9200e-003		0.2536	0.2536		0.2536	0.2536	0.0000	750.5281	750.5281	0.0634		752.1129
Total	**0.1585**	**3.6186**	**4.8864**	**7.9200e-003**	**0.0000**	**0.2536**	**0.2536**	**0.0000**	**0.2536**	**0.2536**	**0.0000**	**750.5281**	**750.5281**	**0.0634**		**752.1129**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0196	0.0137	0.1547	4.4000e-004	0.0411	2.9000e-004	0.0414	0.0109	2.7000e-004	0.0112		43.5100	43.5100	1.3900e-003		43.5447
Total	**0.0196**	**0.0137**	**0.1547**	**4.4000e-004**	**0.0411**	**2.9000e-004**	**0.0414**	**0.0109**	**2.7000e-004**	**0.0112**		**43.5100**	**43.5100**	**1.3900e-003**		**43.5447**

3.8 Sitework - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.6458	4.4902	4.8838	7.9200e-003		0.2958	0.2958		0.2958	0.2958		750.5281	750.5281	0.0581		751.9809
Total	**0.6458**	**4.4902**	**4.8838**	**7.9200e-003**	**0.0000**	**0.2958**	**0.2958**	**0.0000**	**0.2958**	**0.2958**		**750.5281**	**750.5281**	**0.0581**		**751.9809**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0184	0.0124	0.1417	4.2000e-004	0.0411	2.9000e-004	0.0414	0.0109	2.7000e-004	0.0112		42.1374	42.1374	1.2600e-003		42.1688
Total	**0.0184**	**0.0124**	**0.1417**	**4.2000e-004**	**0.0411**	**2.9000e-004**	**0.0414**	**0.0109**	**2.7000e-004**	**0.0112**		**42.1374**	**42.1374**	**1.2600e-003**		**42.1688**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000

Off-Road	0.1585	3.6186	4.8864	7.9200e-003		0.2536	0.2536		0.2536	0.2536	0.0000	750.5281	750.5281	0.0581		751.9809
Total	**0.1585**	**3.6186**	**4.8864**	**7.9200e-003**	**0.0000**	**0.2536**	**0.2536**	**0.0000**	**0.2536**	**0.2536**	**0.0000**	**750.5281**	**750.5281**	**0.0581**		**751.9809**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0184	0.0124	0.1417	4.2000e-004	0.0411	2.9000e-004	0.0414	0.0109	2.7000e-004	0.0112		42.1374	42.1374	1.2600e-003		42.1688
Total	**0.0184**	**0.0124**	**0.1417**	**4.2000e-004**	**0.0411**	**2.9000e-004**	**0.0414**	**0.0109**	**2.7000e-004**	**0.0112**		**42.1374**	**42.1374**	**1.2600e-003**		**42.1688**

3.9 Architectural Coating 2 - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	2.8969					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.7105	4.8944	4.9102	7.9200e-003		0.3434	0.3434		0.3434	0.3434		750.5281	750.5281	0.0634		752.1129
Total	**3.6074**	**4.8944**	**4.9102**	**7.9200e-003**		**0.3434**	**0.3434**		**0.3434**	**0.3434**		**750.5281**	**750.5281**	**0.0634**		**752.1129**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3338	0.2329	2.6300	7.4300e-003	0.6983	4.9800e-003	0.7032	0.1852	4.5900e-003	0.1898		739.6697	739.6697	0.0236		740.2602
Total	**0.3338**	**0.2329**	**2.6300**	**7.4300e-003**	**0.6983**	**4.9800e-003**	**0.7032**	**0.1852**	**4.5900e-003**	**0.1898**		**739.6697**	**739.6697**	**0.0236**		**740.2602**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	2.8969					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1585	3.6186	4.8864	7.9200e-003		0.2536	0.2536		0.2536	0.2536	0.0000	750.5281	750.5281	0.0634		752.1129
Total	**3.0554**	**3.6186**	**4.8864**	**7.9200e-003**		**0.2536**	**0.2536**		**0.2536**	**0.2536**	**0.0000**	**750.5281**	**750.5281**	**0.0634**		**752.1129**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e

Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3338	0.2329	2.6300	7.4300e-003	0.6983	4.9800e-003	0.7032	0.1852	4.5900e-003	0.1898		739.6697	739.6697	0.0236		740.2602
Total	**0.3338**	**0.2329**	**2.6300**	**7.4300e-003**	**0.6983**	**4.9800e-003**	**0.7032**	**0.1852**	**4.5900e-003**	**0.1898**		**739.6697**	**739.6697**	**0.0236**		**740.2602**

3.9 Architectural Coating 2 - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	2.8969					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.6458	4.4902	4.8838	7.9200e-003		0.2958	0.2958		0.2958	0.2958		750.5281	750.5281	0.0581		751.9809
Total	**3.5427**	**4.4902**	**4.8838**	**7.9200e-003**		**0.2958**	**0.2958**		**0.2958**	**0.2958**		**750.5281**	**750.5281**	**0.0581**		**751.9809**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

Worker	0.3119	0.2102	2.4094	7.1900e-003	0.6983	4.9000e-003	0.7032	0.1852	4.5100e-003	0.1897		716.3350	716.3350	0.0214		716.8697
Total	**0.3119**	**0.2102**	**2.4094**	**7.1900e-003**	**0.6983**	**4.9000e-003**	**0.7032**	**0.1852**	**4.5100e-003**	**0.1897**		**716.3350**	**716.3350**	**0.0214**		**716.8697**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	2.8969					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1585	3.6186	4.8864	7.9200e-003		0.2536	0.2536		0.2536	0.2536	0.0000	750.5281	750.5281	0.0581		751.9809
Total	**3.0554**	**3.6186**	**4.8864**	**7.9200e-003**		**0.2536**	**0.2536**		**0.2536**	**0.2536**	**0.0000**	**750.5281**	**750.5281**	**0.0581**		**751.9809**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3119	0.2102	2.4094	7.1900e-003	0.6983	4.9000e-003	0.7032	0.1852	4.5100e-003	0.1897		716.3350	716.3350	0.0214		716.8697
Total	**0.3119**	**0.2102**	**2.4094**	**7.1900e-003**	**0.6983**	**4.9000e-003**	**0.7032**	**0.1852**	**4.5100e-003**	**0.1897**		**716.3350**	**716.3350**	**0.0214**		**716.8697**

3.10 Parking Structure - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.3285	27.2887	23.2170	0.0365		1.7305	1.7305		1.6549	1.6549		3,505.0110	3,505.0110	0.7299		3,523.2573
Total	**3.3285**	**27.2887**	**23.2170**	**0.0365**		**1.7305**	**1.7305**		**1.6549**	**1.6549**		**3,505.0110**	**3,505.0110**	**0.7299**		**3,523.2573**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.8469	22.8137	5.8898	0.0508	1.2456	0.1587	1.4043	0.3586	0.1518	0.5104		5,446.7061	5,446.7061	0.4205		5,457.2190
Worker	1.6688	1.1646	13.1500	0.0371	3.4913	0.0249	3.5162	0.9261	0.0229	0.9490		3,698.3485	3,698.3485	0.1181		3,701.3009
Total	**2.5156**	**23.9783**	**19.0398**	**0.0879**	**4.7369**	**0.1836**	**4.9205**	**1.2846**	**0.1748**	**1.4594**		**9,145.0545**	**9,145.0545**	**0.5386**		**9,158.5199**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e

Category	lb/day										lb/day					
Off-Road	0.6542	11.6393	23.6910	0.0365		0.6342	0.6342		0.6342	0.6342	0.0000	3,505.0110	3,505.0110	0.7299		3,523.2573
Total	**0.6542**	**11.6393**	**23.6910**	**0.0365**		**0.6342**	**0.6342**		**0.6342**	**0.6342**	**0.0000**	**3,505.0110**	**3,505.0110**	**0.7299**		**3,523.2573**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.8469	22.8137	5.8898	0.0508	1.2456	0.1587	1.4043	0.3586	0.1518	0.5104		5,446.7061	5,446.7061	0.4205		5,457.2190
Worker	1.6688	1.1646	13.1500	0.0371	3.4913	0.0249	3.5162	0.9261	0.0229	0.9490		3,698.3485	3,698.3485	0.1181		3,701.3009
Total	**2.5156**	**23.9783**	**19.0398**	**0.0879**	**4.7369**	**0.1836**	**4.9205**	**1.2846**	**0.1748**	**1.4594**		**9,145.0545**	**9,145.0545**	**0.5386**		**9,158.5199**

3.11 Cafe - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8968	9.7727	5.7899	0.0104		0.5213	0.5213		0.4796	0.4796		1,030.0729	1,030.0729	0.3259		1,038.2205
Total	**0.8968**	**9.7727**	**5.7899**	**0.0104**		**0.5213**	**0.5213**		**0.4796**	**0.4796**		**1,030.0729**	**1,030.0729**	**0.3259**		**1,038.2205**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.8469	22.8137	5.8898	0.0508	1.2456	0.1587	1.4043	0.3586	0.1518	0.5104		5,446.7061	5,446.7061	0.4205		5,457.2190
Worker	1.6688	1.1646	13.1500	0.0371	3.4913	0.0249	3.5162	0.9261	0.0229	0.9490		3,698.3485	3,698.3485	0.1181		3,701.3009
Total	**2.5156**	**23.9783**	**19.0398**	**0.0879**	**4.7369**	**0.1836**	**4.9205**	**1.2846**	**0.1748**	**1.4594**		**9,145.0545**	**9,145.0545**	**0.5386**		**9,158.5199**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1986	2.9873	6.5755	0.0104		0.1116	0.1116		0.1116	0.1116	0.0000	1,030.0729	1,030.0729	0.3259		1,038.2205
Total	**0.1986**	**2.9873**	**6.5755**	**0.0104**		**0.1116**	**0.1116**		**0.1116**	**0.1116**	**0.0000**	**1,030.0729**	**1,030.0729**	**0.3259**		**1,038.2205**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.8469	22.8137	5.8898	0.0508	1.2456	0.1587	1.4043	0.3586	0.1518	0.5104		5,446.7061	5,446.7061	0.4205		5,457.2190
Worker	1.6688	1.1646	13.1500	0.0371	3.4913	0.0249	3.5162	0.9261	0.0229	0.9490		3,698.3485	3,698.3485	0.1181		3,701.3009
Total	**2.5156**	**23.9783**	**19.0398**	**0.0879**	**4.7369**	**0.1836**	**4.9205**	**1.2846**	**0.1748**	**1.4594**		**9,145.0545**	**9,145.0545**	**0.5386**		**9,158.5199**

3.11 Cafe - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8069	8.7942	5.5753	0.0104		0.4521	0.4521		0.4159	0.4159		1,007.5890	1,007.5890	0.3259		1,015.7358
Total	**0.8069**	**8.7942**	**5.5753**	**0.0104**		**0.4521**	**0.4521**		**0.4159**	**0.4159**		**1,007.5890**	**1,007.5890**	**0.3259**		**1,015.7358**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.6876	20.7475	5.2857	0.0504	1.2456	0.1015	1.3471	0.3586	0.0971	0.4557		5,410.3375	5,410.3375	0.3991		5,420.3155
Worker	1.5596	1.0508	12.0470	0.0360	3.4913	0.0245	3.5158	0.9261	0.0226	0.9486		3,581.6750	3,581.6750	0.1070		3,584.3487
Total	**2.2472**	**21.7983**	**17.3327**	**0.0863**	**4.7369**	**0.1260**	**4.8629**	**1.2846**	**0.1197**	**1.4043**		**8,992.0125**	**8,992.0125**	**0.5061**		**9,004.6642**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1986	2.9873	6.5755	0.0104		0.1116	0.1116		0.1116	0.1116	0.0000	1,007.5890	1,007.5890	0.3259		1,015.7358
Total	**0.1986**	**2.9873**	**6.5755**	**0.0104**		**0.1116**	**0.1116**		**0.1116**	**0.1116**	**0.0000**	**1,007.5890**	**1,007.5890**	**0.3259**		**1,015.7358**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.6876	20.7475	5.2857	0.0504	1.2456	0.1015	1.3471	0.3586	0.0971	0.4557		5,410.3375	5,410.3375	0.3991		5,420.3155
Worker	1.5596	1.0508	12.0470	0.0360	3.4913	0.0245	3.5158	0.9261	0.0226	0.9486		3,581.6750	3,581.6750	0.1070		3,584.3487

Total	**2.2472**	**21.7983**	**17.3327**	**0.0863**	**4.7369**	**0.1260**	**4.8629**	**1.2846**	**0.1197**	**1.4043**		**8,992.0125**	**8,992.0125**	**0.5061**		**9,004.6642**

3.12 Architectural Coating 3 - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	6.7628					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.7105	4.8944	4.9102	7.9200e-003		0.3434	0.3434		0.3434	0.3434		750.5281	750.5281	0.0634		752.1129
Total	**7.4733**	**4.8944**	**4.9102**	**7.9200e-003**		**0.3434**	**0.3434**		**0.3434**	**0.3434**		**750.5281**	**750.5281**	**0.0634**		**752.1129**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3338	0.2329	2.6300	7.4300e-003	0.6983	4.9800e-003	0.7032	0.1852	4.5900e-003	0.1898		739.6697	739.6697	0.0236		740.2602
Total	**0.3338**	**0.2329**	**2.6300**	**7.4300e-003**	**0.6983**	**4.9800e-003**	**0.7032**	**0.1852**	**4.5900e-003**	**0.1898**		**739.6697**	**739.6697**	**0.0236**		**740.2602**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	6.7628					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1585	3.6186	4.8864	7.9200e-003		0.2536	0.2536		0.2536	0.2536	0.0000	750.5281	750.5281	0.0634		752.1129
Total	**6.9213**	**3.6186**	**4.8864**	**7.9200e-003**		**0.2536**	**0.2536**		**0.2536**	**0.2536**	**0.0000**	**750.5281**	**750.5281**	**0.0634**		**752.1129**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3338	0.2329	2.6300	7.4300e-003	0.6983	4.9800e-003	0.7032	0.1852	4.5900e-003	0.1898		739.6697	739.6697	0.0236		740.2602
Total	**0.3338**	**0.2329**	**2.6300**	**7.4300e-003**	**0.6983**	**4.9800e-003**	**0.7032**	**0.1852**	**4.5900e-003**	**0.1898**		**739.6697**	**739.6697**	**0.0236**		**740.2602**

3.12 Architectural Coating 3 - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Archit. Coating	6.7628					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.6458	4.4902	4.8838	7.9200e-003		0.2958	0.2958		0.2958	0.2958		750.5281	750.5281	0.0581		751.9809
Total	**7.4086**	**4.4902**	**4.8838**	**7.9200e-003**		**0.2958**	**0.2958**		**0.2958**	**0.2958**		**750.5281**	**750.5281**	**0.0581**		**751.9809**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3119	0.2102	2.4094	7.1900e-003	0.6983	4.9000e-003	0.7032	0.1852	4.5100e-003	0.1897		716.3350	716.3350	0.0214		716.8697
Total	**0.3119**	**0.2102**	**2.4094**	**7.1900e-003**	**0.6983**	**4.9000e-003**	**0.7032**	**0.1852**	**4.5100e-003**	**0.1897**		**716.3350**	**716.3350**	**0.0214**		**716.8697**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	6.7628					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1585	3.6186	4.8864	7.9200e-003		0.2536	0.2536		0.2536	0.2536	0.0000	750.5281	750.5281	0.0581		751.9809
Total	**6.9213**	**3.6186**	**4.8864**	**7.9200e-003**		**0.2536**	**0.2536**		**0.2536**	**0.2536**	**0.0000**	**750.5281**	**750.5281**	**0.0581**		**751.9809**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3119	0.2102	2.4094	7.1900e-003	0.6983	4.9000e-003	0.7032	0.1852	4.5100e-003	0.1897		716.3350	716.3350	0.0214		716.8697
Total	**0.3119**	**0.2102**	**2.4094**	**7.1900e-003**	**0.6983**	**4.9000e-003**	**0.7032**	**0.1852**	**4.5100e-003**	**0.1897**		**716.3350**	**716.3350**	**0.0214**		**716.8697**

3.13 Architectural Coating 1 - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	6.8162					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.7105	4.8944	4.9102	7.9200e-003		0.3434	0.3434		0.3434	0.3434		750.5281	750.5281	0.0634		752.1129
Total	**7.5267**	**4.8944**	**4.9102**	**7.9200e-003**		**0.3434**	**0.3434**		**0.3434**	**0.3434**		**750.5281**	**750.5281**	**0.0634**		**752.1129**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3338	0.2329	2.6300	7.4300e-003	0.6983	4.9800e-003	0.7032	0.1852	4.5900e-003	0.1898		739.6697	739.6697	0.0236		740.2602
Total	**0.3338**	**0.2329**	**2.6300**	**7.4300e-003**	**0.6983**	**4.9800e-003**	**0.7032**	**0.1852**	**4.5900e-003**	**0.1898**		**739.6697**	**739.6697**	**0.0236**		**740.2602**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	6.8162					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1585	3.6186	4.8864	7.9200e-003		0.2536	0.2536		0.2536	0.2536	0.0000	750.5281	750.5281	0.0634		752.1129
Total	**6.9747**	**3.6186**	**4.8864**	**7.9200e-003**		**0.2536**	**0.2536**		**0.2536**	**0.2536**	**0.0000**	**750.5281**	**750.5281**	**0.0634**		**752.1129**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3338	0.2329	2.6300	7.4300e-003	0.6983	4.9800e-003	0.7032	0.1852	4.5900e-003	0.1898		739.6697	739.6697	0.0236		740.2602
Total	**0.3338**	**0.2329**	**2.6300**	**7.4300e-003**	**0.6983**	**4.9800e-003**	**0.7032**	**0.1852**	**4.5900e-003**	**0.1898**		**739.6697**	**739.6697**	**0.0236**		**740.2602**

3.13 Architectural Coating 1 - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	6.8162					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.6458	4.4902	4.8838	7.9200e-003		0.2958	0.2958		0.2958	0.2958		750.5281	750.5281	0.0581		751.9809
Total	**7.4620**	**4.4902**	**4.8838**	**7.9200e-003**		**0.2958**	**0.2958**		**0.2958**	**0.2958**		**750.5281**	**750.5281**	**0.0581**		**751.9809**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3119	0.2102	2.4094	7.1900e-003	0.6983	4.9000e-003	0.7032	0.1852	4.5100e-003	0.1897		716.3350	716.3350	0.0214		716.8697
Total	**0.3119**	**0.2102**	**2.4094**	**7.1900e-003**	**0.6983**	**4.9000e-003**	**0.7032**	**0.1852**	**4.5100e-003**	**0.1897**		**716.3350**	**716.3350**	**0.0214**		**716.8697**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	6.8162					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1585	3.6186	4.8864	7.9200e-003		0.2536	0.2536		0.2536	0.2536	0.0000	750.5281	750.5281	0.0581		751.9809
Total	**6.9747**	**3.6186**	**4.8864**	**7.9200e-003**		**0.2536**	**0.2536**		**0.2536**	**0.2536**	**0.0000**	**750.5281**	**750.5281**	**0.0581**		**751.9809**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3119	0.2102	2.4094	7.1900e-003	0.6983	4.9000e-003	0.7032	0.1852	4.5100e-003	0.1897		716.3350	716.3350	0.0214		716.8697
Total	**0.3119**	**0.2102**	**2.4094**	**7.1900e-003**	**0.6983**	**4.9000e-003**	**0.7032**	**0.1852**	**4.5100e-003**	**0.1897**		**716.3350**	**716.3350**	**0.0214**		**716.8697**

3.14 Landscape - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.4190	4.2103	4.5594	6.2100e-003		0.2662	0.2662		0.2449	0.2449		601.5370	601.5370	0.1946		606.4008
Total	**0.4190**	**4.2103**	**4.5594**	**6.2100e-003**	**0.0000**	**0.2662**	**0.2662**	**0.0000**	**0.2449**	**0.2449**		**601.5370**	**601.5370**	**0.1946**		**606.4008**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0184	0.0124	0.1417	4.2000e-004	0.0411	2.9000e-004	0.0414	0.0109	2.7000e-004	0.0112		42.1374	42.1374	1.2600e-003		42.1688
Total	**0.0184**	**0.0124**	**0.1417**	**4.2000e-004**	**0.0411**	**2.9000e-004**	**0.0414**	**0.0109**	**2.7000e-004**	**0.0112**		**42.1374**	**42.1374**	**1.2600e-003**		**42.1688**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000

Off-Road	0.0760	0.3292	4.6841	6.2100e-003		0.0101	0.0101		0.0101	0.0101	0.0000	601.5370	601.5370	0.1946		606.4008
Total	**0.0760**	**0.3292**	**4.6841**	**6.2100e-003**	**0.0000**	**0.0101**	**0.0101**	**0.0000**	**0.0101**	**0.0101**	**0.0000**	**601.5370**	**601.5370**	**0.1946**		**606.4008**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0184	0.0124	0.1417	4.2000e-004	0.0411	2.9000e-004	0.0414	0.0109	2.7000e-004	0.0112		42.1374	42.1374	1.2600e-003		42.1688
Total	**0.0184**	**0.0124**	**0.1417**	**4.2000e-004**	**0.0411**	**2.9000e-004**	**0.0414**	**0.0109**	**2.7000e-004**	**0.0112**		**42.1374**	**42.1374**	**1.2600e-003**		**42.1688**

3.15 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.2319	18.8838	20.6329	0.0334		1.0791	1.0791		1.0401	1.0401		3,200.6568	3,200.6568	0.6659		3,217.3044
Paving	0.0823					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.3141**	**18.8838**	**20.6329**	**0.0334**		**1.0791**	**1.0791**		**1.0401**	**1.0401**		**3,200.6568**	**3,200.6568**	**0.6659**		**3,217.3044**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0734	0.0495	0.5669	1.6900e-003	0.1643	1.1500e-003	0.1655	0.0436	1.0600e-003	0.0446		168.5494	168.5494	5.0300e-003		168.6752
Total	**0.0734**	**0.0495**	**0.5669**	**1.6900e-003**	**0.1643**	**1.1500e-003**	**0.1655**	**0.0436**	**1.0600e-003**	**0.0446**		**168.5494**	**168.5494**	**5.0300e-003**		**168.6752**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7492	15.5943	23.1009	0.0334		0.9106	0.9106		0.9106	0.9106	0.0000	3,200.6568	3,200.6568	0.6659		3,217.3044
Paving	0.0823					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.8315**	**15.5943**	**23.1009**	**0.0334**		**0.9106**	**0.9106**		**0.9106**	**0.9106**	**0.0000**	**3,200.6568**	**3,200.6568**	**0.6659**		**3,217.3044**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e

Category	lb/day											lb/day				
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0734	0.0495	0.5669	1.6900e-003	0.1643	1.1500e-003	0.1655	0.0436	1.0600e-003	0.0446		168.5494	168.5494	5.0300e-003		168.6752
Total	**0.0734**	**0.0495**	**0.5669**	**1.6900e-003**	**0.1643**	**1.1500e-003**	**0.1655**	**0.0436**	**1.0600e-003**	**0.0446**		**168.5494**	**168.5494**	**5.0300e-003**		**168.6752**

Torrey Highlands

San Diego County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	454.15	1000sqft	10.43	454,148.00	0
Enclosed Parking with Elevator	1,860.00	Space	13.94	607,152.00	0
Other Asphalt Surfaces	0.62	Acre	0.62	27,007.20	0
Parking Lot	71.00	Space	0.73	31,950.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2018
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - modified per project specifics

Construction Phase - construction schedule per applicant

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Trips and VMT - modified

Grading - modified

Architectural Coating - Arch coating based on CalEEMod calc methodolgy

Vehicle Trips - modified

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Area Coating - VOC content per SDAPCD Rule 67.0.1

Energy Use - modified

Construction Off-road Equipment Mitigation - Tier 2 equipment

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	227,074.00	90,000.00
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	227,074.00	122,029.00
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	227,074.00	60,000.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	681,222.00	270,000.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	681,222.00	360,000.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	681,222.00	180,000.00
tblArchitecturalCoating	ConstArea_Parking	39,967.00	0.00
tblArchitecturalCoating	ConstArea_Parking	39,967.00	0.00

tblArchitecturalCoating	ConstArea_Parking	39,967.00	0.00
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	100.00
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	100.00
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	100.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	50.00
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tblArchitecturalCoating	EF_Parking	250.00	0.00
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tblArchitecturalCoating	EF_Residential_Interior	250.00	50.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	50.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	100
tblAreaCoating	Area_EF_Parking	250	0
tblAreaCoating	Area_Nonresidential_Exterior	227074	544633
tblAreaCoating	Area_Nonresidential_Interior	681222	810000
tblAreaCoating	Area_Parking	39967	0
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	100	250
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	21.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	16.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
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tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	28.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	16.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
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tblConstructionPhase	NumDays	20.00	55.00
tblConstructionPhase	NumDays	20.00	390.00
tblEnergyUse	LightingElect	1.75	2.63
tblEnergyUse	LightingElect	3.81	4.33

tblEnergyUse	LightingElect	0.35	0.88
tblEnergyUse	T24E	4.66	5.69
tblEnergyUse	T24NG	15.99	16.83
tblGrading	AcresOfGrading	85.00	10.43
tblGrading	AcresOfGrading	6.00	10.43
tblGrading	MaterialExported	0.00	51,740.00
tblLandUse	LandUseSquareFeet	454,150.00	454,148.00
tblLandUse	LandUseSquareFeet	744,000.00	607,152.00
tblLandUse	LandUseSquareFeet	28,400.00	31,950.00
tblLandUse	LotAcreage	16.74	13.94
tblLandUse	LotAcreage	0.64	0.73
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00

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tblTripsAndVMT	HaulingTripNumber	0.00	24.00
tblTripsAndVMT	HaulingTripNumber	0.00	110.00

tblTripsAndVMT	VendorTripNumber	0.00	16.00
tblTripsAndVMT	VendorTripNumber	0.00	16.00
tblTripsAndVMT	VendorTripNumber	0.00	12.00
tblVehicleTrips	ST_TR	2.46	2.37
tblVehicleTrips	SU_TR	1.05	0.98
tblVehicleTrips	WD_TR	11.03	11.59

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	23.5472	284.4029	165.3519	0.4665	34.3254	7.8170	42.1424	15.5792	7.2109	22.7902	0.0000	49,474.6253	49,474.6253	7.8676	0.0000	49,671.3153
2019	43.8845	256.4535	223.3706	0.6233	24.4238	8.7101	33.1338	6.6193	8.2805	14.8997	0.0000	62,972.8477	62,972.8477	7.4304	0.0000	63,158.6059
2020	41.1742	197.2164	186.6638	0.5253	21.0833	6.3465	27.4276	5.7050	6.0617	11.7558	0.0000	52,698.9286	52,698.9286	6.0884	0.0000	52,851.1377
Maximum	**43.8845**	**284.4029**	**223.3706**	**0.6233**	**34.3254**	**8.7101**	**42.1424**	**15.5792**	**8.2805**	**22.7902**	**0.0000**	**62,972.8477**	**62,972.8477**	**7.8676**	**0.0000**	**63,158.6059**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	11.9657	188.7118	165.8454	0.4665	17.8492	2.8229	20.6721	7.2985	2.7999	10.0984	0.0000	49,474.6253	49,474.6253	7.8676	0.0000	49,671.3153

2019	31.9889	188.0794	226.2778	0.6233	24.4238	2.6695	27.0933	6.6193	2.6243	9.2436	0.0000	62,972.8477	62,972.8477	7.4304	0.0000	63,158.6059
2020	30.7780	151.0639	190.7879	0.5253	21.0833	2.7730	23.2153	5.7050	2.7525	7.8100	0.0000	52,698.9285	52,698.9285	6.0884	0.0000	52,851.1377
Maximum	**31.9889**	**188.7118**	**226.2778**	**0.6233**	**24.4238**	**2.8229**	**27.0933**	**7.2985**	**2.7999**	**10.0984**	**0.0000**	**62,972.8477**	**62,972.8477**	**7.8676**	**0.0000**	**63,158.6059**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**31.19**	**28.48**	**-1.31**	**0.00**	**20.64**	**63.86**	**30.89**	**29.68**	**62.06**	**45.09**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	9/1/2018	9/8/2018	5	6	
2	Grading	Grading	9/8/2018	10/2/2018	5	17	
3	Utilities	Site Preparation	10/3/2018	12/17/2018	5	55	
4	Building Construction 1	Building Construction	10/3/2018	5/1/2020	5	412	
5	Building Construction 2	Building Construction	11/3/2018	1/1/2020	5	303	
6	Building Construction 3	Building Construction	12/1/2018	5/1/2020	5	369	
7	Sitework	Site Preparation	1/1/2019	7/1/2020	5	390	
8	Architectural Coating 2	Architectural Coating	5/1/2019	4/1/2020	5	240	
9	Parking Structure	Building Construction	6/1/2019	7/3/2019	5	23	
10	Cafe	Building Construction	6/1/2019	2/1/2020	5	176	
11	Architectural Coating 3	Architectural Coating	7/17/2019	5/1/2020	5	207	
12	Architectural Coating 1	Architectural Coating	8/1/2019	3/1/2020	5	153	
13	Landscape	Site Preparation	2/1/2020	7/1/2020	5	107	
14	Paving	Paving	2/1/2020	4/2/2020	5	43	

Acres of Grading (Site Preparation Phase): 10.43

Acres of Grading (Grading Phase): 10.43

Acres of Paving: 15.29

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 180,000; Non-Residential Outdoor: 60,000; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Scrapers	1	8.00	367	0.48
Site Preparation	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Grading	Excavators	0	8.00	158	0.38
Grading	Graders	0	8.00	187	0.41
Grading	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Scrapers	5	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	5	8.00	97	0.37
Utilities	Excavators	1	8.00	158	0.38
Utilities	Rubber Tired Dozers	0	8.00	247	0.40
Utilities	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Building Construction 1	Aerial Lifts	7	8.00	63	0.31
Building Construction 1	Cranes	1	8.00	231	0.29
Building Construction 1	Forklifts	2	8.00	89	0.20
Building Construction 1	Generator Sets	0	8.00	84	0.74
Building Construction 1	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction 1	Welders	5	8.00	46	0.45
Building Construction 2	Aerial Lifts	7	8.00	63	0.31
Building Construction 2	Cranes	1	8.00	231	0.29
Building Construction 2	Forklifts	2	8.00	89	0.20
Building Construction 2	Generator Sets	0	8.00	84	0.74
Building Construction 2	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction 2	Welders	5	8.00	46	0.45
Building Construction 3	Aerial Lifts	7	8.00	63	0.31
Building Construction 3	Cranes	1	8.00	231	0.29

Building Construction 3	Forklifts	2	8.00	89	0.20
Building Construction 3	Generator Sets	0	8.00	84	0.74
Building Construction 3	Tractors/Loaders/Backhoes	6	8.00	97	0.37
Building Construction 3	Welders	5	8.00	46	0.45
Sitework	Air Compressors	2	8.00	78	0.48
Sitework	Rubber Tired Dozers	0	8.00	247	0.40
Sitework	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Architectural Coating 2	Air Compressors	2	8.00	78	0.48
Parking Structure	Air Compressors	4	8.00	78	0.48
Parking Structure	Cranes	1	8.00	231	0.29
Parking Structure	Forklifts	2	8.00	89	0.20
Parking Structure	Generator Sets	0	8.00	84	0.74
Parking Structure	Rubber Tired Dozers	0	8.00	247	0.40
Parking Structure	Scrapers	0	8.00	367	0.48
Parking Structure	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Parking Structure	Welders	1	8.00	46	0.45
Cafe	Cranes	1	8.00	231	0.29
Cafe	Forklifts	1	8.00	89	0.20
Cafe	Generator Sets	0	8.00	84	0.74
Cafe	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Cafe	Welders	0	8.00	46	0.45
Architectural Coating 3	Air Compressors	2	8.00	78	0.48
Architectural Coating 1	Air Compressors	2	8.00	78	0.48
Landscape	Rubber Tired Dozers	0	8.00	247	0.40
Landscape	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Air Compressors	4	8.00	78	0.48
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	0	8.00	80	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	6	15.00	16.00	24.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	12	30.00	16.00	6,468.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Utilities	5	13.00	12.00	110.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction 1	17	425.00	184.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction 2	17	425.00	184.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction 3	21	425.00	184.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Sitework	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating 2	2	85.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Parking Structure	11	425.00	184.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Cafe	3	425.00	184.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating 3	2	85.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating 1	2	85.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Landscape	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

3.2 Site Preparation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Fugitive Dust					13.8877	0.0000	13.8877	6.8195	0.0000	6.8195			0.0000			0.0000
Off-Road	4.2774	47.2006	24.5498	0.0415		2.3393	2.3393		2.1522	2.1522		4,183.4734	4,183.4734	1.3024		4,216.0327
Total	**4.2774**	**47.2006**	**24.5498**	**0.0415**	**13.8877**	**2.3393**	**16.2270**	**6.8195**	**2.1522**	**8.9717**		**4,183.4734**	**4,183.4734**	**1.3024**		**4,216.0327**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0377	1.2859	0.2821	3.1600e-003	0.0805	5.1200e-003	0.0856	0.0218	4.9000e-003	0.0267		344.0955	344.0955	0.0320		344.8955
Vendor	0.0860	2.1117	0.6176	4.3500e-003	0.1083	0.0168	0.1251	0.0312	0.0160	0.0472		465.1167	465.1167	0.0403		466.1229
Worker	0.0721	0.0516	0.4871	1.2700e-003	0.1232	8.9000e-004	0.1241	0.0327	8.2000e-004	0.0335		126.3491	126.3491	4.3800e-003		126.4586
Total	**0.1958**	**3.4492**	**1.3868**	**8.7800e-003**	**0.3120**	**0.0228**	**0.3348**	**0.0856**	**0.0218**	**0.1074**		**935.5613**	**935.5613**	**0.0766**		**937.4769**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.4162	0.0000	5.4162	2.6596	0.0000	2.6596			0.0000			0.0000
Off-Road	0.9050	15.7872	24.1654	0.0415		0.5953	0.5953		0.5953	0.5953	0.0000	4,183.4734	4,183.4734	1.3024		4,216.0327
Total	**0.9050**	**15.7872**	**24.1654**	**0.0415**	**5.4162**	**0.5953**	**6.0115**	**2.6596**	**0.5953**	**3.2549**	**0.0000**	**4,183.4734**	**4,183.4734**	**1.3024**		**4,216.0327**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0377	1.2859	0.2821	3.1600e-003	0.0805	5.1200e-003	0.0856	0.0218	4.9000e-003	0.0267		344.0955	344.0955	0.0320		344.8955
Vendor	0.0860	2.1117	0.6176	4.3500e-003	0.1083	0.0168	0.1251	0.0312	0.0160	0.0472		465.1167	465.1167	0.0403		466.1229
Worker	0.0721	0.0516	0.4871	1.2700e-003	0.1232	8.9000e-004	0.1241	0.0327	8.2000e-004	0.0335		126.3491	126.3491	4.3800e-003		126.4586
Total	**0.1958**	**3.4492**	**1.3868**	**8.7800e-003**	**0.3120**	**0.0228**	**0.3348**	**0.0856**	**0.0218**	**0.1074**		**935.5613**	**935.5613**	**0.0766**		**937.4769**

3.3 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					13.1225	0.0000	13.1225	6.7555	0.0000	6.7555			0.0000			0.0000
Off-Road	9.3973	109.2263	64.3702	0.1084		4.9491	4.9491		4.5532	4.5532		10,908.2208	10,908.2208	3.3959		10,993.1177
Total	**9.3973**	**109.2263**	**64.3702**	**0.1084**	**13.1225**	**4.9491**	**18.0716**	**6.7555**	**4.5532**	**11.3086**		**10,908.2208**	**10,908.2208**	**3.3959**		**10,993.1177**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	3.5826	122.3119	26.8354	0.3010	6.6484	0.4873	7.1357	1.8221	0.4662	2.2882		32,729.5549	32,729.5549	3.0437		32,805.6480
Vendor	0.0860	2.1117	0.6176	4.3500e-003	0.1083	0.0168	0.1251	0.0312	0.0160	0.0472		465.1167	465.1167	0.0403		466.1229
Worker	0.1443	0.1033	0.9742	2.5400e-003	0.2464	1.7700e-003	0.2482	0.0654	1.6400e-003	0.0670		252.6982	252.6982	8.7600e-003		252.9171
Total	**3.8128**	**124.5268**	**28.4272**	**0.3078**	**7.0032**	**0.5058**	**7.5090**	**1.9186**	**0.4838**	**2.4025**		**33,447.3698**	**33,447.3698**	**3.0927**		**33,524.6880**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.1178	0.0000	5.1178	2.6346	0.0000	2.6346			0.0000			0.0000
Off-Road	2.4723	44.9486	61.1616	0.1084		1.6991	1.6991		1.6991	1.6991	0.0000	10,908.2208	10,908.2208	3.3959		10,993.1177
Total	**2.4723**	**44.9486**	**61.1616**	**0.1084**	**5.1178**	**1.6991**	**6.8168**	**2.6346**	**1.6991**	**4.3337**	**0.0000**	**10,908.2208**	**10,908.2208**	**3.3959**		**10,993.1177**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	3.5826	122.3119	26.8354	0.3010	6.6484	0.4873	7.1357	1.8221	0.4662	2.2882		32,729.5549	32,729.5549	3.0437		32,805.6480

Vendor	0.0860	2.1117	0.6176	4.3500e-003	0.1083	0.0168	0.1251	0.0312	0.0160	0.0472		465.1167	465.1167	0.0403		466.1229
Worker	0.1443	0.1033	0.9742	2.5400e-003	0.2464	1.7700e-003	0.2482	0.0654	1.6400e-003	0.0670		252.6982	252.6982	8.7600e-003		252.9171
Total	**3.8128**	**124.5268**	**28.4272**	**0.3078**	**7.0032**	**0.5058**	**7.5090**	**1.9186**	**0.4838**	**2.4025**		**33,447.3698**	**33,447.3698**	**3.0927**		**33,524.6880**

3.4 Utilities - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	1.3536	13.6148	12.6225	0.0176		0.8954	0.8954		0.8237	0.8237		1,770.6889	1,770.6889	0.5512		1,784.4699
Total	**1.3536**	**13.6148**	**12.6225**	**0.0176**	**0.0000**	**0.8954**	**0.8954**	**0.0000**	**0.8237**	**0.8237**		**1,770.6889**	**1,770.6889**	**0.5512**		**1,784.4699**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0188	0.6430	0.1411	1.5800e-003	0.0354	2.5600e-003	0.0380	9.7000e-003	2.4500e-003	0.0122		172.0478	172.0478	0.0160		172.4478
Vendor	0.0645	1.5837	0.4632	3.2600e-003	0.0812	0.0126	0.0938	0.0234	0.0120	0.0354		348.8375	348.8375	0.0302		349.5922
Worker	0.0625	0.0448	0.4221	1.1000e-003	0.1068	7.7000e-004	0.1076	0.0283	7.1000e-004	0.0290		109.5026	109.5026	3.7900e-003		109.5974
Total	**0.1458**	**2.2714**	**1.0264**	**5.9400e-003**	**0.2235**	**0.0159**	**0.2394**	**0.0614**	**0.0152**	**0.0766**		**630.3878**	**630.3878**	**0.0500**		**631.6373**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.2790	3.1150	13.2863	0.0176		0.1389	0.1389		0.1389	0.1389	0.0000	1,770.6889	1,770.6889	0.5512		1,784.4699
Total	**0.2790**	**3.1150**	**13.2863**	**0.0176**	**0.0000**	**0.1389**	**0.1389**	**0.0000**	**0.1389**	**0.1389**	**0.0000**	**1,770.6889**	**1,770.6889**	**0.5512**		**1,784.4699**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0188	0.6430	0.1411	1.5800e-003	0.0354	2.5600e-003	0.0380	9.7000e-003	2.4500e-003	0.0122		172.0478	172.0478	0.0160		172.4478
Vendor	0.0645	1.5837	0.4632	3.2600e-003	0.0812	0.0126	0.0938	0.0234	0.0120	0.0354		348.8375	348.8375	0.0302		349.5922
Worker	0.0625	0.0448	0.4221	1.1000e-003	0.1068	7.7000e-004	0.1076	0.0283	7.1000e-004	0.0290		109.5026	109.5026	3.7900e-003		109.5974
Total	**0.1458**	**2.2714**	**1.0264**	**5.9400e-003**	**0.2235**	**0.0159**	**0.2394**	**0.0614**	**0.0152**	**0.0766**		**630.3878**	**630.3878**	**0.0500**		**631.6373**

3.5 Building Construction 1 - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.9619	28.6146	26.5486	0.0396		1.6244	1.6244		1.5399	1.5399		3,733.7213	3,733.7213	1.0384		3,759.6807
Total	**3.9619**	**28.6146**	**26.5486**	**0.0396**		**1.6244**	**1.6244**		**1.5399**	**1.5399**		**3,733.7213**	**3,733.7213**	**1.0384**		**3,759.6807**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.9890	24.2840	7.1026	0.0500	1.2456	0.1928	1.4384	0.3586	0.1844	0.5430		5,348.8421	5,348.8421	0.4628		5,360.4132
Worker	2.0435	1.4631	13.8009	0.0360	3.4913	0.0251	3.5164	0.9261	0.0232	0.9492		3,579.8909	3,579.8909	0.1241		3,582.9924
Total	**3.0325**	**25.7471**	**20.9034**	**0.0860**	**4.7369**	**0.2179**	**4.9548**	**1.2846**	**0.2076**	**1.4922**		**8,928.7331**	**8,928.7331**	**0.5869**		**8,943.4056**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7638	14.8600	26.4847	0.0396		0.1530	0.1530		0.1530	0.1530	0.0000	3,733.7213	3,733.7213	1.0384		3,759.6807

Total	**0.7638**	**14.8600**	**26.4847**	**0.0396**		**0.1530**	**0.1530**		**0.1530**	**0.1530**	**0.0000**	**3,733.7213**	**3,733.7213**	**1.0384**		**3,759.6807**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.9890	24.2840	7.1026	0.0500	1.2456	0.1928	1.4384	0.3586	0.1844	0.5430		5,348.8421	5,348.8421	0.4628		5,360.4132
Worker	2.0435	1.4631	13.8009	0.0360	3.4913	0.0251	3.5164	0.9261	0.0232	0.9492		3,579.8909	3,579.8909	0.1241		3,582.9924
Total	**3.0325**	**25.7471**	**20.9034**	**0.0860**	**4.7369**	**0.2179**	**4.9548**	**1.2846**	**0.2076**	**1.4922**		**8,928.7331**	**8,928.7331**	**0.5869**		**8,943.4056**

3.5 Building Construction 1 - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.5005	26.4255	25.9721	0.0396		1.4034	1.4034		1.3310	1.3310		3,689.9591	3,689.9591	1.0127		3,715.2756
Total	**3.5005**	**26.4255**	**25.9721**	**0.0396**		**1.4034**	**1.4034**		**1.3310**	**1.3310**		**3,689.9591**	**3,689.9591**	**1.0127**		**3,715.2756**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.8833	22.8322	6.5302	0.0495	1.2456	0.1615	1.4071	0.3586	0.1545	0.5131		5,308.4047	5,308.4047	0.4474		5,319.5884
Worker	1.8873	1.3079	12.4267	0.0349	3.4913	0.0249	3.5162	0.9261	0.0229	0.9490		3,471.8834	3,471.8834	0.1120		3,474.6841
Total	**2.7707**	**24.1401**	**18.9569**	**0.0844**	**4.7369**	**0.1864**	**4.9233**	**1.2846**	**0.1774**	**1.4621**		**8,780.2881**	**8,780.2881**	**0.5594**		**8,794.2725**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7638	14.8600	26.4847	0.0396		0.1530	0.1530		0.1530	0.1530	0.0000	3,689.9591	3,689.9591	1.0127		3,715.2756
Total	**0.7638**	**14.8600**	**26.4847**	**0.0396**		**0.1530**	**0.1530**		**0.1530**	**0.1530**	**0.0000**	**3,689.9591**	**3,689.9591**	**1.0127**		**3,715.2756**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e

Category	lb/day											lb/day				
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.8833	22.8322	6.5302	0.0495	1.2456	0.1615	1.4071	0.3586	0.1545	0.5131		5,308.4047	5,308.4047	0.4474		5,319.5884
Worker	1.8873	1.3079	12.4267	0.0349	3.4913	0.0249	3.5162	0.9261	0.0229	0.9490		3,471.8834	3,471.8834	0.1120		3,474.6841
Total	**2.7707**	**24.1401**	**18.9569**	**0.0844**	**4.7369**	**0.1864**	**4.9233**	**1.2846**	**0.1774**	**1.4621**		**8,780.2881**	**8,780.2881**	**0.5594**		**8,794.2725**

3.5 Building Construction 1 - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1480	24.5589	25.5301	0.0396		1.2165	1.2165		1.1540	1.1540		3,632.1159	3,632.1159	0.9925		3,656.9290
Total	**3.1480**	**24.5589**	**25.5301**	**0.0396**		**1.2165**	**1.2165**		**1.1540**	**1.1540**		**3,632.1159**	**3,632.1159**	**0.9925**		**3,656.9290**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.7201	20.7308	5.8660	0.0491	1.2456	0.1034	1.3490	0.3586	0.0989	0.4575		5,270.9048	5,270.9048	0.4241		5,281.5081

Worker	1.7663	1.1798	11.3580	0.0338	3.4913	0.0245	3.5158	0.9261	0.0226	0.9486		3,362.3108	3,362.3108	0.1012		3,364.8416
Total	**2.4864**	**21.9106**	**17.2240**	**0.0828**	**4.7369**	**0.1279**	**4.8648**	**1.2846**	**0.1215**	**1.4061**		**8,633.2156**	**8,633.2156**	**0.5254**		**8,646.3497**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7638	14.8600	26.4847	0.0396		0.1530	0.1530		0.1530	0.1530	0.0000	3,632.1159	3,632.1159	0.9925		3,656.9290
Total	**0.7638**	**14.8600**	**26.4847**	**0.0396**		**0.1530**	**0.1530**		**0.1530**	**0.1530**	**0.0000**	**3,632.1159**	**3,632.1159**	**0.9925**		**3,656.9290**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.7201	20.7308	5.8660	0.0491	1.2456	0.1034	1.3490	0.3586	0.0989	0.4575		5,270.9048	5,270.9048	0.4241		5,281.5081
Worker	1.7663	1.1798	11.3580	0.0338	3.4913	0.0245	3.5158	0.9261	0.0226	0.9486		3,362.3108	3,362.3108	0.1012		3,364.8416
Total	**2.4864**	**21.9106**	**17.2240**	**0.0828**	**4.7369**	**0.1279**	**4.8648**	**1.2846**	**0.1215**	**1.4061**		**8,633.2156**	**8,633.2156**	**0.5254**		**8,646.3497**

3.6 Building Construction 2 - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.9619	28.6146	26.5486	0.0396		1.6244	1.6244		1.5399	1.5399		3,733.7213	3,733.7213	1.0384		3,759.6807
Total	**3.9619**	**28.6146**	**26.5486**	**0.0396**		**1.6244**	**1.6244**		**1.5399**	**1.5399**		**3,733.7213**	**3,733.7213**	**1.0384**		**3,759.6807**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.9890	24.2840	7.1026	0.0500	1.2456	0.1928	1.4384	0.3586	0.1844	0.5430		5,348.8421	5,348.8421	0.4628		5,360.4132
Worker	2.0435	1.4631	13.8009	0.0360	3.4913	0.0251	3.5164	0.9261	0.0232	0.9492		3,579.8909	3,579.8909	0.1241		3,582.9924
Total	**3.0325**	**25.7471**	**20.9034**	**0.0860**	**4.7369**	**0.2179**	**4.9548**	**1.2846**	**0.2076**	**1.4922**		**8,928.7331**	**8,928.7331**	**0.5869**		**8,943.4056**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e

Category	lb/day										lb/day					
Off-Road	0.7638	14.8600	26.4847	0.0396		0.1530	0.1530		0.1530	0.1530	0.0000	3,733.7213	3,733.7213	1.0384		3,759.6807
Total	**0.7638**	**14.8600**	**26.4847**	**0.0396**		**0.1530**	**0.1530**		**0.1530**	**0.1530**	**0.0000**	**3,733.7213**	**3,733.7213**	**1.0384**		**3,759.6807**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.9890	24.2840	7.1026	0.0500	1.2456	0.1928	1.4384	0.3586	0.1844	0.5430		5,348.8421	5,348.8421	0.4628		5,360.4132
Worker	2.0435	1.4631	13.8009	0.0360	3.4913	0.0251	3.5164	0.9261	0.0232	0.9492		3,579.8909	3,579.8909	0.1241		3,582.9924
Total	**3.0325**	**25.7471**	**20.9034**	**0.0860**	**4.7369**	**0.2179**	**4.9548**	**1.2846**	**0.2076**	**1.4922**		**8,928.7331**	**8,928.7331**	**0.5869**		**8,943.4056**

3.6 Building Construction 2 - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.5005	26.4255	25.9721	0.0396		1.4034	1.4034		1.3310	1.3310		3,689.9591	3,689.9591	1.0127		3,715.2756
Total	**3.5005**	**26.4255**	**25.9721**	**0.0396**		**1.4034**	**1.4034**		**1.3310**	**1.3310**		**3,689.9591**	**3,689.9591**	**1.0127**		**3,715.2756**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.8833	22.8322	6.5302	0.0495	1.2456	0.1615	1.4071	0.3586	0.1545	0.5131		5,308.4047	5,308.4047	0.4474		5,319.5884
Worker	1.8873	1.3079	12.4267	0.0349	3.4913	0.0249	3.5162	0.9261	0.0229	0.9490		3,471.8834	3,471.8834	0.1120		3,474.6841
Total	**2.7707**	**24.1401**	**18.9569**	**0.0844**	**4.7369**	**0.1864**	**4.9233**	**1.2846**	**0.1774**	**1.4621**		**8,780.2881**	**8,780.2881**	**0.5594**		**8,794.2725**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7638	14.8600	26.4847	0.0396		0.1530	0.1530		0.1530	0.1530	0.0000	3,689.9591	3,689.9591	1.0127		3,715.2756
Total	**0.7638**	**14.8600**	**26.4847**	**0.0396**		**0.1530**	**0.1530**		**0.1530**	**0.1530**	**0.0000**	**3,689.9591**	**3,689.9591**	**1.0127**		**3,715.2756**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.8833	22.8322	6.5302	0.0495	1.2456	0.1615	1.4071	0.3586	0.1545	0.5131		5,308.4047	5,308.4047	0.4474		5,319.5884
Worker	1.8873	1.3079	12.4267	0.0349	3.4913	0.0249	3.5162	0.9261	0.0229	0.9490		3,471.8834	3,471.8834	0.1120		3,474.6841
Total	**2.7707**	**24.1401**	**18.9569**	**0.0844**	**4.7369**	**0.1864**	**4.9233**	**1.2846**	**0.1774**	**1.4621**		**8,780.2881**	**8,780.2881**	**0.5594**		**8,794.2725**

3.6 Building Construction 2 - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1480	24.5589	25.5301	0.0396		1.2165	1.2165		1.1540	1.1540		3,632.1159	3,632.1159	0.9925		3,656.9290
Total	**3.1480**	**24.5589**	**25.5301**	**0.0396**		**1.2165**	**1.2165**		**1.1540**	**1.1540**		**3,632.1159**	**3,632.1159**	**0.9925**		**3,656.9290**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.7201	20.7308	5.8660	0.0491	1.2456	0.1034	1.3490	0.3586	0.0989	0.4575		5,270.9048	5,270.9048	0.4241		5,281.5081
Worker	1.7663	1.1798	11.3580	0.0338	3.4913	0.0245	3.5158	0.9261	0.0226	0.9486		3,362.3108	3,362.3108	0.1012		3,364.8416
Total	**2.4864**	**21.9106**	**17.2240**	**0.0828**	**4.7369**	**0.1279**	**4.8648**	**1.2846**	**0.1215**	**1.4061**		**8,633.2156**	**8,633.2156**	**0.5254**		**8,646.3497**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7638	14.8600	26.4847	0.0396		0.1530	0.1530		0.1530	0.1530	0.0000	3,632.1159	3,632.1159	0.9925		3,656.9290
Total	**0.7638**	**14.8600**	**26.4847**	**0.0396**		**0.1530**	**0.1530**		**0.1530**	**0.1530**	**0.0000**	**3,632.1159**	**3,632.1159**	**0.9925**		**3,656.9290**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.7201	20.7308	5.8660	0.0491	1.2456	0.1034	1.3490	0.3586	0.0989	0.4575		5,270.9048	5,270.9048	0.4241		5,281.5081
Worker	1.7663	1.1798	11.3580	0.0338	3.4913	0.0245	3.5158	0.9261	0.0226	0.9486		3,362.3108	3,362.3108	0.1012		3,364.8416

Total	**2.4864**	**21.9106**	**17.2240**	**0.0828**	**4.7369**	**0.1279**	**4.8648**	**1.2846**	**0.1215**	**1.4061**		**8,633.2156**	**8,633.2156**	**0.5254**		**8,646.3497**

3.7 Building Construction 3 - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	5.0264	39.1335	35.8955	0.0520		2.3696	2.3696		2.2255	2.2255		4,984.8251	4,984.8251	1.4279		5,020.5217
Total	**5.0264**	**39.1335**	**35.8955**	**0.0520**		**2.3696**	**2.3696**		**2.2255**	**2.2255**		**4,984.8251**	**4,984.8251**	**1.4279**		**5,020.5217**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.9890	24.2840	7.1026	0.0500	1.2456	0.1928	1.4384	0.3586	0.1844	0.5430		5,348.8421	5,348.8421	0.4628		5,360.4132
Worker	2.0435	1.4631	13.8009	0.0360	3.4913	0.0251	3.5164	0.9261	0.0232	0.9492		3,579.8909	3,579.8909	0.1241		3,582.9924
Total	**3.0325**	**25.7471**	**20.9034**	**0.0860**	**4.7369**	**0.2179**	**4.9548**	**1.2846**	**0.2076**	**1.4922**		**8,928.7331**	**8,928.7331**	**0.5869**		**8,943.4056**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9157	15.5183	35.8530	0.0520		0.1733	0.1733		0.1733	0.1733	0.0000	4,984.8251	4,984.8251	1.4279		5,020.5217
Total	**0.9157**	**15.5183**	**35.8530**	**0.0520**		**0.1733**	**0.1733**		**0.1733**	**0.1733**	**0.0000**	**4,984.8251**	**4,984.8251**	**1.4279**		**5,020.5217**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.9890	24.2840	7.1026	0.0500	1.2456	0.1928	1.4384	0.3586	0.1844	0.5430		5,348.8421	5,348.8421	0.4628		5,360.4132
Worker	2.0435	1.4631	13.8009	0.0360	3.4913	0.0251	3.5164	0.9261	0.0232	0.9492		3,579.8909	3,579.8909	0.1241		3,582.9924
Total	**3.0325**	**25.7471**	**20.9034**	**0.0860**	**4.7369**	**0.2179**	**4.9548**	**1.2846**	**0.2076**	**1.4922**		**8,928.7331**	**8,928.7331**	**0.5869**		**8,943.4056**

3.7 Building Construction 3 - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Off-Road	4.4317	35.7750	35.1829	0.0520		2.0275	2.0275		1.9052	1.9052		4,920.1266	4,920.1266	1.4019		4,955.1734
Total	**4.4317**	**35.7750**	**35.1829**	**0.0520**		**2.0275**	**2.0275**		**1.9052**	**1.9052**		**4,920.1266**	**4,920.1266**	**1.4019**		**4,955.1734**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.8833	22.8322	6.5302	0.0495	1.2456	0.1615	1.4071	0.3586	0.1545	0.5131		5,308.4047	5,308.4047	0.4474		5,319.5884
Worker	1.8873	1.3079	12.4267	0.0349	3.4913	0.0249	3.5162	0.9261	0.0229	0.9490		3,471.8834	3,471.8834	0.1120		3,474.6841
Total	**2.7707**	**24.1401**	**18.9569**	**0.0844**	**4.7369**	**0.1864**	**4.9233**	**1.2846**	**0.1774**	**1.4621**		**8,780.2881**	**8,780.2881**	**0.5594**		**8,794.2725**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9157	15.5183	35.8530	0.0520		0.1733	0.1733		0.1733	0.1733	0.0000	4,920.1265	4,920.1265	1.4019		4,955.1734
Total	**0.9157**	**15.5183**	**35.8530**	**0.0520**		**0.1733**	**0.1733**		**0.1733**	**0.1733**	**0.0000**	**4,920.1265**	**4,920.1265**	**1.4019**		**4,955.1734**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.8833	22.8322	6.5302	0.0495	1.2456	0.1615	1.4071	0.3586	0.1545	0.5131		5,308.4047	5,308.4047	0.4474		5,319.5884
Worker	1.8873	1.3079	12.4267	0.0349	3.4913	0.0249	3.5162	0.9261	0.0229	0.9490		3,471.8834	3,471.8834	0.1120		3,474.6841
Total	**2.7707**	**24.1401**	**18.9569**	**0.0844**	**4.7369**	**0.1864**	**4.9233**	**1.2846**	**0.1774**	**1.4621**		**8,780.2881**	**8,780.2881**	**0.5594**		**8,794.2725**

3.7 Building Construction 3 - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.9860	32.9795	34.6489	0.0520		1.7490	1.7490		1.6439	1.6439		4,835.1899	4,835.1899	1.3816		4,869.7305
Total	**3.9860**	**32.9795**	**34.6489**	**0.0520**		**1.7490**	**1.7490**		**1.6439**	**1.6439**		**4,835.1899**	**4,835.1899**	**1.3816**		**4,869.7305**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.7201	20.7308	5.8660	0.0491	1.2456	0.1034	1.3490	0.3586	0.0989	0.4575		5,270.9048	5,270.9048	0.4241		5,281.5081
Worker	1.7663	1.1798	11.3580	0.0338	3.4913	0.0245	3.5158	0.9261	0.0226	0.9486		3,362.3108	3,362.3108	0.1012		3,364.8416
Total	**2.4864**	**21.9106**	**17.2240**	**0.0828**	**4.7369**	**0.1279**	**4.8648**	**1.2846**	**0.1215**	**1.4061**		**8,633.2156**	**8,633.2156**	**0.5254**		**8,646.3497**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9157	15.5183	35.8530	0.0520		0.1733	0.1733		0.1733	0.1733	0.0000	4,835.1899	4,835.1899	1.3816		4,869.7305
Total	**0.9157**	**15.5183**	**35.8530**	**0.0520**		**0.1733**	**0.1733**		**0.1733**	**0.1733**	**0.0000**	**4,835.1899**	**4,835.1899**	**1.3816**		**4,869.7305**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

Vendor	0.7201	20.7308	5.8660	0.0491	1.2456	0.1034	1.3490	0.3586	0.0989	0.4575		5,270.9048	5,270.9048	0.4241		5,281.5081
Worker	1.7663	1.1798	11.3580	0.0338	3.4913	0.0245	3.5158	0.9261	0.0226	0.9486		3,362.3108	3,362.3108	0.1012		3,364.8416
Total	**2.4864**	**21.9106**	**17.2240**	**0.0828**	**4.7369**	**0.1279**	**4.8648**	**1.2846**	**0.1215**	**1.4061**		**8,633.2156**	**8,633.2156**	**0.5254**		**8,646.3497**

3.8 Sitework - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.7105	4.8944	4.9102	7.9200e-003		0.3434	0.3434		0.3434	0.3434		750.5281	750.5281	0.0634		752.1129
Total	**0.7105**	**4.8944**	**4.9102**	**7.9200e-003**	**0.0000**	**0.3434**	**0.3434**	**0.0000**	**0.3434**	**0.3434**		**750.5281**	**750.5281**	**0.0634**		**752.1129**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0222	0.0154	0.1462	4.1000e-004	0.0411	2.9000e-004	0.0414	0.0109	2.7000e-004	0.0112		40.8457	40.8457	1.3200e-003		40.8786
Total	**0.0222**	**0.0154**	**0.1462**	**4.1000e-004**	**0.0411**	**2.9000e-004**	**0.0414**	**0.0109**	**2.7000e-004**	**0.0112**		**40.8457**	**40.8457**	**1.3200e-003**		**40.8786**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1585	3.6186	4.8864	7.9200e-003		0.2536	0.2536		0.2536	0.2536	0.0000	750.5281	750.5281	0.0634		752.1129
Total	**0.1585**	**3.6186**	**4.8864**	**7.9200e-003**	**0.0000**	**0.2536**	**0.2536**	**0.0000**	**0.2536**	**0.2536**	**0.0000**	**750.5281**	**750.5281**	**0.0634**		**752.1129**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0222	0.0154	0.1462	4.1000e-004	0.0411	2.9000e-004	0.0414	0.0109	2.7000e-004	0.0112		40.8457	40.8457	1.3200e-003		40.8786
Total	**0.0222**	**0.0154**	**0.1462**	**4.1000e-004**	**0.0411**	**2.9000e-004**	**0.0414**	**0.0109**	**2.7000e-004**	**0.0112**		**40.8457**	**40.8457**	**1.3200e-003**		**40.8786**

3.8 Sitework - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.6458	4.4902	4.8838	7.9200e-003		0.2958	0.2958		0.2958	0.2958		750.5281	750.5281	0.0581		751.9809
Total	**0.6458**	**4.4902**	**4.8838**	**7.9200e-003**	**0.0000**	**0.2958**	**0.2958**	**0.0000**	**0.2958**	**0.2958**		**750.5281**	**750.5281**	**0.0581**		**751.9809**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0208	0.0139	0.1336	4.0000e-004	0.0411	2.9000e-004	0.0414	0.0109	2.7000e-004	0.0112		39.5566	39.5566	1.1900e-003		39.5864
Total	**0.0208**	**0.0139**	**0.1336**	**4.0000e-004**	**0.0411**	**2.9000e-004**	**0.0414**	**0.0109**	**2.7000e-004**	**0.0112**		**39.5566**	**39.5566**	**1.1900e-003**		**39.5864**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000

Off-Road	0.1585	3.6186	4.8864	7.9200e-003		0.2536	0.2536		0.2536	0.2536	0.0000	750.5281	750.5281	0.0581		751.9809
Total	**0.1585**	**3.6186**	**4.8864**	**7.9200e-003**	**0.0000**	**0.2536**	**0.2536**	**0.0000**	**0.2536**	**0.2536**	**0.0000**	**750.5281**	**750.5281**	**0.0581**		**751.9809**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0208	0.0139	0.1336	4.0000e-004	0.0411	2.9000e-004	0.0414	0.0109	2.7000e-004	0.0112		39.5566	39.5566	1.1900e-003		39.5864
Total	**0.0208**	**0.0139**	**0.1336**	**4.0000e-004**	**0.0411**	**2.9000e-004**	**0.0414**	**0.0109**	**2.7000e-004**	**0.0112**		**39.5566**	**39.5566**	**1.1900e-003**		**39.5864**

3.9 Architectural Coating 2 - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	2.8969					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.7105	4.8944	4.9102	7.9200e-003		0.3434	0.3434		0.3434	0.3434		750.5281	750.5281	0.0634		752.1129
Total	**3.6074**	**4.8944**	**4.9102**	**7.9200e-003**		**0.3434**	**0.3434**		**0.3434**	**0.3434**		**750.5281**	**750.5281**	**0.0634**		**752.1129**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3775	0.2616	2.4854	6.9700e-003	0.6983	4.9800e-003	0.7032	0.1852	4.5900e-003	0.1898		694.3767	694.3767	0.0224		694.9368
Total	**0.3775**	**0.2616**	**2.4854**	**6.9700e-003**	**0.6983**	**4.9800e-003**	**0.7032**	**0.1852**	**4.5900e-003**	**0.1898**		**694.3767**	**694.3767**	**0.0224**		**694.9368**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	2.8969					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1585	3.6186	4.8864	7.9200e-003		0.2536	0.2536		0.2536	0.2536	0.0000	750.5281	750.5281	0.0634		752.1129
Total	**3.0554**	**3.6186**	**4.8864**	**7.9200e-003**		**0.2536**	**0.2536**		**0.2536**	**0.2536**	**0.0000**	**750.5281**	**750.5281**	**0.0634**		**752.1129**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e

Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3775	0.2616	2.4854	6.9700e-003	0.6983	4.9800e-003	0.7032	0.1852	4.5900e-003	0.1898		694.3767	694.3767	0.0224		694.9368
Total	**0.3775**	**0.2616**	**2.4854**	**6.9700e-003**	**0.6983**	**4.9800e-003**	**0.7032**	**0.1852**	**4.5900e-003**	**0.1898**		**694.3767**	**694.3767**	**0.0224**		**694.9368**

3.9 Architectural Coating 2 - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	2.8969					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.6458	4.4902	4.8838	7.9200e-003		0.2958	0.2958		0.2958	0.2958		750.5281	750.5281	0.0581		751.9809
Total	**3.5427**	**4.4902**	**4.8838**	**7.9200e-003**		**0.2958**	**0.2958**		**0.2958**	**0.2958**		**750.5281**	**750.5281**	**0.0581**		**751.9809**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

Worker	0.3533	0.2360	2.2716	6.7500e-003	0.6983	4.9000e-003	0.7032	0.1852	4.5100e-003	0.1897		672.4622	672.4622	0.0203		672.9683
Total	**0.3533**	**0.2360**	**2.2716**	**6.7500e-003**	**0.6983**	**4.9000e-003**	**0.7032**	**0.1852**	**4.5100e-003**	**0.1897**		**672.4622**	**672.4622**	**0.0203**		**672.9683**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	2.8969					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1585	3.6186	4.8864	7.9200e-003		0.2536	0.2536		0.2536	0.2536	0.0000	750.5281	750.5281	0.0581		751.9809
Total	**3.0554**	**3.6186**	**4.8864**	**7.9200e-003**		**0.2536**	**0.2536**		**0.2536**	**0.2536**	**0.0000**	**750.5281**	**750.5281**	**0.0581**		**751.9809**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3533	0.2360	2.2716	6.7500e-003	0.6983	4.9000e-003	0.7032	0.1852	4.5100e-003	0.1897		672.4622	672.4622	0.0203		672.9683
Total	**0.3533**	**0.2360**	**2.2716**	**6.7500e-003**	**0.6983**	**4.9000e-003**	**0.7032**	**0.1852**	**4.5100e-003**	**0.1897**		**672.4622**	**672.4622**	**0.0203**		**672.9683**

3.10 Parking Structure - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.3285	27.2887	23.2170	0.0365		1.7305	1.7305		1.6549	1.6549		3,505.0110	3,505.0110	0.7299		3,523.2573
Total	**3.3285**	**27.2887**	**23.2170**	**0.0365**		**1.7305**	**1.7305**		**1.6549**	**1.6549**		**3,505.0110**	**3,505.0110**	**0.7299**		**3,523.2573**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.8833	22.8322	6.5302	0.0495	1.2456	0.1615	1.4071	0.3586	0.1545	0.5131		5,308.4047	5,308.4047	0.4474		5,319.5884
Worker	1.8873	1.3079	12.4267	0.0349	3.4913	0.0249	3.5162	0.9261	0.0229	0.9490		3,471.8834	3,471.8834	0.1120		3,474.6841
Total	**2.7707**	**24.1401**	**18.9569**	**0.0844**	**4.7369**	**0.1864**	**4.9233**	**1.2846**	**0.1774**	**1.4621**		**8,780.2881**	**8,780.2881**	**0.5594**		**8,794.2725**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e

Category	lb/day										lb/day					
Off-Road	0.6542	11.6393	23.6910	0.0365		0.6342	0.6342		0.6342	0.6342	0.0000	3,505.0110	3,505.0110	0.7299		3,523.2573
Total	**0.6542**	**11.6393**	**23.6910**	**0.0365**		**0.6342**	**0.6342**		**0.6342**	**0.6342**	**0.0000**	**3,505.0110**	**3,505.0110**	**0.7299**		**3,523.2573**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.8833	22.8322	6.5302	0.0495	1.2456	0.1615	1.4071	0.3586	0.1545	0.5131		5,308.4047	5,308.4047	0.4474		5,319.5884
Worker	1.8873	1.3079	12.4267	0.0349	3.4913	0.0249	3.5162	0.9261	0.0229	0.9490		3,471.8834	3,471.8834	0.1120		3,474.6841
Total	**2.7707**	**24.1401**	**18.9569**	**0.0844**	**4.7369**	**0.1864**	**4.9233**	**1.2846**	**0.1774**	**1.4621**		**8,780.2881**	**8,780.2881**	**0.5594**		**8,794.2725**

3.11 Cafe - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8968	9.7727	5.7899	0.0104		0.5213	0.5213		0.4796	0.4796		1,030.0729	1,030.0729	0.3259		1,038.2205
Total	**0.8968**	**9.7727**	**5.7899**	**0.0104**		**0.5213**	**0.5213**		**0.4796**	**0.4796**		**1,030.0729**	**1,030.0729**	**0.3259**		**1,038.2205**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.8833	22.8322	6.5302	0.0495	1.2456	0.1615	1.4071	0.3586	0.1545	0.5131		5,308.4047	5,308.4047	0.4474		5,319.5884
Worker	1.8873	1.3079	12.4267	0.0349	3.4913	0.0249	3.5162	0.9261	0.0229	0.9490		3,471.8834	3,471.8834	0.1120		3,474.6841
Total	**2.7707**	**24.1401**	**18.9569**	**0.0844**	**4.7369**	**0.1864**	**4.9233**	**1.2846**	**0.1774**	**1.4621**		**8,780.2881**	**8,780.2881**	**0.5594**		**8,794.2725**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1986	2.9873	6.5755	0.0104		0.1116	0.1116		0.1116	0.1116	0.0000	1,030.0729	1,030.0729	0.3259		1,038.2205
Total	**0.1986**	**2.9873**	**6.5755**	**0.0104**		**0.1116**	**0.1116**		**0.1116**	**0.1116**	**0.0000**	**1,030.0729**	**1,030.0729**	**0.3259**		**1,038.2205**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.8833	22.8322	6.5302	0.0495	1.2456	0.1615	1.4071	0.3586	0.1545	0.5131		5,308.4047	5,308.4047	0.4474		5,319.5884
Worker	1.8873	1.3079	12.4267	0.0349	3.4913	0.0249	3.5162	0.9261	0.0229	0.9490		3,471.8834	3,471.8834	0.1120		3,474.6841
Total	**2.7707**	**24.1401**	**18.9569**	**0.0844**	**4.7369**	**0.1864**	**4.9233**	**1.2846**	**0.1774**	**1.4621**		**8,780.2881**	**8,780.2881**	**0.5594**		**8,794.2725**

3.11 Cafe - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8069	8.7942	5.5753	0.0104		0.4521	0.4521		0.4159	0.4159		1,007.5890	1,007.5890	0.3259		1,015.7358
Total	**0.8069**	**8.7942**	**5.5753**	**0.0104**		**0.4521**	**0.4521**		**0.4159**	**0.4159**		**1,007.5890**	**1,007.5890**	**0.3259**		**1,015.7358**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.7201	20.7308	5.8660	0.0491	1.2456	0.1034	1.3490	0.3586	0.0989	0.4575		5,270.9048	5,270.9048	0.4241		5,281.5081
Worker	1.7663	1.1798	11.3580	0.0338	3.4913	0.0245	3.5158	0.9261	0.0226	0.9486		3,362.3108	3,362.3108	0.1012		3,364.8416
Total	**2.4864**	**21.9106**	**17.2240**	**0.0828**	**4.7369**	**0.1279**	**4.8648**	**1.2846**	**0.1215**	**1.4061**		**8,633.2156**	**8,633.2156**	**0.5254**		**8,646.3497**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1986	2.9873	6.5755	0.0104		0.1116	0.1116		0.1116	0.1116	0.0000	1,007.5890	1,007.5890	0.3259		1,015.7358
Total	**0.1986**	**2.9873**	**6.5755**	**0.0104**		**0.1116**	**0.1116**		**0.1116**	**0.1116**	**0.0000**	**1,007.5890**	**1,007.5890**	**0.3259**		**1,015.7358**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.7201	20.7308	5.8660	0.0491	1.2456	0.1034	1.3490	0.3586	0.0989	0.4575		5,270.9048	5,270.9048	0.4241		5,281.5081
Worker	1.7663	1.1798	11.3580	0.0338	3.4913	0.0245	3.5158	0.9261	0.0226	0.9486		3,362.3108	3,362.3108	0.1012		3,364.8416

Total	**2.4864**	**21.9106**	**17.2240**	**0.0828**	**4.7369**	**0.1279**	**4.8648**	**1.2846**	**0.1215**	**1.4061**		**8,633.2156**	**8,633.2156**	**0.5254**		**8,646.3497**

3.12 Architectural Coating 3 - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	6.7628					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.7105	4.8944	4.9102	7.9200e-003		0.3434	0.3434		0.3434	0.3434		750.5281	750.5281	0.0634		752.1129
Total	**7.4733**	**4.8944**	**4.9102**	**7.9200e-003**		**0.3434**	**0.3434**		**0.3434**	**0.3434**		**750.5281**	**750.5281**	**0.0634**		**752.1129**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3775	0.2616	2.4854	6.9700e-003	0.6983	4.9800e-003	0.7032	0.1852	4.5900e-003	0.1898		694.3767	694.3767	0.0224		694.9368
Total	**0.3775**	**0.2616**	**2.4854**	**6.9700e-003**	**0.6983**	**4.9800e-003**	**0.7032**	**0.1852**	**4.5900e-003**	**0.1898**		**694.3767**	**694.3767**	**0.0224**		**694.9368**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	6.7628					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1585	3.6186	4.8864	7.9200e-003		0.2536	0.2536		0.2536	0.2536	0.0000	750.5281	750.5281	0.0634		752.1129
Total	**6.9213**	**3.6186**	**4.8864**	**7.9200e-003**		**0.2536**	**0.2536**		**0.2536**	**0.2536**	**0.0000**	**750.5281**	**750.5281**	**0.0634**		**752.1129**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3775	0.2616	2.4854	6.9700e-003	0.6983	4.9800e-003	0.7032	0.1852	4.5900e-003	0.1898		694.3767	694.3767	0.0224		694.9368
Total	**0.3775**	**0.2616**	**2.4854**	**6.9700e-003**	**0.6983**	**4.9800e-003**	**0.7032**	**0.1852**	**4.5900e-003**	**0.1898**		**694.3767**	**694.3767**	**0.0224**		**694.9368**

3.12 Architectural Coating 3 - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Archit. Coating	6.7628					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.6458	4.4902	4.8838	7.9200e-003		0.2958	0.2958		0.2958	0.2958		750.5281	750.5281	0.0581		751.9809
Total	**7.4086**	**4.4902**	**4.8838**	**7.9200e-003**		**0.2958**	**0.2958**		**0.2958**	**0.2958**		**750.5281**	**750.5281**	**0.0581**		**751.9809**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3533	0.2360	2.2716	6.7500e-003	0.6983	4.9000e-003	0.7032	0.1852	4.5100e-003	0.1897		672.4622	672.4622	0.0203		672.9683
Total	**0.3533**	**0.2360**	**2.2716**	**6.7500e-003**	**0.6983**	**4.9000e-003**	**0.7032**	**0.1852**	**4.5100e-003**	**0.1897**		**672.4622**	**672.4622**	**0.0203**		**672.9683**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	6.7628					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1585	3.6186	4.8864	7.9200e-003		0.2536	0.2536		0.2536	0.2536	0.0000	750.5281	750.5281	0.0581		751.9809
Total	**6.9213**	**3.6186**	**4.8864**	**7.9200e-003**		**0.2536**	**0.2536**		**0.2536**	**0.2536**	**0.0000**	**750.5281**	**750.5281**	**0.0581**		**751.9809**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3533	0.2360	2.2716	6.7500e-003	0.6983	4.9000e-003	0.7032	0.1852	4.5100e-003	0.1897		672.4622	672.4622	0.0203		672.9683
Total	**0.3533**	**0.2360**	**2.2716**	**6.7500e-003**	**0.6983**	**4.9000e-003**	**0.7032**	**0.1852**	**4.5100e-003**	**0.1897**		**672.4622**	**672.4622**	**0.0203**		**672.9683**

3.13 Architectural Coating 1 - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	6.8162					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.7105	4.8944	4.9102	7.9200e-003		0.3434	0.3434		0.3434	0.3434		750.5281	750.5281	0.0634		752.1129
Total	**7.5267**	**4.8944**	**4.9102**	**7.9200e-003**		**0.3434**	**0.3434**		**0.3434**	**0.3434**		**750.5281**	**750.5281**	**0.0634**		**752.1129**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3775	0.2616	2.4854	6.9700e-003	0.6983	4.9800e-003	0.7032	0.1852	4.5900e-003	0.1898		694.3767	694.3767	0.0224		694.9368
Total	**0.3775**	**0.2616**	**2.4854**	**6.9700e-003**	**0.6983**	**4.9800e-003**	**0.7032**	**0.1852**	**4.5900e-003**	**0.1898**		**694.3767**	**694.3767**	**0.0224**		**694.9368**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	6.8162					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1585	3.6186	4.8864	7.9200e-003		0.2536	0.2536		0.2536	0.2536	0.0000	750.5281	750.5281	0.0634		752.1129
Total	**6.9747**	**3.6186**	**4.8864**	**7.9200e-003**		**0.2536**	**0.2536**		**0.2536**	**0.2536**	**0.0000**	**750.5281**	**750.5281**	**0.0634**		**752.1129**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3775	0.2616	2.4854	6.9700e-003	0.6983	4.9800e-003	0.7032	0.1852	4.5900e-003	0.1898		694.3767	694.3767	0.0224		694.9368
Total	**0.3775**	**0.2616**	**2.4854**	**6.9700e-003**	**0.6983**	**4.9800e-003**	**0.7032**	**0.1852**	**4.5900e-003**	**0.1898**		**694.3767**	**694.3767**	**0.0224**		**694.9368**

3.13 Architectural Coating 1 - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	6.8162					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.6458	4.4902	4.8838	7.9200e-003		0.2958	0.2958		0.2958	0.2958		750.5281	750.5281	0.0581		751.9809
Total	**7.4620**	**4.4902**	**4.8838**	**7.9200e-003**		**0.2958**	**0.2958**		**0.2958**	**0.2958**		**750.5281**	**750.5281**	**0.0581**		**751.9809**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3533	0.2360	2.2716	6.7500e-003	0.6983	4.9000e-003	0.7032	0.1852	4.5100e-003	0.1897		672.4622	672.4622	0.0203		672.9683
Total	**0.3533**	**0.2360**	**2.2716**	**6.7500e-003**	**0.6983**	**4.9000e-003**	**0.7032**	**0.1852**	**4.5100e-003**	**0.1897**		**672.4622**	**672.4622**	**0.0203**		**672.9683**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	6.8162					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1585	3.6186	4.8864	7.9200e-003		0.2536	0.2536		0.2536	0.2536	0.0000	750.5281	750.5281	0.0581		751.9809
Total	**6.9747**	**3.6186**	**4.8864**	**7.9200e-003**		**0.2536**	**0.2536**		**0.2536**	**0.2536**	**0.0000**	**750.5281**	**750.5281**	**0.0581**		**751.9809**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3533	0.2360	2.2716	6.7500e-003	0.6983	4.9000e-003	0.7032	0.1852	4.5100e-003	0.1897		672.4622	672.4622	0.0203		672.9683
Total	**0.3533**	**0.2360**	**2.2716**	**6.7500e-003**	**0.6983**	**4.9000e-003**	**0.7032**	**0.1852**	**4.5100e-003**	**0.1897**		**672.4622**	**672.4622**	**0.0203**		**672.9683**

3.14 Landscape - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.4190	4.2103	4.5594	6.2100e-003		0.2662	0.2662		0.2449	0.2449		601.5370	601.5370	0.1946		606.4008
Total	**0.4190**	**4.2103**	**4.5594**	**6.2100e-003**	**0.0000**	**0.2662**	**0.2662**	**0.0000**	**0.2449**	**0.2449**		**601.5370**	**601.5370**	**0.1946**		**606.4008**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0208	0.0139	0.1336	4.0000e-004	0.0411	2.9000e-004	0.0414	0.0109	2.7000e-004	0.0112		39.5566	39.5566	1.1900e-003		39.5864
Total	**0.0208**	**0.0139**	**0.1336**	**4.0000e-004**	**0.0411**	**2.9000e-004**	**0.0414**	**0.0109**	**2.7000e-004**	**0.0112**		**39.5566**	**39.5566**	**1.1900e-003**		**39.5864**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000

Off-Road	0.0760	0.3292	4.6841	6.2100e-003		0.0101	0.0101		0.0101	0.0101	0.0000	601.5370	601.5370	0.1946		606.4008
Total	**0.0760**	**0.3292**	**4.6841**	**6.2100e-003**	**0.0000**	**0.0101**	**0.0101**	**0.0000**	**0.0101**	**0.0101**	**0.0000**	**601.5370**	**601.5370**	**0.1946**		**606.4008**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0208	0.0139	0.1336	4.0000e-004	0.0411	2.9000e-004	0.0414	0.0109	2.7000e-004	0.0112		39.5566	39.5566	1.1900e-003		39.5864
Total	**0.0208**	**0.0139**	**0.1336**	**4.0000e-004**	**0.0411**	**2.9000e-004**	**0.0414**	**0.0109**	**2.7000e-004**	**0.0112**		**39.5566**	**39.5566**	**1.1900e-003**		**39.5864**

3.15 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.2319	18.8838	20.6329	0.0334		1.0791	1.0791		1.0401	1.0401		3,200.6568	3,200.6568	0.6659		3,217.3044
Paving	0.0823					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.3141**	**18.8838**	**20.6329**	**0.0334**		**1.0791**	**1.0791**		**1.0401**	**1.0401**		**3,200.6568**	**3,200.6568**	**0.6659**		**3,217.3044**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0831	0.0555	0.5345	1.5900e-003	0.1643	1.1500e-003	0.1655	0.0436	1.0600e-003	0.0446		158.2264	158.2264	4.7600e-003		158.3455
Total	**0.0831**	**0.0555**	**0.5345**	**1.5900e-003**	**0.1643**	**1.1500e-003**	**0.1655**	**0.0436**	**1.0600e-003**	**0.0446**		**158.2264**	**158.2264**	**4.7600e-003**		**158.3455**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7492	15.5943	23.1009	0.0334		0.9106	0.9106		0.9106	0.9106	0.0000	3,200.6568	3,200.6568	0.6659		3,217.3044
Paving	0.0823					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.8315**	**15.5943**	**23.1009**	**0.0334**		**0.9106**	**0.9106**		**0.9106**	**0.9106**	**0.0000**	**3,200.6568**	**3,200.6568**	**0.6659**		**3,217.3044**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e

Category	lb/day											lb/day				
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0831	0.0555	0.5345	1.5900e-003	0.1643	1.1500e-003	0.1655	0.0436	1.0600e-003	0.0446		158.2264	158.2264	4.7600e-003		158.3455
Total	**0.0831**	**0.0555**	**0.5345**	**1.5900e-003**	**0.1643**	**1.1500e-003**	**0.1655**	**0.0436**	**1.0600e-003**	**0.0446**		**158.2264**	**158.2264**	**4.7600e-003**		**158.3455**

Torrey Highlands

San Diego County, Mitigation Report

Construction Mitigation Summary

Phase	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Architectural Coating 1	0.07	0.23	0.00	0.00	0.23	0.23	0.00	0.00	0.00	0.00	0.00	0.00
Architectural Coating 2	0.14	0.23	0.00	0.00	0.23	0.23	0.00	0.00	0.00	0.00	0.00	0.00
Architectural Coating 3	0.07	0.22	0.00	0.00	0.21	0.21	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction 1	0.45	0.23	-0.01	0.00	0.79	0.78	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction 2	0.46	0.23	-0.01	0.00	0.79	0.78	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction 3	0.50	0.33	-0.01	0.00	0.84	0.83	0.00	0.00	0.00	0.00	0.00	0.00
Cafe	0.20	0.20	-0.03	0.00	0.58	0.56	0.00	0.00	0.00	0.00	0.00	0.00
Grading	0.53	0.27	0.03	0.00	0.60	0.57	0.00	0.00	0.00	0.00	0.00	0.00
Landscape	0.78	0.92	-0.03	0.00	0.96	0.96	0.00	0.00	0.00	0.00	0.00	0.00
Parking Structure	0.46	0.30	-0.01	0.00	0.57	0.56	0.00	0.00	0.00	0.00	0.00	0.00
Paving	0.62	0.17	-0.12	0.00	0.16	0.12	0.00	0.00	0.00	0.00	0.00	0.00
Site Preparation	0.76	0.62	0.01	0.00	0.74	0.72	0.00	0.00	0.00	0.00	0.00	0.00
Sitework	0.75	0.24	0.00	0.00	0.23	0.23	0.00	0.00	0.00	0.00	0.00	0.00
Utilities	0.72	0.66	-0.05	0.00	0.83	0.82	0.00	0.00	0.00	0.00	0.00	0.00

OFFROAD Equipment Mitigation

Equipment Type	Fuel Type	Tier	Number Mitigated	Total Number of Equipment	DPF	Oxidation Catalyst
Aerial Lifts	Diesel	Tier 4 Final	21	21	No Change	0.00
Air Compressors	Diesel	Tier 3	16	16	No Change	0.00
Cranes	Diesel	Tier 3	5	5	No Change	0.00
Excavators	Diesel	Tier 3	1	1	No Change	0.00
Forklifts	Diesel	Tier 4 Final	9	9	No Change	0.00
Generator Sets	Diesel	No Change	0	0	No Change	0.00
Graders	Diesel	No Change	0	0	No Change	0.00
Pavers	Diesel	Tier 3	2	2	No Change	0.00
Paving Equipment	Diesel	Tier 3	2	2	No Change	0.00
Rollers	Diesel	No Change	0	0	No Change	0.00
Rubber Tired Dozers	Diesel	Tier 3	4	4	No Change	0.00
Scrapers	Diesel	Tier 3	6	6	No Change	0.00
Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	28	28	No Change	0.00
Welders	Diesel	Tier 4 Final	16	16	No Change	0.00

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	Unmitigated tons/yr						Unmitigated mt/yr					
Aerial Lifts	1.54650E-001	2.57803E+000	4.15371E+000	6.39000E-003	6.33500E-002	5.82800E-002	0.00000E+000	5.72262E+002	5.72262E+002	1.81360E-001	0.00000E+000	5.76796E+002
Air Compressors	3.86910E-001	2.67391E+000	2.76141E+000	4.47000E-003	1.83600E-001	1.83600E-001	0.00000E+000	3.83669E+002	3.83669E+002	3.14100E-002	0.00000E+000	3.84454E+002
Cranes	3.22730E-001	3.84621E+000	1.46878E+000	3.70000E-003	1.62790E-001	1.49770E-001	0.00000E+000	3.32090E+002	3.32090E+002	1.05260E-001	0.00000E+000	3.34721E+002
Excavators	7.81000E-003	8.35900E-002	8.84400E-002	1.40000E-004	4.05000E-003	3.73000E-003	0.00000E+000	1.27267E+001	1.27267E+001	3.96000E-003	0.00000E+000	1.28258E+001
Forklifts	1.90670E-001	1.70274E+000	1.42837E+000	1.83000E-003	1.31650E-001	1.21110E-001	0.00000E+000	1.63970E+002	1.63970E+002	5.19700E-002	0.00000E+000	1.65269E+002
Generator Sets	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Graders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000

Pavers	1.15600E-002	1.23650E-001	1.27520E-001	2.10000E-004	6.01000E-003	5.53000E-003	0.00000E+000	1.81727E+001	1.81727E+001	5.88000E-003	0.00000E+000	1.83196E+001
Paving Equipment	9.13000E-003	9.42200E-002	1.11510E-001	1.80000E-004	4.71000E-003	4.34000E-003	0.00000E+000	1.57480E+001	1.57480E+001	5.09000E-003	0.00000E+000	1.58754E+001
Rollers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Rubber Tired Dozers	2.56500E-002	2.76320E-001	9.62800E-002	1.90000E-004	1.34300E-002	1.23600E-002	0.00000E+000	1.71674E+001	1.71674E+001	5.34000E-003	0.00000E+000	1.73010E+001
Scrapers	5.16100E-002	6.38620E-001	3.95400E-001	6.80000E-004	2.51700E-002	2.31500E-002	0.00000E+000	6.22473E+001	6.22473E+001	1.93800E-002	0.00000E+000	6.27318E+001
Tractors/Loaders/Backhoes	5.15280E-001	5.16052E+000	5.09837E+000	6.88000E-003	3.44510E-001	3.16950E-001	0.00000E+000	6.16345E+002	6.16345E+002	1.95440E-001	0.00000E+000	6.21231E+002
Welders	1.04892E+000	4.42331E+000	4.92582E+000	6.97000E-003	2.70460E-001	2.70460E-001	0.00000E+000	5.13184E+002	5.13184E+002	8.56400E-002	0.00000E+000	5.15324E+002

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	Mitigated tons/yr						Mitigated mt/yr					
Aerial Lifts	1.57110E-001	3.58736E+000	4.84424E+000	6.39000E-003	1.04700E-002	1.04700E-002	0.00000E+000	5.72261E+002	5.72261E+002	1.81360E-001	0.00000E+000	5.76795E+002
Air Compressors	8.93000E-002	2.03908E+000	2.75350E+000	4.47000E-003	1.42880E-001	1.42880E-001	0.00000E+000	3.83668E+002	3.83668E+002	3.14100E-002	0.00000E+000	3.84454E+002
Cranes	9.10200E-002	1.75977E+000	1.97216E+000	3.70000E-003	6.67500E-002	6.67500E-002	0.00000E+000	3.32090E+002	3.32090E+002	1.05260E-001	0.00000E+000	3.34721E+002
Excavators	3.43000E-003	6.63300E-002	1.05790E-001	1.40000E-004	3.20000E-003	3.20000E-003	0.00000E+000	1.27267E+001	1.27267E+001	3.96000E-003	0.00000E+000	1.28257E+001
Forklifts	2.25400E-002	9.76600E-002	1.38982E+000	1.83000E-003	3.01000E-003	3.01000E-003	0.00000E+000	1.63970E+002	1.63970E+002	5.19700E-002	0.00000E+000	1.65269E+002
Generator Sets	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Graders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Pavers	5.08000E-003	9.83000E-002	1.56770E-001	2.10000E-004	4.75000E-003	4.75000E-003	0.00000E+000	1.81727E+001	1.81727E+001	5.88000E-003	0.00000E+000	1.83196E+001
Paving Equipment	4.43000E-003	8.55500E-002	1.36440E-001	1.80000E-004	4.13000E-003	4.13000E-003	0.00000E+000	1.57480E+001	1.57480E+001	5.09000E-003	0.00000E+000	1.58754E+001
Rollers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Rubber Tired Dozers	4.60000E-003	8.89400E-002	9.96700E-002	1.90000E-004	3.37000E-003	3.37000E-003	0.00000E+000	1.71674E+001	1.71674E+001	5.34000E-003	0.00000E+000	1.73010E+001
Scrapers	1.67800E-002	3.24360E-001	3.63510E-001	6.80000E-004	1.23000E-002	1.23000E-002	0.00000E+000	6.22473E+001	6.22473E+001	1.93800E-002	0.00000E+000	6.27317E+001
Tractors/Loaders/Backhoes	8.40900E-002	3.64370E-001	5.18533E+000	6.88000E-003	1.12100E-002	1.12100E-002	0.00000E+000	6.16344E+002	6.16344E+002	1.95440E-001	0.00000E+000	6.21230E+002
Welders	1.19450E-001	2.73736E+000	4.08116E+000	6.97000E-003	7.96000E-003	7.96000E-003	0.00000E+000	5.13183E+002	5.13183E+002	8.56300E-002	0.00000E+000	5.15324E+002

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Percent Reduction												
Aerial Lifts	-1.59069E-002	-3.91512E-001	-1.66244E-001	0.00000E+000	8.34728E-001	8.20350E-001	0.00000E+000	1.18827E-006	1.18827E-006	0.00000E+000	0.00000E+000	1.17893E-006
Air Compressors	7.69197E-001	2.37416E-001	2.86448E-003	0.00000E+000	2.21786E-001	2.21786E-001	0.00000E+000	1.19895E-006	1.19895E-006	0.00000E+000	0.00000E+000	1.19650E-006
Cranes	7.17969E-001	5.42466E-001	-3.42720E-001	0.00000E+000	5.89963E-001	5.54317E-001	0.00000E+000	1.17438E-006	1.17438E-006	0.00000E+000	0.00000E+000	1.19502E-006
Excavators	5.60819E-001	2.06484E-001	-1.96178E-001	0.00000E+000	2.09877E-001	1.42091E-001	0.00000E+000	1.57150E-006	1.57150E-006	0.00000E+000	0.00000E+000	1.55936E-006
Forklifts	8.81785E-001	9.42645E-001	2.69888E-002	0.00000E+000	9.77136E-001	9.75147E-001	0.00000E+000	1.15875E-006	1.15875E-006	0.00000E+000	0.00000E+000	1.21015E-006
Generator Sets	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Graders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Pavers	5.60554E-001	2.05014E-001	-2.29376E-001	0.00000E+000	2.09651E-001	1.41049E-001	0.00000E+000	1.10055E-006	1.10055E-006	0.00000E+000	0.00000E+000	1.63759E-006
Paving Equipment	5.14786E-001	9.20187E-002	-2.23567E-001	0.00000E+000	1.23142E-001	4.83871E-002	0.00000E+000	1.27000E-006	1.27000E-006	0.00000E+000	0.00000E+000	1.25981E-006
Rollers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Rubber Tired Dozers	8.20663E-001	6.78127E-001	-3.52098E-002	0.00000E+000	7.49069E-001	7.27346E-001	0.00000E+000	1.16500E-006	1.16500E-006	0.00000E+000	0.00000E+000	1.15600E-006
Scrapers	6.74869E-001	4.92092E-001	8.06525E-002	0.00000E+000	5.11323E-001	4.68683E-001	0.00000E+000	1.12455E-006	1.12455E-006	0.00000E+000	0.00000E+000	1.11586E-006
Tractors/Loaders/Backhoes	8.36807E-001	9.29393E-001	-1.70564E-002	0.00000E+000	9.67461E-001	9.64632E-001	0.00000E+000	1.18440E-006	1.18440E-006	0.00000E+000	0.00000E+000	1.19118E-006
Welders	8.86121E-001	3.81151E-001	1.71476E-001	0.00000E+000	9.70569E-001	9.70569E-001	0.00000E+000	1.18866E-006	1.18866E-006	1.16768E-004	0.00000E+000	1.18372E-006

Fugitive Dust Mitigation

Yes/No	Mitigation Measure	Mitigation Input		Mitigation Input		Mitigation Input	
No	Soil Stabilizer for unpaved Roads	PM10 Reduction	0.00	PM2.5 Reduction	0.00		
No	Replace Ground Cover of Area Disturbed	PM10 Reduction	0.00	PM2.5 Reduction	0.00		
Yes	Water Exposed Area	PM10 Reduction	61.00	PM2.5 Reduction	61.00	Frequency (per day)	3.00
No	Unpaved Road Mitigation	Moisture Content %	0.00	Vehicle Speed (mph)	0.00		
No	Clean Paved Road	% PM Reduction	0.00				

		Unmitigated		Mitigated		Percent Reduction	
Phase	Source	PM10	PM2.5	PM10	PM2.5	PM10	PM2.5
Architectural Coating 1	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Architectural Coating 1	Roads	0.05	0.01	0.05	0.01	0.00	0.00
Architectural Coating 2	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Architectural Coating 2	Roads	0.08	0.02	0.08	0.02	0.00	0.00
Architectural Coating 3	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Architectural Coating 3	Roads	0.07	0.02	0.07	0.02	0.00	0.00
Building Construction 1	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction 1	Roads	0.96	0.26	0.96	0.26	0.00	0.00
Building Construction 2	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction 2	Roads	0.70	0.19	0.70	0.19	0.00	0.00
Building Construction 3	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction 3	Roads	0.86	0.23	0.86	0.23	0.00	0.00
Cafe	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Cafe	Roads	0.41	0.11	0.41	0.11	0.00	0.00
Grading	Fugitive Dust	0.11	0.06	0.04	0.02	0.61	0.61
Grading	Roads	0.06	0.02	0.06	0.02	0.00	0.00
Landscape	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Landscape	Roads	0.00	0.00	0.00	0.00	0.00	0.00
Parking Structure	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Parking Structure	Roads	0.05	0.01	0.05	0.01	0.00	0.00
Paving	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Paving	Roads	0.00	0.00	0.00	0.00	0.00	0.00
Site Preparation	Fugitive Dust	0.03	0.02	0.01	0.01	0.61	0.61
Site Preparation	Roads	0.00	0.00	0.00	0.00	0.00	0.00

Sitework	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Sitework	Roads	0.01	0.00	0.01	0.00	0.00	0.00
Utilities	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Utilities	Roads	0.01	0.00	0.01	0.00	0.00	0.00

Operational Percent Reduction Summary

Category	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Architectural Coating	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Electricity	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Natural Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Indoor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Outdoor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Operational Mobile Mitigation

Project Setting:

Mitigation Selected	Category	Measure	% Reduction	Input Value 1	Input Value 2	Input Value 3
No	Land Use	Increase Density	0.00			
No	Land Use	Increase Diversity	0.11	0.33		
No	Land Use	Improve Walkability Design	0.00			
No	Land Use	Improve Destination Accessibility	0.00			

No	Land Use	Increase Transit Accessibility	0.25			
No	Land Use	Integrate Below Market Rate Housing	0.00			
	Land Use	Land Use SubTotal	0.00			
No	Neighborhood Enhancements	Improve Pedestrian Network				
No	Neighborhood Enhancements	Provide Traffic Calming Measures				
No	Neighborhood Enhancements	Implement NEV Network	0.00			
	Neighborhood Enhancements	Neighborhood Enhancements Subtotal	0.00			
No	Parking Policy Pricing	Limit Parking Supply	0.00			
No	Parking Policy Pricing	Unbundle Parking Costs	0.00			
No	Parking Policy Pricing	On-street Market Pricing	0.00			
	Parking Policy Pricing	Parking Policy Pricing Subtotal	0.00			
No	Transit Improvements	Provide BRT System	0.00			
No	Transit Improvements	Expand Transit Network	0.00			
No	Transit Improvements	Increase Transit Frequency	0.00			
	Transit Improvements	Transit Improvements Subtotal	0.00			
		Land Use and Site Enhancement Subtotal	0.00			
No	Commute	Implement Trip Reduction Program				
No	Commute	Transit Subsidy				
No	Commute	Implement Employee Parking "Cash Out"				
No	Commute	Workplace Parking Charge				
No	Commute	Encourage Telecommuting and Alternative Work Schedules	0.00			
No	Commute	Market Commute Trip Reduction Option	0.00			
No	Commute	Employee Vanpool/Shuttle	0.00		2.00	

No	Commute	Provide Ride Sharing Program				
	Commute	Commute Subtotal	0.00			
No	School Trip	Implement School Bus Program	0.00			
		Total VMT Reduction	0.00			

Area Mitigation

Measure Implemented	Mitigation Measure	Input Value
No	Only Natural Gas Hearth	
No	No Hearth	
No	Use Low VOC Cleaning Supplies	
No	Use Low VOC Paint (Residential Interior)	250.00
No	Use Low VOC Paint (Residential Exterior)	250.00
No	Use Low VOC Paint (Non-residential Interior)	250.00
No	Use Low VOC Paint (Non-residential Exterior)	250.00
No	Use Low VOC Paint (Parking)	0.00
No	% Electric Lawnmower	
No	% Electric Leafblower	
No	% Electric Chainsaw	

Energy Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
No	Exceed Title 24		
No	Install High Efficiency Lighting		
No	On-site Renewable		

Appliance Type	Land Use Subtype	% Improvement

ClothWasher		30.00
DishWasher		15.00
Fan		50.00
Refrigerator		15.00

Water Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
No	Apply Water Conservation on Strategy		
No	Use Reclaimed Water		
No	Use Grey Water		
No	Install low-flow bathroom faucet	32.00	
No	Install low-flow Kitchen faucet	18.00	
No	Install low-flow Toilet	20.00	
No	Install low-flow Shower	20.00	
No	Turf Reduction		
No	Use Water Efficient Irrigation Systems	6.10	
No	Water Efficient Landscape		

Solid Waste Mitigation

Mitigation Measures	Input Value
Institute Recycling and Composting Services	
Percent Reduction in Waste Disposed	

Torrey Highlands

San Diego County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	454.15	1000sqft	10.43	454,148.00	0
Enclosed Parking with Elevator	1,860.00	Space	13.94	607,152.00	0
Other Asphalt Surfaces	0.62	Acre	0.62	27,007.20	0
Parking Lot	71.00	Space	0.73	31,950.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2020
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	536.36	**CH4 Intensity (lb/MWhr)**	0.022	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - intensity factors per 36.4% RPS

Land Use - modified per project specifics

Construction Phase - construction schedule per applicant

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Trips and VMT - modified

Grading - modified

Architectural Coating - Arch coating based on CalEEMod calc methodolgy

Vehicle Trips - modified

Vehicle Emission Factors - factors per ACC program

Vehicle Emission Factors -

Vehicle Emission Factors -

Area Coating - VOC content per SDAPCD Rule 67.0.1

Energy Use - modified

Water And Wastewater - default water values retained, more conservative than project-specific water use

Construction Off-road Equipment Mitigation - Tier 2 equipment

Area Mitigation - VOC content per SDAPCD Rule 67.0.1

Energy Mitigation - 2013 T24 standards

Water Mitigation - 25% reduction in water use per LEED Silver and EO B-29-15

Waste Mitigation - diversion per AB 341

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	227,074.00	90,000.00
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	227,074.00	60,000.00
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	227,074.00	122,029.00

tblArchitecturalCoating	ConstArea_Nonresidential_Interior	681,222.00	270,000.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	681,222.00	180,000.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	681,222.00	360,000.00
tblArchitecturalCoating	ConstArea_Parking	39,967.00	0.00
tblArchitecturalCoating	ConstArea_Parking	39,967.00	0.00
tblArchitecturalCoating	ConstArea_Parking	39,967.00	0.00
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	100.00
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	100.00
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	100.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	50.00
tblArchitecturalCoating	EF_Parking	250.00	0.00
tblArchitecturalCoating	EF_Parking	250.00	0.00
tblArchitecturalCoating	EF_Parking	250.00	0.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	100.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	100.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	100.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	50.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	50.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	50.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	100
tblAreaCoating	Area_EF_Parking	250	0
tblAreaCoating	Area_Nonresidential_Exterior	227074	544633
tblAreaCoating	Area_Nonresidential_Interior	681222	810000
tblAreaCoating	Area_Parking	39967	0
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	21.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	16.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
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tblConstEquipMitigation	Tier	No Change	Tier 2
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tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
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tblConstructionPhase	NumDays	440.00	412.00
tblConstructionPhase	NumDays	440.00	303.00
tblConstructionPhase	NumDays	440.00	369.00
tblConstructionPhase	NumDays	440.00	23.00
tblConstructionPhase	NumDays	45.00	17.00
tblConstructionPhase	NumDays	35.00	43.00
tblConstructionPhase	NumDays	20.00	6.00
tblConstructionPhase	NumDays	20.00	55.00

tblConstructionPhase	NumDays	20.00	390.00
tblConstructionPhase	NumDays	20.00	107.00
tblGrading	AcresOfGrading	85.00	11.00
tblGrading	AcresOfGrading	6.00	11.00
tblGrading	MaterialExported	0.00	49,000.00
tblLandUse	LandUseSquareFeet	454,150.00	454,148.00
tblLandUse	LandUseSquareFeet	744,000.00	607,152.00
tblLandUse	LandUseSquareFeet	28,400.00	31,950.00
tblLandUse	LotAcreage	16.74	13.94
tblLandUse	LotAcreage	0.64	0.73
tblOffRoadEquipment	HorsePower	231.00	226.00
tblOffRoadEquipment	HorsePower	231.00	226.00
tblOffRoadEquipment	HorsePower	231.00	226.00
tblOffRoadEquipment	HorsePower	231.00	226.00
tblOffRoadEquipment	HorsePower	231.00	226.00
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tblOffRoadEquipment	HorsePower	132.00	130.00
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tblOffRoadEquipment	HorsePower	247.00	255.00
tblOffRoadEquipment	HorsePower	247.00	255.00
tblOffRoadEquipment	HorsePower	247.00	255.00
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tblOffRoadEquipment	HorsePower	63.00	62.00
tblOffRoadEquipment	HorsePower	63.00	62.00
tblOffRoadEquipment	HorsePower	158.00	162.00
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tblOffRoadEquipment	HorsePower	367.00	361.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	3.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	5.00
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tblOffRoadEquipment	UsageHours	7.00	8.00
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tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.022
tblProjectCharacteristics	CO2IntensityFactor	720.49	536.36
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblTripsAndVMT	HaulingTripNumber	0.00	24.00
tblTripsAndVMT	HaulingTripNumber	0.00	110.00
tblTripsAndVMT	HaulingTripNumber	6,125.00	6,468.00
tblTripsAndVMT	VendorTripLength	7.30	25.00
tblTripsAndVMT	VendorTripLength	7.30	25.00
tblTripsAndVMT	VendorTripLength	7.30	25.00
tblTripsAndVMT	VendorTripLength	7.30	25.00
tblTripsAndVMT	VendorTripLength	7.30	25.00

tblTripsAndVMT	VendorTripLength	7.30	25.00
tblTripsAndVMT	VendorTripLength	7.30	25.00
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tblTripsAndVMT	VendorTripNumber	0.00	16.00
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tblTripsAndVMT	WorkerTripLength	10.80	25.00
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tblTripsAndVMT	WorkerTripNumber	15.00	20.00
tblTripsAndVMT	WorkerTripNumber	13.00	24.00
tblTripsAndVMT	WorkerTripNumber	30.00	20.00
tblVehicleTrips	ST_TR	2.46	2.37

tblVehicleTrips	SU_TR	1.05	0.98
tblVehicleTrips	WD_TR	11.03	11.59

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	13.2409	2.2600e-003	0.2452	2.0000e-005		8.8000e-004	8.8000e-004		8.8000e-004	8.8000e-004		0.5221	0.5221	1.4000e-003		0.5571
Energy	0.2709	2.4629	2.0688	0.0148		0.1872	0.1872		0.1872	0.1872		2,955.4386	2,955.4386	0.0567	0.0542	2,973.0013
Mobile	9.3689	37.2880	102.4286	0.3307	26.6741	0.3197	26.9939	7.1297	0.3000	7.4297		33,551.1533	33,551.1533	1.8024		33,596.2134
Total	**22.8807**	**39.7531**	**104.7425**	**0.3455**	**26.6741**	**0.5078**	**27.1819**	**7.1297**	**0.4881**	**7.6178**		**36,507.1140**	**36,507.1140**	**1.8605**	**0.0542**	**36,569.7718**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	13.2409	2.2600e-003	0.2452	2.0000e-005		8.8000e-004	8.8000e-004		8.8000e-004	8.8000e-004		0.5221	0.5221	1.4000e-003		0.5571
Energy	0.2709	2.4629	2.0688	0.0148		0.1872	0.1872		0.1872	0.1872		2,955.4386	2,955.4386	0.0567	0.0542	2,973.0013
Mobile	9.3689	37.2880	102.4286	0.3307	26.6741	0.3197	26.9939	7.1297	0.3000	7.4297		33,551.1533	33,551.1533	1.8024		33,596.2134

Total	**22.8807**	**39.7531**	**104.7425**	**0.3455**	**26.6741**	**0.5078**	**27.1819**	**7.1297**	**0.4881**	**7.6178**		**36,507.1140**	**36,507.1140**	**1.8605**	**0.0542**	**36,569.7718**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	9.3689	37.2880	102.4286	0.3307	26.6741	0.3197	26.9939	7.1297	0.3000	7.4297		33,551.1533	33,551.1533	1.8024		33,596.2134
Unmitigated	9.3689	37.2880	102.4286	0.3307	26.6741	0.3197	26.9939	7.1297	0.3000	7.4297		33,551.1533	33,551.1533	1.8024		33,596.2134

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
General Office Building	5,263.60	1,076.34	445.07	9,504,182	9,504,182
Other Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	5,263.60	1,076.34	445.07	9,504,182	9,504,182

4.3 Trip Type Information

	Miles	Trip %	Trip Purpose %

Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-NW	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking with Elevator	0.588316	0.042913	0.184449	0.110793	0.017294	0.005558	0.015534	0.023021	0.001902	0.002024	0.006181	0.000745	0.001271
General Office Building	0.588316	0.042913	0.184449	0.110793	0.017294	0.005558	0.015534	0.023021	0.001902	0.002024	0.006181	0.000745	0.001271
Other Asphalt Surfaces	0.588316	0.042913	0.184449	0.110793	0.017294	0.005558	0.015534	0.023021	0.001902	0.002024	0.006181	0.000745	0.001271
Parking Lot	0.588316	0.042913	0.184449	0.110793	0.017294	0.005558	0.015534	0.023021	0.001902	0.002024	0.006181	0.000745	0.001271

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.2709	2.4629	2.0688	0.0148		0.1872	0.1872		0.1872	0.1872		2,955.4386	2,955.4386	0.0567	0.0542	2,973.0013
NaturalGas Unmitigated	0.2709	2.4629	2.0688	0.0148		0.1872	0.1872		0.1872	0.1872		2,955.4386	2,955.4386	0.0567	0.0542	2,973.0013

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	25121.2	0.2709	2.4629	2.0688	0.0148		0.1872	0.1872		0.1872	0.1872		2,955.4386	2,955.4386	0.0567	0.0542	2,973.0013
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.2709**	**2.4629**	**2.0688**	**0.0148**		**0.1872**	**0.1872**		**0.1872**	**0.1872**		**2,955.4386**	**2,955.4386**	**0.0567**	**0.0542**	**2,973.0013**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	25.1212	0.2709	2.4629	2.0688	0.0148		0.1872	0.1872		0.1872	0.1872		2,955.4386	2,955.4386	0.0567	0.0542	2,973.0013
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.2709**	**2.4629**	**2.0688**	**0.0148**		**0.1872**	**0.1872**		**0.1872**	**0.1872**		**2,955.4386**	**2,955.4386**	**0.0567**	**0.0542**	**2,973.0013**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	13.2409	2.2600e-003	0.2452	2.0000e-005		8.8000e-004	8.8000e-004		8.8000e-004	8.8000e-004		0.5221	0.5221	1.4000e-003		0.5571
Unmitigated	13.2409	2.2600e-003	0.2452	2.0000e-005		8.8000e-004	8.8000e-004		8.8000e-004	8.8000e-004		0.5221	0.5221	1.4000e-003		0.5571

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	3.2631					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	9.9547					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0231	2.2600e-003	0.2452	2.0000e-005		8.8000e-004	8.8000e-004		8.8000e-004	8.8000e-004		0.5221	0.5221	1.4000e-003		0.5571
Total	**13.2408**	**2.2600e-003**	**0.2452**	**2.0000e-005**		**8.8000e-004**	**8.8000e-004**		**8.8000e-004**	**8.8000e-004**		**0.5221**	**0.5221**	**1.4000e-003**		**0.5571**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	3.2631					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	9.9547					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0231	2.2600e-003	0.2452	2.0000e-005		8.8000e-004	8.8000e-004		8.8000e-004	8.8000e-004		0.5221	0.5221	1.4000e-003		0.5571
Total	**13.2408**	**2.2600e-003**	**0.2452**	**2.0000e-005**		**8.8000e-004**	**8.8000e-004**		**8.8000e-004**	**8.8000e-004**		**0.5221**	**0.5221**	**1.4000e-003**		**0.5571**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Torrey Highlands

San Diego County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	454.15	1000sqft	10.43	454,148.00	0
Enclosed Parking with Elevator	1,860.00	Space	13.94	607,152.00	0
Other Asphalt Surfaces	0.62	Acre	0.62	27,007.20	0
Parking Lot	71.00	Space	0.73	31,950.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2020
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	536.36	**CH4 Intensity (lb/MWhr)**	0.022	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - intensity factors per 36.4% RPS

Land Use - modified per project specifics

Construction Phase - construction schedule per applicant

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Trips and VMT - modified

Grading - modified

Architectural Coating - Arch coating based on CalEEMod calc methodolgy

Vehicle Trips - modified

Vehicle Emission Factors - factors per ACC program

Vehicle Emission Factors -

Vehicle Emission Factors -

Area Coating - VOC content per SDAPCD Rule 67.0.1

Energy Use - modified

Water And Wastewater - default water values retained, more conservative than project-specific water use

Construction Off-road Equipment Mitigation - Tier 2 equipment

Area Mitigation - VOC content per SDAPCD Rule 67.0.1

Energy Mitigation - 2013 T24 standards

Water Mitigation - 25% reduction in water use per LEED Silver and EO B-29-15

Waste Mitigation - diversion per AB 341

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	227,074.00	90,000.00
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	227,074.00	60,000.00
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	227,074.00	122,029.00

tblArchitecturalCoating	ConstArea_Nonresidential_Interior	681,222.00	270,000.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	681,222.00	180,000.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	681,222.00	360,000.00
tblArchitecturalCoating	ConstArea_Parking	39,967.00	0.00
tblArchitecturalCoating	ConstArea_Parking	39,967.00	0.00
tblArchitecturalCoating	ConstArea_Parking	39,967.00	0.00
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	100.00
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	100.00
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	100.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	50.00
tblArchitecturalCoating	EF_Parking	250.00	0.00
tblArchitecturalCoating	EF_Parking	250.00	0.00
tblArchitecturalCoating	EF_Parking	250.00	0.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	100.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	100.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	100.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	50.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	50.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	50.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	100
tblAreaCoating	Area_EF_Parking	250	0
tblAreaCoating	Area_Nonresidential_Exterior	227074	544633
tblAreaCoating	Area_Nonresidential_Interior	681222	810000
tblAreaCoating	Area_Parking	39967	0
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	21.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	16.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	28.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	16.00
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
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tblConstructionPhase	NumDays	35.00	240.00
tblConstructionPhase	NumDays	35.00	207.00
tblConstructionPhase	NumDays	35.00	153.00
tblConstructionPhase	NumDays	440.00	176.00
tblConstructionPhase	NumDays	440.00	412.00
tblConstructionPhase	NumDays	440.00	303.00
tblConstructionPhase	NumDays	440.00	369.00
tblConstructionPhase	NumDays	440.00	23.00
tblConstructionPhase	NumDays	45.00	17.00
tblConstructionPhase	NumDays	35.00	43.00
tblConstructionPhase	NumDays	20.00	6.00
tblConstructionPhase	NumDays	20.00	55.00

tblConstructionPhase	NumDays	20.00	390.00
tblConstructionPhase	NumDays	20.00	107.00
tblGrading	AcresOfGrading	85.00	11.00
tblGrading	AcresOfGrading	6.00	11.00
tblGrading	MaterialExported	0.00	49,000.00
tblLandUse	LandUseSquareFeet	454,150.00	454,148.00
tblLandUse	LandUseSquareFeet	744,000.00	607,152.00
tblLandUse	LandUseSquareFeet	28,400.00	31,950.00
tblLandUse	LotAcreage	16.74	13.94
tblLandUse	LotAcreage	0.64	0.73
tblOffRoadEquipment	HorsePower	231.00	226.00
tblOffRoadEquipment	HorsePower	231.00	226.00
tblOffRoadEquipment	HorsePower	231.00	226.00
tblOffRoadEquipment	HorsePower	231.00	226.00
tblOffRoadEquipment	HorsePower	231.00	226.00
tblOffRoadEquipment	HorsePower	158.00	162.00
tblOffRoadEquipment	HorsePower	187.00	174.00
tblOffRoadEquipment	HorsePower	130.00	125.00
tblOffRoadEquipment	HorsePower	132.00	130.00
tblOffRoadEquipment	HorsePower	247.00	255.00
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tblOffRoadEquipment	HorsePower	247.00	255.00
tblOffRoadEquipment	HorsePower	247.00	255.00
tblOffRoadEquipment	HorsePower	247.00	255.00
tblOffRoadEquipment	HorsePower	367.00	361.00
tblOffRoadEquipment	HorsePower	63.00	62.00
tblOffRoadEquipment	HorsePower	63.00	62.00
tblOffRoadEquipment	HorsePower	63.00	62.00
tblOffRoadEquipment	HorsePower	158.00	162.00
tblOffRoadEquipment	HorsePower	247.00	255.00

tblOffRoadEquipment	HorsePower	367.00	361.00
tblOffRoadEquipment	HorsePower	367.00	361.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	3.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	5.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	5.00
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tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.022
tblProjectCharacteristics	CO2IntensityFactor	720.49	536.36
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblTripsAndVMT	HaulingTripNumber	0.00	24.00
tblTripsAndVMT	HaulingTripNumber	0.00	110.00
tblTripsAndVMT	HaulingTripNumber	6,125.00	6,468.00
tblTripsAndVMT	VendorTripLength	7.30	25.00
tblTripsAndVMT	VendorTripLength	7.30	25.00
tblTripsAndVMT	VendorTripLength	7.30	25.00
tblTripsAndVMT	VendorTripLength	7.30	25.00
tblTripsAndVMT	VendorTripLength	7.30	25.00

tblTripsAndVMT	VendorTripLength	7.30	25.00
tblTripsAndVMT	VendorTripLength	7.30	25.00
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tblTripsAndVMT	VendorTripLength	7.30	25.00
tblTripsAndVMT	VendorTripLength	7.30	25.00
tblTripsAndVMT	VendorTripLength	7.30	25.00
tblTripsAndVMT	VendorTripLength	7.30	25.00
tblTripsAndVMT	VendorTripLength	7.30	25.00
tblTripsAndVMT	VendorTripNumber	0.00	16.00
tblTripsAndVMT	VendorTripNumber	0.00	12.00
tblTripsAndVMT	VendorTripNumber	0.00	16.00
tblTripsAndVMT	WorkerTripLength	10.80	25.00
tblTripsAndVMT	WorkerTripLength	10.80	25.00
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tblTripsAndVMT	WorkerTripLength	10.80	25.00
tblTripsAndVMT	WorkerTripLength	10.80	25.00
tblTripsAndVMT	WorkerTripNumber	15.00	20.00
tblTripsAndVMT	WorkerTripNumber	13.00	24.00
tblTripsAndVMT	WorkerTripNumber	30.00	20.00
tblVehicleTrips	ST_TR	2.46	2.37

tblVehicleTrips	SU_TR	1.05	0.98
tblVehicleTrips	WD_TR	11.03	11.59

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	13.2409	2.2600e-003	0.2452	2.0000e-005		8.8000e-004	8.8000e-004		8.8000e-004	8.8000e-004		0.5221	0.5221	1.4000e-003		0.5571
Energy	0.2709	2.4629	2.0688	0.0148		0.1872	0.1872		0.1872	0.1872		2,955.4386	2,955.4386	0.0567	0.0542	2,973.0013
Mobile	9.1120	38.3210	101.8920	0.3134	26.6741	0.3222	26.9964	7.1297	0.3024	7.4321		31,803.3701	31,803.3701	1.8162		31,848.7756
Total	**22.6238**	**40.7861**	**104.2060**	**0.3282**	**26.6741**	**0.5103**	**27.1844**	**7.1297**	**0.4904**	**7.6202**		**34,759.3308**	**34,759.3308**	**1.8743**	**0.0542**	**34,822.3340**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	13.2409	2.2600e-003	0.2452	2.0000e-005		8.8000e-004	8.8000e-004		8.8000e-004	8.8000e-004		0.5221	0.5221	1.4000e-003		0.5571
Energy	0.2709	2.4629	2.0688	0.0148		0.1872	0.1872		0.1872	0.1872		2,955.4386	2,955.4386	0.0567	0.0542	2,973.0013
Mobile	9.1120	38.3210	101.8920	0.3134	26.6741	0.3222	26.9964	7.1297	0.3024	7.4321		31,803.3701	31,803.3701	1.8162		31,848.7756

Total	**22.6238**	**40.7861**	**104.2060**	**0.3282**	**26.6741**	**0.5103**	**27.1844**	**7.1297**	**0.4904**	**7.6202**		**34,759.3308**	**34,759.3308**	**1.8743**	**0.0542**	**34,822.3340**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	9.1120	38.3210	101.8920	0.3134	26.6741	0.3222	26.9964	7.1297	0.3024	7.4321		31,803.3701	31,803.3701	1.8162		31,848.7756
Unmitigated	9.1120	38.3210	101.8920	0.3134	26.6741	0.3222	26.9964	7.1297	0.3024	7.4321		31,803.3701	31,803.3701	1.8162		31,848.7756

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
General Office Building	5,263.60	1,076.34	445.07	9,504,182	9,504,182
Other Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	5,263.60	1,076.34	445.07	9,504,182	9,504,182

4.3 Trip Type Information

	Miles	Trip %	Trip Purpose %

Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-NW	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking with Elevator	0.588316	0.042913	0.184449	0.110793	0.017294	0.005558	0.015534	0.023021	0.001902	0.002024	0.006181	0.000745	0.001271
General Office Building	0.588316	0.042913	0.184449	0.110793	0.017294	0.005558	0.015534	0.023021	0.001902	0.002024	0.006181	0.000745	0.001271
Other Asphalt Surfaces	0.588316	0.042913	0.184449	0.110793	0.017294	0.005558	0.015534	0.023021	0.001902	0.002024	0.006181	0.000745	0.001271
Parking Lot	0.588316	0.042913	0.184449	0.110793	0.017294	0.005558	0.015534	0.023021	0.001902	0.002024	0.006181	0.000745	0.001271

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.2709	2.4629	2.0688	0.0148		0.1872	0.1872		0.1872	0.1872		2,955.4386	2,955.4386	0.0567	0.0542	2,973.0013
NaturalGas Unmitigated	0.2709	2.4629	2.0688	0.0148		0.1872	0.1872		0.1872	0.1872		2,955.4386	2,955.4386	0.0567	0.0542	2,973.0013

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	25121.2	0.2709	2.4629	2.0688	0.0148		0.1872	0.1872		0.1872	0.1872		2,955.4386	2,955.4386	0.0567	0.0542	2,973.0013
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.2709**	**2.4629**	**2.0688**	**0.0148**		**0.1872**	**0.1872**		**0.1872**	**0.1872**		**2,955.4386**	**2,955.4386**	**0.0567**	**0.0542**	**2,973.0013**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	25.1212	0.2709	2.4629	2.0688	0.0148		0.1872	0.1872		0.1872	0.1872		2,955.4386	2,955.4386	0.0567	0.0542	2,973.0013
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.2709**	**2.4629**	**2.0688**	**0.0148**		**0.1872**	**0.1872**		**0.1872**	**0.1872**		**2,955.4386**	**2,955.4386**	**0.0567**	**0.0542**	**2,973.0013**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	13.2409	2.2600e-003	0.2452	2.0000e-005		8.8000e-004	8.8000e-004		8.8000e-004	8.8000e-004		0.5221	0.5221	1.4000e-003		0.5571
Unmitigated	13.2409	2.2600e-003	0.2452	2.0000e-005		8.8000e-004	8.8000e-004		8.8000e-004	8.8000e-004		0.5221	0.5221	1.4000e-003		0.5571

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	3.2631					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	9.9547					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0231	2.2600e-003	0.2452	2.0000e-005		8.8000e-004	8.8000e-004		8.8000e-004	8.8000e-004		0.5221	0.5221	1.4000e-003		0.5571
Total	**13.2408**	**2.2600e-003**	**0.2452**	**2.0000e-005**		**8.8000e-004**	**8.8000e-004**		**8.8000e-004**	**8.8000e-004**		**0.5221**	**0.5221**	**1.4000e-003**		**0.5571**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	3.2631					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	9.9547					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0231	2.2600e-003	0.2452	2.0000e-005		8.8000e-004	8.8000e-004		8.8000e-004	8.8000e-004		0.5221	0.5221	1.4000e-003		0.5571
Total	**13.2408**	**2.2600e-003**	**0.2452**	**2.0000e-005**		**8.8000e-004**	**8.8000e-004**		**8.8000e-004**	**8.8000e-004**		**0.5221**	**0.5221**	**1.4000e-003**		**0.5571**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Torrey Highlands

San Diego County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Health Club	5.00	1000sqft	0.11	5,000.00	0
Fast Food Restaurant w/o Drive Thru	3.80	1000sqft	0.09	3,800.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2018
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	509	**CH4 Intensity (lb/MWhr)**	0.02	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - intensity factors per 36.4% RPS

Land Use - modified per project specifics

Construction Phase - operational only

Off-road Equipment - modified

Off-road Equipment - operational only

Trips and VMT - operational only

Grading - modified

Architectural Coating - operational only

Vehicle Trips - no additonal trips

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Area Coating - Operational only

Energy Use -

Water And Wastewater -

Construction Off-road Equipment Mitigation - Tier 2 equipment

Area Mitigation -

Energy Mitigation - to match project

Water Mitigation - 25% reduction in water use per LEED Silver and EO B-29-15

Waste Mitigation - diversion per AB 341

Table Name	Column Name	Default Value	New Value
tblGrading	AcresOfGrading	0.00	0.50
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.02
tblProjectCharacteristics	CO2IntensityFactor	720.49	509
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.004
tblVehicleTrips	ST_TR	696.00	0.00
tblVehicleTrips	ST_TR	20.87	0.00
tblVehicleTrips	SU_TR	500.00	0.00
tblVehicleTrips	SU_TR	26.73	0.00
tblVehicleTrips	WD_TR	716.00	0.00
tblVehicleTrips	WD_TR	32.93	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	0.0000	0.0000	0.0000	0.0000	0.5303	0.0000	0.5303	0.0573	0.0000	0.0573	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.5303**	**0.0000**	**0.5303**	**0.0573**	**0.0000**	**0.0573**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	0.0000	0.0000	0.0000	0.0000	0.2068	0.0000	0.2068	0.0223	0.0000	0.0223	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.2068**	**0.0000**	**0.2068**	**0.0223**	**0.0000**	**0.0223**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**61.00**	**0.00**	**61.00**	**61.00**	**0.00**	**61.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.2443	1.0000e-005	9.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.9300e-003	1.9300e-003	1.0000e-005		2.0600e-003
Energy	0.0213	0.1935	0.1626	1.1600e-003		0.0147	0.0147		0.0147	0.0147		232.2140	232.2140	4.4500e-003	4.2600e-003	233.5940
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.2656**	**0.1935**	**0.1635**	**1.1600e-003**	**0.0000**	**0.0147**	**0.0147**	**0.0000**	**0.0147**	**0.0147**		**232.2160**	**232.2160**	**4.4600e-003**	**4.2600e-003**	**233.5960**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.2443	1.0000e-005	9.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.9300e-003	1.9300e-003	1.0000e-005		2.0600e-003
Energy	0.0211	0.1914	0.1608	1.1500e-003		0.0146	0.0146		0.0146	0.0146		229.6670	229.6670	4.4000e-003	4.2100e-003	231.0317
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.2653**	**0.1914**	**0.1617**	**1.1500e-003**	**0.0000**	**0.0146**	**0.0146**	**0.0000**	**0.0146**	**0.0146**		**229.6689**	**229.6689**	**4.4100e-003**	**4.2100e-003**	**231.0338**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.09**	**1.10**	**1.09**	**0.86**	**0.00**	**1.09**	**1.09**	**0.00**	**1.09**	**1.09**	**0.00**	**1.10**	**1.10**	**1.12**	**1.17**	**1.10**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	7/13/2017	7/13/2017	5	1	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Site Preparation	Graders	0	0.00	187	0.41

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Preparation - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.5303**	**0.0000**	**0.5303**	**0.0573**	**0.0000**	**0.0573**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.2 Site Preparation - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2068	0.0000	0.2068	0.0223	0.0000	0.0223			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.2068**	**0.0000**	**0.2068**	**0.0223**	**0.0000**	**0.0223**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Fast Food Restaurant w/o Drive Thru	0.00	0.00	0.00		
Health Club	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Fast Food Restaurant w/o Drive	9.50	7.30	7.30	1.50	79.50	19.00	51	37	12
Health Club	9.50	7.30	7.30	16.90	64.10	19.00	52	39	9

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Fast Food Restaurant w/o Drive Thru	0.574135	0.045525	0.189369	0.116519	0.019283	0.005646	0.014833	0.022073	0.001871	0.002173	0.006385	0.000739	0.001452
Health Club	0.574135	0.045525	0.189369	0.116519	0.019283	0.005646	0.014833	0.022073	0.001871	0.002173	0.006385	0.000739	0.001452

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0211	0.1914	0.1608	1.1500e-003		0.0146	0.0146		0.0146	0.0146		229.6670	229.6670	4.4000e-003	4.2100e-003	231.0317
NaturalGas Unmitigated	0.0213	0.1935	0.1626	1.1600e-003		0.0147	0.0147		0.0147	0.0147		232.2140	232.2140	4.4500e-003	4.2600e-003	233.5940

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Fast Food Restaurant w/o Drive Thru	1815.46	0.0196	0.1780	0.1495	1.0700e-003		0.0135	0.0135		0.0135	0.0135		213.5839	213.5839	4.0900e-003	3.9200e-003	214.8531
Health Club	158.356	1.7100e-003	0.0155	0.0130	9.0000e-005		1.1800e-003	1.1800e-003		1.1800e-003	1.1800e-003		18.6301	18.6301	3.6000e-004	3.4000e-004	18.7409
Total		**0.0213**	**0.1935**	**0.1626**	**1.1600e-003**		**0.0147**	**0.0147**		**0.0147**	**0.0147**		**232.2140**	**232.2140**	**4.4500e-003**	**4.2600e-003**	**233.5940**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Fast Food Restaurant w/o Drive Thru	1.79676	0.0194	0.1762	0.1480	1.0600e-003		0.0134	0.0134		0.0134	0.0134		211.3841	211.3841	4.0500e-003	3.8800e-003	212.6403
Health Club	0.155404	1.6800e-003	0.0152	0.0128	9.0000e-005		1.1600e-003	1.1600e-003		1.1600e-003	1.1600e-003		18.2828	18.2828	3.5000e-004	3.4000e-004	18.3915
Total		**0.0211**	**0.1914**	**0.1608**	**1.1500e-003**		**0.0146**	**0.0146**		**0.0146**	**0.0146**		**229.6670**	**229.6670**	**4.0000e-003**	**4.2200e-003**	**231.0317**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.2443	1.0000e-005	9.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.9300e-003	1.9300e-003	1.0000e-005		2.0600e-003
Unmitigated	0.2443	1.0000e-005	9.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.9300e-003	1.9300e-003	1.0000e-005		2.0600e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0559					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.1883					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	9.0000e-005	1.0000e-005	9.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.9300e-003	1.9300e-003	1.0000e-005		2.0600e-003
Total	**0.2443**	**1.0000e-005**	**9.1000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**1.9300e-003**	**1.9300e-003**	**1.0000e-005**		**2.0600e-003**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0559					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.1883					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	9.0000e-005	1.0000e-005	9.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.9300e-003	1.9300e-003	1.0000e-005		2.0600e-003
Total	**0.2443**	**1.0000e-005**	**9.1000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**1.9300e-003**	**1.9300e-003**	**1.0000e-005**		**2.0600e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Torrey Highlands

San Diego County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Health Club	5.00	1000sqft	0.11	5,000.00	0
Fast Food Restaurant w/o Drive Thru	3.80	1000sqft	0.09	3,800.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2018
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	509	**CH4 Intensity (lb/MWhr)**	0.02	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - intensity factors per 36.4% RPS

Land Use - modified per project specifics

Construction Phase - operational only

Off-road Equipment - modified

Off-road Equipment - operational only

Trips and VMT - operational only

Grading - modified

Architectural Coating - operational only

Vehicle Trips - no additonal trips

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Area Coating - Operational only

Energy Use -

Water And Wastewater -

Construction Off-road Equipment Mitigation - Tier 2 equipment

Area Mitigation -

Energy Mitigation - to match project

Water Mitigation - 25% reduction in water use per LEED Silver and EO B-29-15

Waste Mitigation - diversion per AB 341

Table Name	Column Name	Default Value	New Value
tblGrading	AcresOfGrading	0.00	0.50
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.02
tblProjectCharacteristics	CO2IntensityFactor	720.49	509
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.004
tblVehicleTrips	ST_TR	696.00	0.00
tblVehicleTrips	ST_TR	20.87	0.00
tblVehicleTrips	SU_TR	500.00	0.00
tblVehicleTrips	SU_TR	26.73	0.00
tblVehicleTrips	WD_TR	716.00	0.00
tblVehicleTrips	WD_TR	32.93	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	0.0000	0.0000	0.0000	0.0000	0.5303	0.0000	0.5303	0.0573	0.0000	0.0573	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.5303**	**0.0000**	**0.5303**	**0.0573**	**0.0000**	**0.0573**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	0.0000	0.0000	0.0000	0.0000	0.2068	0.0000	0.2068	0.0223	0.0000	0.0223	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.2068**	**0.0000**	**0.2068**	**0.0223**	**0.0000**	**0.0223**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**61.00**	**0.00**	**61.00**	**61.00**	**0.00**	**61.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.2443	1.0000e-005	9.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.9300e-003	1.9300e-003	1.0000e-005		2.0600e-003
Energy	0.0213	0.1935	0.1626	1.1600e-003		0.0147	0.0147		0.0147	0.0147		232.2140	232.2140	4.4500e-003	4.2600e-003	233.5940
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.2656**	**0.1935**	**0.1635**	**1.1600e-003**	**0.0000**	**0.0147**	**0.0147**	**0.0000**	**0.0147**	**0.0147**		**232.2160**	**232.2160**	**4.4600e-003**	**4.2600e-003**	**233.5960**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.2443	1.0000e-005	9.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.9300e-003	1.9300e-003	1.0000e-005		2.0600e-003
Energy	0.0211	0.1914	0.1608	1.1500e-003		0.0146	0.0146		0.0146	0.0146		229.6670	229.6670	4.4000e-003	4.2100e-003	231.0317
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.2653**	**0.1914**	**0.1617**	**1.1500e-003**	**0.0000**	**0.0146**	**0.0146**	**0.0000**	**0.0146**	**0.0146**		**229.6689**	**229.6689**	**4.4100e-003**	**4.2100e-003**	**231.0338**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.09**	**1.10**	**1.09**	**0.86**	**0.00**	**1.09**	**1.09**	**0.00**	**1.09**	**1.09**	**0.00**	**1.10**	**1.10**	**1.12**	**1.17**	**1.10**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	7/13/2017	7/13/2017	5	1	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Site Preparation	Graders	0	0.00	187	0.41

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Preparation - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.5303**	**0.0000**	**0.5303**	**0.0573**	**0.0000**	**0.0573**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.2 Site Preparation - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2068	0.0000	0.2068	0.0223	0.0000	0.0223			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.2068**	**0.0000**	**0.2068**	**0.0223**	**0.0000**	**0.0223**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Fast Food Restaurant w/o Drive Thru	0.00	0.00	0.00		
Health Club	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Fast Food Restaurant w/o Drive	9.50	7.30	7.30	1.50	79.50	19.00	51	37	12
Health Club	9.50	7.30	7.30	16.90	64.10	19.00	52	39	9

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Fast Food Restaurant w/o Drive Thru	0.574135	0.045525	0.189369	0.116519	0.019283	0.005646	0.014833	0.022073	0.001871	0.002173	0.006385	0.000739	0.001452
Health Club	0.574135	0.045525	0.189369	0.116519	0.019283	0.005646	0.014833	0.022073	0.001871	0.002173	0.006385	0.000739	0.001452

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0211	0.1914	0.1608	1.1500e-003		0.0146	0.0146		0.0146	0.0146		229.6670	229.6670	4.4000e-003	4.2100e-003	231.0317
NaturalGas Unmitigated	0.0213	0.1935	0.1626	1.1600e-003		0.0147	0.0147		0.0147	0.0147		232.2140	232.2140	4.4500e-003	4.2600e-003	233.5940

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Fast Food Restaurant w/o Drive Thru	1815.46	0.0196	0.1780	0.1495	1.0700e-003		0.0135	0.0135		0.0135	0.0135		213.5839	213.5839	4.0900e-003	3.9200e-003	214.8531
Health Club	158.356	1.7100e-003	0.0155	0.0130	9.0000e-005		1.1800e-003	1.1800e-003		1.1800e-003	1.1800e-003		18.6301	18.6301	3.6000e-004	3.4000e-004	18.7409
Total		**0.0213**	**0.1935**	**0.1626**	**1.1600e-003**		**0.0147**	**0.0147**		**0.0147**	**0.0147**		**232.2140**	**232.2140**	**4.4500e-003**	**4.2600e-003**	**233.5940**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Fast Food Restaurant w/o Drive Thru	1.79676	0.0194	0.1762	0.1480	1.0600e-003		0.0134	0.0134		0.0134	0.0134		211.3841	211.3841	4.0500e-003	3.8800e-003	212.6403
Health Club	0.155404	1.6800e-003	0.0152	0.0128	9.0000e-005		1.1600e-003	1.1600e-003		1.1600e-003	1.1600e-003		18.2828	18.2828	3.5000e-004	3.4000e-004	18.3915
Total		**0.0211**	**0.1914**	**0.1608**	**1.1500e-003**		**0.0146**	**0.0146**		**0.0146**	**0.0146**		**229.6670**	**229.6670**	**4.0000e-003**	**4.2200e-003**	**231.0317**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.2443	1.0000e-005	9.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.9300e-003	1.9300e-003	1.0000e-005		2.0600e-003
Unmitigated	0.2443	1.0000e-005	9.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.9300e-003	1.9300e-003	1.0000e-005		2.0600e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0559					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.1883					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	9.0000e-005	1.0000e-005	9.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.9300e-003	1.9300e-003	1.0000e-005		2.0600e-003
Total	**0.2443**	**1.0000e-005**	**9.1000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**1.9300e-003**	**1.9300e-003**	**1.0000e-005**		**2.0600e-003**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0559					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.1883					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	9.0000e-005	1.0000e-005	9.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.9300e-003	1.9300e-003	1.0000e-005		2.0600e-003
Total	**0.2443**	**1.0000e-005**	**9.1000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**1.9300e-003**	**1.9300e-003**	**1.0000e-005**		**2.0600e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

CalEEMod Version: CalEEMod.2016.3.2

Date: 4/16/2018 10:11 AM

Torrey Highlands

San Diego County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	454.15	1000sqft	10.43	454,148.00	0
Enclosed Parking with Elevator	1,860.00	Space	13.94	607,152.00	0
Other Asphalt Surfaces	0.62	Acre	0.62	27,007.20	0
Parking Lot	71.00	Space	0.73	31,950.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2020
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	536.36	**CH4 Intensity (lb/MWhr)**	0.022	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - intensity factors per 36.4% RPS

Land Use - modified per project specifics

Vehicle Trips - modified

Vehicle Emission Factors - factors per ACC program

Area Coating - VOC content per SDAPCD Rule 67.0.1

Energy Use - modified

Water And Wastewater - default water values retained, more conservative than project-specific water use

Area Mitigation - VOC content per SDAPCD Rule 67.0.1

Water Mitigation - 25% reduction in water use per LEED Silver and EO B-29-15

Waste Mitigation - diversion per AB 341

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	100
tblAreaCoating	Area_EF_Parking	250	0
tblAreaCoating	Area_Nonresidential_Exterior	227074	544633
tblAreaCoating	Area_Nonresidential_Interior	681222	810000
tblAreaCoating	Area_Parking	39967	0
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	28.00
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstructionPhase	NumDays	20.00	0.00
tblGrading	AcresOfGrading	0.00	11.00
tblLandUse	LandUseSquareFeet	454,150.00	454,148.00
tblLandUse	LandUseSquareFeet	744,000.00	607,152.00
tblLandUse	LandUseSquareFeet	28,400.00	31,950.00
tblLandUse	LotAcreage	16.74	13.94
tblLandUse	LotAcreage	0.64	0.73
tblOffRoadEquipment	HorsePower	247.00	255.00
tblOffRoadEquipment	HorsePower	367.00	361.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.022
tblProjectCharacteristics	CO2IntensityFactor	720.49	536.36
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblTripsAndVMT	VendorTripLength	7.30	25.00
tblTripsAndVMT	WorkerTripLength	10.80	25.00
tblVehicleTrips	ST_TR	2.46	2.37
tblVehicleTrips	SU_TR	1.05	0.98
tblVehicleTrips	WD_TR	11.03	11.59

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	13.2409	2.2600e-003	0.2452	2.0000e-005		8.8000e-004	8.8000e-004		8.8000e-004	8.8000e-004		0.5221	0.5221	1.4000e-003		0.5571
Energy	0.2709	2.4629	2.0688	0.0148		0.1872	0.1872		0.1872	0.1872		2,955.4386	2,955.4386	0.0567	0.0542	2,973.0013
Mobile	9.3689	37.2880	102.4286	0.3307	26.6741	0.3197	26.9939	7.1297	0.3000	7.4297		33,551.1533	33,551.1533	1.8024		33,596.2134
Total	**22.8807**	**39.7531**	**104.7425**	**0.3455**	**26.6741**	**0.5078**	**27.1819**	**7.1297**	**0.4881**	**7.6178**		**36,507.1140**	**36,507.1140**	**1.8605**	**0.0542**	**36,569.7718**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	13.2409	2.2600e-003	0.2452	2.0000e-005		8.8000e-004	8.8000e-004		8.8000e-004	8.8000e-004		0.5221	0.5221	1.4000e-003		0.5571
Energy	0.2602	2.3653	1.9869	0.0142		0.1798	0.1798		0.1798	0.1798		2,838.4067	2,838.4067	0.0544	0.0520	2,855.2739
Mobile	9.3689	37.2880	102.4286	0.3307	26.6741	0.3197	26.9939	7.1297	0.3000	7.4297		33,551.1533	33,551.1533	1.8024		33,596.2134
Total	**22.8700**	**39.6556**	**104.6606**	**0.3449**	**26.6741**	**0.5004**	**27.1745**	**7.1297**	**0.4806**	**7.6104**		**36,390.0821**	**36,390.0821**	**1.8582**	**0.0520**	**36,452.0444**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.05**	**0.25**	**0.08**	**0.17**	**0.00**	**1.46**	**0.03**	**0.00**	**1.52**	**0.10**	**0.00**	**0.32**	**0.32**	**0.12**	**3.95**	**0.32**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	9.3689	37.2880	102.4286	0.3307	26.6741	0.3197	26.9939	7.1297	0.3000	7.4297		33,551.1533	33,551.1533	1.8024		33,596.2134
Unmitigated	9.3689	37.2880	102.4286	0.3307	26.6741	0.3197	26.9939	7.1297	0.3000	7.4297		33,551.1533	33,551.1533	1.8024		33,596.2134

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
General Office Building	5,263.60	1,076.34	445.07	9,504,182	9,504,182
Other Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	5,263.60	1,076.34	445.07	9,504,182	9,504,182

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking with Elevator	0.588316	0.042913	0.184449	0.110793	0.017294	0.005558	0.015534	0.023021	0.001902	0.002024	0.006181	0.000745	0.001271
General Office Building	0.588316	0.042913	0.184449	0.110793	0.017294	0.005558	0.015534	0.023021	0.001902	0.002024	0.006181	0.000745	0.001271
Other Asphalt Surfaces	0.588316	0.042913	0.184449	0.110793	0.017294	0.005558	0.015534	0.023021	0.001902	0.002024	0.006181	0.000745	0.001271

Parking Lot	0.588316	0.042913	0.184449	0.110793	0.017294	0.005558	0.015534	0.023021	0.001902	0.002024	0.006181	0.000745	0.001271

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Kilowatt Hours of Renewable Electricity Generated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.2602	2.3653	1.9869	0.0142		0.1798	0.1798		0.1798	0.1798		2,838.4067	2,838.4067	0.0544	0.0520	2,855.2739
NaturalGas Unmitigated	0.2709	2.4629	2.0688	0.0148		0.1872	0.1872		0.1872	0.1872		2,955.4386	2,955.4386	0.0567	0.0542	2,973.0013

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	25121.2	0.2709	2.4629	2.0688	0.0148		0.1872	0.1872		0.1872	0.1872		2,955.4386	2,955.4386	0.0567	0.0542	2,973.0013
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.2709**	**2.4629**	**2.0688**	**0.0148**		**0.1872**	**0.1872**		**0.1872**	**0.1872**		**2,955.4386**	**2,955.4386**	**0.0567**	**0.0542**	**2,973.0013**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	24.1265	0.2602	2.3653	1.9869	0.0142		0.1798	0.1798		0.1798	0.1798		2,838.4067	2,838.4067	0.0544	0.0520	2,855.2739
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.2602**	**2.3653**	**1.9869**	**0.0142**		**0.1798**	**0.1798**		**0.1798**	**0.1798**		**2,838.4067**	**2,838.4067**	**0.0544**	**0.0520**	**2,855.2739**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	13.2409	2.2600e-003	0.2452	2.0000e-005		8.8000e-004	8.8000e-004		8.8000e-004	8.8000e-004		0.5221	0.5221	1.4000e-003		0.5571
Unmitigated	13.2409	2.2600e-003	0.2452	2.0000e-005		8.8000e-004	8.8000e-004		8.8000e-004	8.8000e-004		0.5221	0.5221	1.4000e-003		0.5571

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	3.2631					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	9.9547					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0231	2.2600e-003	0.2452	2.0000e-005		8.8000e-004	8.8000e-004		8.8000e-004	8.8000e-004		0.5221	0.5221	1.4000e-003		0.5571
Total	**13.2408**	**2.2600e-003**	**0.2452**	**2.0000e-005**		**8.8000e-004**	**8.8000e-004**		**8.8000e-004**	**8.8000e-004**		**0.5221**	**0.5221**	**1.4000e-003**		**0.5571**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	3.2631					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	9.9547					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0231	2.2600e-003	0.2452	2.0000e-005		8.8000e-004	8.8000e-004		8.8000e-004	8.8000e-004		0.5221	0.5221	1.4000e-003		0.5571
Total	**13.2408**	**2.2600e-003**	**0.2452**	**2.0000e-005**		**8.8000e-004**	**8.8000e-004**		**8.8000e-004**	**8.8000e-004**		**0.5221**	**0.5221**	**1.4000e-003**		**0.5571**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

CalEEMod Version: CalEEMod.2016.3.2

Date: 4/16/2018 10:13 AM

Torrey Highlands

San Diego County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	454.15	1000sqft	10.43	454,148.00	0
Enclosed Parking with Elevator	1,860.00	Space	13.94	607,152.00	0
Other Asphalt Surfaces	0.62	Acre	0.62	27,007.20	0
Parking Lot	71.00	Space	0.73	31,950.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2020
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	536.36	**CH4 Intensity (lb/MWhr)**	0.022	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - intensity factors per 36.4% RPS

Land Use - modified per project specifics

Vehicle Trips - modified

Vehicle Emission Factors - factors per ACC program

Area Coating - VOC content per SDAPCD Rule 67.0.1

Energy Use - modified

Water And Wastewater - default water values retained, more conservative than project-specific water use

Area Mitigation - VOC content per SDAPCD Rule 67.0.1

Water Mitigation - 25% reduction in water use per LEED Silver and EO B-29-15

Waste Mitigation - diversion per AB 341

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	100
tblAreaCoating	Area_EF_Parking	250	0
tblAreaCoating	Area_Nonresidential_Exterior	227074	544633
tblAreaCoating	Area_Nonresidential_Interior	681222	810000
tblAreaCoating	Area_Parking	39967	0
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	28.00
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstructionPhase	NumDays	20.00	0.00
tblGrading	AcresOfGrading	0.00	11.00
tblLandUse	LandUseSquareFeet	454,150.00	454,148.00
tblLandUse	LandUseSquareFeet	744,000.00	607,152.00
tblLandUse	LandUseSquareFeet	28,400.00	31,950.00
tblLandUse	LotAcreage	16.74	13.94
tblLandUse	LotAcreage	0.64	0.73
tblOffRoadEquipment	HorsePower	247.00	255.00
tblOffRoadEquipment	HorsePower	367.00	361.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.022
tblProjectCharacteristics	CO2IntensityFactor	720.49	536.36
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblTripsAndVMT	VendorTripLength	7.30	25.00
tblTripsAndVMT	WorkerTripLength	10.80	25.00
tblVehicleTrips	ST_TR	2.46	2.37
tblVehicleTrips	SU_TR	1.05	0.98
tblVehicleTrips	WD_TR	11.03	11.59

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	13.2409	2.2600e-003	0.2452	2.0000e-005		8.8000e-004	8.8000e-004		8.8000e-004	8.8000e-004		0.5221	0.5221	1.4000e-003		0.5571
Energy	0.2709	2.4629	2.0688	0.0148		0.1872	0.1872		0.1872	0.1872		2,955.4386	2,955.4386	0.0567	0.0542	2,973.0013
Mobile	9.1120	38.3210	101.8920	0.3134	26.6741	0.3222	26.9964	7.1297	0.3024	7.4321		31,803.3701	31,803.3701	1.8162		31,848.7756
Total	**22.6238**	**40.7861**	**104.2060**	**0.3282**	**26.6741**	**0.5103**	**27.1844**	**7.1297**	**0.4904**	**7.6202**		**34,759.3308**	**34,759.3308**	**1.8743**	**0.0542**	**34,822.3340**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	13.2409	2.2600e-003	0.2452	2.0000e-005		8.8000e-004	8.8000e-004		8.8000e-004	8.8000e-004		0.5221	0.5221	1.4000e-003		0.5571
Energy	0.2602	2.3653	1.9869	0.0142		0.1798	0.1798		0.1798	0.1798		2,838.4067	2,838.4067	0.0544	0.0520	2,855.2739
Mobile	9.1120	38.3210	101.8920	0.3134	26.6741	0.3222	26.9964	7.1297	0.3024	7.4321		31,803.3701	31,803.3701	1.8162		31,848.7756
Total	**22.6131**	**40.6886**	**104.1241**	**0.3276**	**26.6741**	**0.5029**	**27.1770**	**7.1297**	**0.4830**	**7.6127**		**34,642.2989**	**34,642.2989**	**1.8720**	**0.0520**	**34,704.6067**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.05**	**0.24**	**0.08**	**0.18**	**0.00**	**1.45**	**0.03**	**0.00**	**1.51**	**0.10**	**0.00**	**0.34**	**0.34**	**0.12**	**3.95**	**0.34**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	9.1120	38.3210	101.8920	0.3134	26.6741	0.3222	26.9964	7.1297	0.3024	7.4321		31,803.3701	31,803.3701	1.8162		31,848.7756
Unmitigated	9.1120	38.3210	101.8920	0.3134	26.6741	0.3222	26.9964	7.1297	0.3024	7.4321		31,803.3701	31,803.3701	1.8162		31,848.7756

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
General Office Building	5,263.60	1,076.34	445.07	9,504,182	9,504,182
Other Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	5,263.60	1,076.34	445.07	9,504,182	9,504,182

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking with Elevator	0.588316	0.042913	0.184449	0.110793	0.017294	0.005558	0.015534	0.023021	0.001902	0.002024	0.006181	0.000745	0.001271
General Office Building	0.588316	0.042913	0.184449	0.110793	0.017294	0.005558	0.015534	0.023021	0.001902	0.002024	0.006181	0.000745	0.001271
Other Asphalt Surfaces	0.588316	0.042913	0.184449	0.110793	0.017294	0.005558	0.015534	0.023021	0.001902	0.002024	0.006181	0.000745	0.001271

Parking Lot	0.588316	0.042913	0.184449	0.110793	0.017294	0.005558	0.015534	0.023021	0.001902	0.002024	0.006181	0.000745	0.001271

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Kilowatt Hours of Renewable Electricity Generated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.2602	2.3653	1.9869	0.0142		0.1798	0.1798		0.1798	0.1798		2,838.4067	2,838.4067	0.0544	0.0520	2,855.2739
NaturalGas Unmitigated	0.2709	2.4629	2.0688	0.0148		0.1872	0.1872		0.1872	0.1872		2,955.4386	2,955.4386	0.0567	0.0542	2,973.0013

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	25121.2	0.2709	2.4629	2.0688	0.0148		0.1872	0.1872		0.1872	0.1872		2,955.4386	2,955.4386	0.0567	0.0542	2,973.0013
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.2709**	**2.4629**	**2.0688**	**0.0148**		**0.1872**	**0.1872**		**0.1872**	**0.1872**		**2,955.4386**	**2,955.4386**	**0.0567**	**0.0542**	**2,973.0013**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	24.1265	0.2602	2.3653	1.9869	0.0142		0.1798	0.1798		0.1798	0.1798		2,838.4067	2,838.4067	0.0544	0.0520	2,855.2739
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.2602**	**2.3653**	**1.9869**	**0.0142**		**0.1798**	**0.1798**		**0.1798**	**0.1798**		**2,838.4067**	**2,838.4067**	**0.0544**	**0.0520**	**2,855.2739**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	13.2409	2.2600e-003	0.2452	2.0000e-005		8.8000e-004	8.8000e-004		8.8000e-004	8.8000e-004		0.5221	0.5221	1.4000e-003		0.5571
Unmitigated	13.2409	2.2600e-003	0.2452	2.0000e-005		8.8000e-004	8.8000e-004		8.8000e-004	8.8000e-004		0.5221	0.5221	1.4000e-003		0.5571

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	3.2631					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	9.9547					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0231	2.2600e-003	0.2452	2.0000e-005		8.8000e-004	8.8000e-004		8.8000e-004	8.8000e-004		0.5221	0.5221	1.4000e-003		0.5571
Total	**13.2408**	**2.2600e-003**	**0.2452**	**2.0000e-005**		**8.8000e-004**	**8.8000e-004**		**8.8000e-004**	**8.8000e-004**		**0.5221**	**0.5221**	**1.4000e-003**		**0.5571**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	3.2631					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	9.9547					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0231	2.2600e-003	0.2452	2.0000e-005		8.8000e-004	8.8000e-004		8.8000e-004	8.8000e-004		0.5221	0.5221	1.4000e-003		0.5571
Total	**13.2408**	**2.2600e-003**	**0.2452**	**2.0000e-005**		**8.8000e-004**	**8.8000e-004**		**8.8000e-004**	**8.8000e-004**		**0.5221**	**0.5221**	**1.4000e-003**		**0.5571**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Torrey Highlands

San Diego County, Mitigation Report

Construction Mitigation Summary

Phase	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Architectural Coating 1	0.02	-0.96	-0.01	0.00	-0.79	-0.80	0.00	0.00	0.00	0.00	0.00	0.00
Architectural Coating 2	0.04	-0.93	-0.01	0.00	-0.73	-0.74	0.00	0.00	0.00	0.00	0.00	0.00
Architectural Coating 3	0.02	-0.96	-0.01	0.00	-0.79	-0.79	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction 1	0.19	-0.10	-0.02	0.00	-0.14	-0.19	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction 2	0.15	-0.16	-0.03	0.00	-0.40	-0.47	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction 3	0.12	-0.30	-0.03	0.00	-0.63	-0.72	0.00	0.00	0.00	0.00	0.00	0.00
Cafe	0.05	-0.04	-0.04	0.00	-0.06	-0.13	0.00	0.00	0.00	0.00	0.00	0.00
Grading	0.45	0.04	0.08	0.00	0.42	0.38	0.00	0.00	0.00	0.00	0.00	0.00
Landscape	0.35	-0.28	-0.02	0.00	0.22	0.15	0.00	0.00	0.00	0.00	0.00	0.00
Parking Structure	0.14	-0.22	-0.03	0.00	-0.25	-0.30	0.00	0.00	0.00	0.00	0.00	0.00
Paving	0.20	-1.11	-0.12	0.00	-0.53	-0.59	0.00	0.00	0.00	0.00	0.00	0.00
Site Preparation	0.66	0.28	0.32	0.00	0.61	0.58	0.00	0.00	0.00	0.00	0.00	0.00
Sitework	0.59	-0.17	0.01	0.00	0.37	0.37	0.00	0.00	0.00	0.00	0.00	0.00
Utilities	0.41	-0.02	-0.02	0.00	0.42	0.37	0.00	0.00	0.00	0.00	0.00	0.00

OFFROAD Equipment Mitigation

Equipment Type	Fuel Type	Tier	Number Mitigated	Total Number of Equipment	DPF	Oxidation Catalyst
Aerial Lifts	Diesel	Tier 2	21	21	No Change	0.00
Air Compressors	Diesel	Tier 2	16	16	No Change	0.00
Cranes	Diesel	Tier 3	5	5	No Change	0.00
Excavators	Diesel	Tier 2	1	1	No Change	0.00
Forklifts	Diesel	Tier 2	9	9	No Change	0.00
Generator Sets	Diesel	No Change	0	0	No Change	0.00
Graders	Diesel	No Change	0	0	No Change	0.00
Pavers	Diesel	Tier 2	2	2	No Change	0.00
Paving Equipment	Diesel	Tier 2	2	2	No Change	0.00
Rollers	Diesel	No Change	0	0	No Change	0.00
Rubber Tired Dozers	Diesel	Tier 2	4	4	No Change	0.00
Scrapers	Diesel	Tier 2	6	6	No Change	0.00
Tractors/Loaders/Backhoes	Diesel	Tier 2	28	28	No Change	0.00
Welders	Diesel	Tier 2	16	16	No Change	0.00

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	Unmitigated tons/yr						Unmitigated mt/yr					
Aerial Lifts	1.39060E-001	2.21049E+000	4.08313E+000	6.28000E-003	4.38700E-002	4.03600E-002	0.00000E+000	5.51609E+002	5.51609E+002	1.78150E-001	0.00000E+000	5.56063E+002
Air Compressors	3.24910E-001	2.18289E+000	2.73016E+000	4.45000E-003	1.31300E-001	1.31300E-001	0.00000E+000	3.81967E+002	3.81967E+002	2.63500E-002	0.00000E+000	3.82626E+002
Cranes	2.47720E-001	2.82349E+000	1.22412E+000	3.62000E-003	1.16780E-001	1.07440E-001	0.00000E+000	3.18538E+002	3.18538E+002	1.02900E-001	0.00000E+000	3.21110E+002
Excavators	9.96000E-003	1.10460E-001	9.40800E-002	1.50000E-004	5.43000E-003	5.00000E-003	0.00000E+000	1.35032E+001	1.35032E+001	4.14000E-003	0.00000E+000	1.36066E+001
Forklifts	1.46520E-001	1.34318E+000	1.38861E+000	1.83000E-003	9.26100E-002	8.52000E-002	0.00000E+000	1.60684E+002	1.60684E+002	5.19000E-002	0.00000E+000	1.61982E+002
Generator Sets	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Graders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000

Pavers	7.59000E-003	7.20200E-002	1.19610E-001	1.90000E-004	3.36000E-003	3.09000E-003	0.00000E+000	1.70725E+001	1.70725E+001	5.52000E-003	0.00000E+000	1.72105E+001
Paving Equipment	6.98000E-003	6.33600E-002	1.08830E-001	1.70000E-004	3.06000E-003	2.82000E-003	0.00000E+000	1.51545E+001	1.51545E+001	4.90000E-003	0.00000E+000	1.52771E+001
Rollers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Rubber Tired Dozers	2.46400E-002	2.67040E-001	2.04700E-001	2.00000E-004	1.23300E-002	1.13400E-002	0.00000E+000	1.85585E+001	1.85585E+001	5.82000E-003	0.00000E+000	1.87040E+001
Scrapers	4.84300E-002	5.88820E-001	3.67600E-001	6.80000E-004	2.31200E-002	2.12700E-002	0.00000E+000	6.10264E+001	6.10264E+001	1.92700E-002	0.00000E+000	6.15081E+001
Tractors/Loaders/Backhoes	4.03540E-001	4.06356E+000	4.99697E+000	6.88000E-003	2.34760E-001	2.15980E-001	0.00000E+000	6.07928E+002	6.07928E+002	1.95600E-001	0.00000E+000	6.12818E+002
Welders	8.18380E-001	4.08510E+000	4.68544E+000	6.96000E-003	1.96600E-001	1.96600E-001	0.00000E+000	5.12242E+002	5.12242E+002	6.64300E-002	0.00000E+000	5.13903E+002

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	Mitigated tons/yr						Mitigated mt/yr					
Aerial Lifts	2.95800E-001	6.10897E+000	4.75857E+000	6.28000E-003	2.46930E-001	2.46930E-001	0.00000E+000	5.51609E+002	5.51609E+002	1.78150E-001	0.00000E+000	5.56062E+002
Air Compressors	1.70400E-001	3.51922E+000	2.74128E+000	4.45000E-003	1.42250E-001	1.42250E-001	0.00000E+000	3.81966E+002	3.81966E+002	2.63500E-002	0.00000E+000	3.82625E+002
Cranes	8.89800E-002	1.72034E+000	1.92797E+000	3.62000E-003	6.52500E-002	6.52500E-002	0.00000E+000	3.18537E+002	3.18537E+002	1.02900E-001	0.00000E+000	3.21110E+002
Excavators	5.67000E-003	1.24510E-001	1.10470E-001	1.50000E-004	3.82000E-003	3.82000E-003	0.00000E+000	1.35032E+001	1.35032E+001	4.14000E-003	0.00000E+000	1.36066E+001
Forklifts	8.62900E-002	1.78199E+000	1.38808E+000	1.83000E-003	7.20300E-002	7.20300E-002	0.00000E+000	1.60684E+002	1.60684E+002	5.19000E-002	0.00000E+000	1.61981E+002
Generator Sets	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Graders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Pavers	7.56000E-003	1.66030E-001	1.47320E-001	1.90000E-004	5.10000E-003	5.10000E-003	0.00000E+000	1.70725E+001	1.70725E+001	5.52000E-003	0.00000E+000	1.72105E+001
Paving Equipment	6.74000E-003	1.48000E-001	1.31320E-001	1.70000E-004	4.54000E-003	4.54000E-003	0.00000E+000	1.51545E+001	1.51545E+001	4.90000E-003	0.00000E+000	1.52771E+001
Rollers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Rubber Tired Dozers	4.97000E-003	1.71710E-001	1.07580E-001	2.00000E-004	3.64000E-003	3.64000E-003	0.00000E+000	1.85584E+001	1.85584E+001	5.82000E-003	0.00000E+000	1.87040E+001
Scrapers	1.66900E-002	5.27010E-001	3.61540E-001	6.80000E-004	1.22400E-002	1.22400E-002	0.00000E+000	6.10263E+001	6.10263E+001	1.92700E-002	0.00000E+000	6.15080E+001
Tractors/Loaders/Backhoes	3.22190E-001	6.65384E+000	5.18299E+000	6.88000E-003	2.68960E-001	2.68960E-001	0.00000E+000	6.07927E+002	6.07927E+002	1.95600E-001	0.00000E+000	6.12817E+002
Welders	2.88140E-001	4.60027E+000	4.07367E+000	6.96000E-003	2.78200E-001	2.78200E-001	0.00000E+000	5.12242E+002	5.12242E+002	6.64300E-002	0.00000E+000	5.13903E+002

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Percent Reduction												
Aerial Lifts	-1.12714E+000	-1.76363E+000	-1.65422E-001	0.00000E+000	-4.62868E+000	-5.11819E+000	0.00000E+000	1.19650E-006	1.19650E-006	0.00000E+000	0.00000E+000	1.18692E-006
Air Compressors	4.75547E-001	-6.12184E-001	-4.07302E-003	0.00000E+000	-8.33968E-002	-8.33968E-002	0.00000E+000	1.20429E-006	1.20429E-006	0.00000E+000	0.00000E+000	1.17608E-006
Cranes	6.40804E-001	3.90704E-001	-5.74984E-001	0.00000E+000	4.41257E-001	3.92684E-001	0.00000E+000	1.19295E-006	1.19295E-006	0.00000E+000	0.00000E+000	1.21454E-006
Excavators	4.30723E-001	-1.27195E-001	-1.74213E-001	0.00000E+000	2.96501E-001	2.36000E-001	0.00000E+000	7.40567E-007	7.40567E-007	0.00000E+000	0.00000E+000	1.46987E-006
Forklifts	4.11070E-001	-3.26695E-001	3.81677E-004	0.00000E+000	2.22222E-001	1.54577E-001	0.00000E+000	1.18244E-006	1.18244E-006	0.00000E+000	0.00000E+000	1.23471E-006
Generator Sets	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Graders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Pavers	3.95257E-003	-1.30533E+000	-2.31670E-001	0.00000E+000	-5.17857E-001	-6.50485E-001	0.00000E+000	1.17147E-006	1.17147E-006	0.00000E+000	0.00000E+000	1.16208E-006
Paving Equipment	3.43840E-002	-1.33586E+000	-2.06653E-001	0.00000E+000	-4.83660E-001	-6.09929E-001	0.00000E+000	6.59868E-007	6.59868E-007	0.00000E+000	0.00000E+000	1.30915E-006
Rollers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Rubber Tired Dozers	7.98295E-001	3.56988E-001	4.74450E-001	0.00000E+000	7.04785E-001	6.79012E-001	0.00000E+000	1.07768E-006	1.07768E-006	0.00000E+000	0.00000E+000	1.60393E-006
Scrapers	6.55379E-001	1.04973E-001	1.64853E-002	0.00000E+000	4.70588E-001	4.24542E-001	0.00000E+000	1.14704E-006	1.14704E-006	0.00000E+000	0.00000E+000	1.30064E-006
Tractors/Loaders/Backhoes	2.01591E-001	-6.37441E-001	-3.72266E-002	0.00000E+000	-1.45681E-001	-2.45300E-001	0.00000E+000	1.20080E-006	1.20080E-006	0.00000E+000	0.00000E+000	1.19122E-006
Welders	6.47914E-001	-1.26110E-001	1.30568E-001	0.00000E+000	-4.15056E-001	-4.15056E-001	0.00000E+000	1.19084E-006	1.19084E-006	0.00000E+000	0.00000E+000	1.18699E-006

Fugitive Dust Mitigation

Yes/No	Mitigation Measure	Mitigation Input		Mitigation Input		Mitigation Input	
No	Soil Stabilizer for unpaved Roads	PM10 Reduction	0.00	PM2.5 Reduction	0.00		
No	Replace Ground Cover of Area Disturbed	PM10 Reduction	0.00	PM2.5 Reduction	0.00		
Yes	Water Exposed Area	PM10 Reduction	61.00	PM2.5 Reduction	61.00	Frequency (per day)	3.00
No	Unpaved Road Mitigation	Moisture Content %	0.00	Vehicle Speed (mph)	0.00		
No	Clean Paved Road	% PM Reduction	0.00				

		Unmitigated		Mitigated		Percent Reduction	
Phase	Source	PM10	PM2.5	PM10	PM2.5	PM10	PM2.5
Architectural Coating 1	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Architectural Coating 1	Roads	0.12	0.03	0.12	0.03	0.00	0.00
Architectural Coating 2	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Architectural Coating 2	Roads	0.19	0.05	0.19	0.05	0.00	0.00
Architectural Coating 3	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Architectural Coating 3	Roads	0.16	0.04	0.16	0.04	0.00	0.00
Building Construction 1	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction 1	Roads	2.48	0.68	2.48	0.68	0.00	0.00
Building Construction 2	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction 2	Roads	1.83	0.50	1.83	0.50	0.00	0.00
Building Construction 3	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction 3	Roads	2.22	0.61	2.22	0.61	0.00	0.00
Cafe	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Cafe	Roads	1.06	0.29	1.06	0.29	0.00	0.00
Grading	Fugitive Dust	0.11	0.06	0.04	0.02	0.61	0.61
Grading	Roads	0.06	0.02	0.06	0.02	0.00	0.00
Landscape	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Landscape	Roads	0.00	0.00	0.00	0.00	0.00	0.00
Parking Structure	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Parking Structure	Roads	0.14	0.04	0.14	0.04	0.00	0.00
Paving	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Paving	Roads	0.01	0.00	0.01	0.00	0.00	0.00
Site Preparation	Fugitive Dust	0.04	0.02	0.02	0.01	0.61	0.61
Site Preparation	Roads	0.00	0.00	0.00	0.00	0.00	0.00

Sitework	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Sitework	Roads	0.02	0.00	0.02	0.00	0.00	0.00
Utilities	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Utilities	Roads	0.02	0.01	0.02	0.01	0.00	0.00

Operational Percent Reduction Summary

Category	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Architectural Coating	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Electricity	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Natural Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Indoor	0.00	0.00	0.00	0.00	0.00	0.00	20.00	20.00	20.00	20.00	19.99	20.00
Water Outdoor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Operational Mobile Mitigation

Project Setting:

Mitigation Selected	Category	Measure	% Reduction	Input Value 1	Input Value 2	Input Value 3
No	Land Use	Increase Density	0.00			
No	Land Use	Increase Diversity	0.11	0.33		
No	Land Use	Improve Walkability Design	0.00			
No	Land Use	Improve Destination Accessibility	0.00			

No	Land Use	Increase Transit Accessibility	0.25			
No	Land Use	Integrate Below Market Rate Housing	0.00			
	Land Use	Land Use SubTotal	0.00			
No	Neighborhood Enhancements	Improve Pedestrian Network				
No	Neighborhood Enhancements	Provide Traffic Calming Measures				
No	Neighborhood Enhancements	Implement NEV Network	0.00			
	Neighborhood Enhancements	Neighborhood Enhancements Subtotal	0.00			
No	Parking Policy Pricing	Limit Parking Supply	0.00			
No	Parking Policy Pricing	Unbundle Parking Costs	0.00			
No	Parking Policy Pricing	On-street Market Pricing	0.00			
	Parking Policy Pricing	Parking Policy Pricing Subtotal	0.00			
No	Transit Improvements	Provide BRT System	0.00			
No	Transit Improvements	Expand Transit Network	0.00			
No	Transit Improvements	Increase Transit Frequency	0.00			
	Transit Improvements	Transit Improvements Subtotal	0.00			
		Land Use and Site Enhancement Subtotal	0.00			
No	Commute	Implement Trip Reduction Program				
No	Commute	Transit Subsidy				
No	Commute	Implement Employee Parking "Cash Out"				
No	Commute	Workplace Parking Charge				
No	Commute	Encourage Telecommuting and Alternative Work Schedules	0.00			
No	Commute	Market Commute Trip Reduction Option	0.00			
No	Commute	Employee Vanpool/Shuttle	0.00		2.00	

No	Commute	Provide Ride Sharing Program				
	Commute	Commute Subtotal	0.00			
No	School Trip	Implement School Bus Program	0.00			
		Total VMT Reduction	0.00			

Area Mitigation

Measure Implemented	Mitigation Measure	Input Value
No	Only Natural Gas Hearth	
No	No Hearth	
No	Use Low VOC Cleaning Supplies	
Yes	Use Low VOC Paint (Residential Interior)	250.00
Yes	Use Low VOC Paint (Residential Exterior)	250.00
Yes	Use Low VOC Paint (Non-residential Interior)	250.00
Yes	Use Low VOC Paint (Non-residential Exterior)	100.00
No	Use Low VOC Paint (Parking)	0.00
No	% Electric Lawnmower	0.00
No	% Electric Leafblower	0.00
No	% Electric Chainsaw	0.00

Energy Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
No	Exceed Title 24		
No	Install High Efficiency Lighting		
No	On-site Renewable		

Appliance Type	Land Use Subtype	% Improvement

ClothWasher		30.00
DishWasher		15.00
Fan		50.00
Refrigerator		15.00

Water Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
Yes	Apply Water Conservation on Strategy	20.00	20.00
No	Use Reclaimed Water	0.00	0.00
No	Use Grey Water	0.00	
No	Install low-flow bathroom faucet	32.00	
No	Install low-flow Kitchen faucet	18.00	
No	Install low-flow Toilet	20.00	
No	Install low-flow Shower	20.00	
No	Turf Reduction	0.00	
No	Use Water Efficient Irrigation Systems	6.10	
No	Water Efficient Landscape	0.00	0.00

Solid Waste Mitigation

Mitigation Measures	Input Value
Institute Recycling and Composting Services Percent Reduction in Waste Disposed	75.00

APPENDIX B

Construction HRA Outputs

Torrey Highlands

San Diego County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	454.15	1000sqft	10.43	454,148.00	0
Enclosed Parking with Elevator	1,860.00	Space	13.94	607,152.00	0
Other Asphalt Surfaces	0.62	Acre	0.62	27,007.20	0
Parking Lot	71.00	Space	0.73	31,950.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2018
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - modified per project specifics

Construction Phase - construction schedule per applicant

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Trips and VMT - modified

Grading - modified

Architectural Coating - Arch coating based on CalEEMod calc methodolgy

Vehicle Trips - modified

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Area Coating - VOC content per SDAPCD Rule 67.0.1

Energy Use - modified

Construction Off-road Equipment Mitigation - Tier 2 equipment

Torrey Highlands - San Diego County, Annual

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	227,074.00	90,000.00
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	227,074.00	122,029.00
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	227,074.00	60,000.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	681,222.00	270,000.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	681,222.00	360,000.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	681,222.00	180,000.00
tblArchitecturalCoating	ConstArea_Parking	39,967.00	0.00
tblArchitecturalCoating	ConstArea_Parking	39,967.00	0.00
tblArchitecturalCoating	ConstArea_Parking	39,967.00	0.00
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tblArchitecturalCoating	EF_Parking	250.00	0.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	100.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	100.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	100.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	50.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	50.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	50.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	100
tblAreaCoating	Area_EF_Parking	250	0

tblAreaCoating	Area_Nonresidential_Exterior	227074	544633
tblAreaCoating	Area_Nonresidential_Interior	681222	810000
tblAreaCoating	Area_Parking	39967	0
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	100	250
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	21.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	16.00
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tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
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tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	28.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	16.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
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tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	35.00	207.00

tblConstructionPhase	NumDays	35.00	153.00
tblConstructionPhase	NumDays	35.00	240.00
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tblConstructionPhase	NumDays	440.00	412.00
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tblConstructionPhase	NumDays	20.00	6.00
tblConstructionPhase	NumDays	20.00	107.00
tblConstructionPhase	NumDays	20.00	55.00
tblConstructionPhase	NumDays	20.00	390.00
tblEnergyUse	LightingElect	1.75	2.63
tblEnergyUse	LightingElect	3.81	4.33
tblEnergyUse	LightingElect	0.35	0.88
tblEnergyUse	T24E	4.66	5.69
tblEnergyUse	T24NG	15.99	16.83
tblGrading	AcresOfGrading	85.00	10.43
tblGrading	AcresOfGrading	6.00	10.43
tblGrading	MaterialExported	0.00	51,740.00
tblLandUse	LandUseSquareFeet	454,150.00	454,148.00
tblLandUse	LandUseSquareFeet	744,000.00	607,152.00
tblLandUse	LandUseSquareFeet	28,400.00	31,950.00
tblLandUse	LotAcreage	16.74	13.94
tblLandUse	LotAcreage	0.64	0.73
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	3.00

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tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
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tblOffRoadEquipment	UsageHours	7.00	8.00
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tblTripsAndVMT	HaulingTripLength	20.00	0.19
tblTripsAndVMT	HaulingTripLength	20.00	0.19
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tblTripsAndVMT	HaulingTripNumber	0.00	24.00
tblTripsAndVMT	HaulingTripNumber	0.00	110.00
tblTripsAndVMT	VendorTripLength	7.30	0.19

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tblTripsAndVMT	VendorTripLength	7.30	0.19
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tblTripsAndVMT	VendorTripNumber	0.00	16.00
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tblTripsAndVMT	VendorTripNumber	0.00	12.00
tblTripsAndVMT	WorkerTripNumber	15.00	0.00
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tblTripsAndVMT	WorkerTripNumber	85.00	0.00
tblTripsAndVMT	WorkerTripNumber	425.00	0.00
tblVehicleTrips	ST_TR	2.46	2.37
tblVehicleTrips	SU_TR	1.05	0.98
tblVehicleTrips	WD_TR	11.03	11.59

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	0.4189	4.4758	3.0120	5.2000e-003	0.1493	0.1838	0.3330	0.0754	0.1720	0.2473	0.0000	467.1944	467.1944	0.1275	0.0000	470.3810
2019	3.0210	19.9764	15.2746	0.0262	0.0175	0.8117	0.8291	5.2800e-003	0.7724	0.7777	0.0000	2,301.6310	2,301.6310	0.5554	0.0000	2,315.5148
2020	1.0726	5.1770	4.5231	7.6300e-003	3.6500e-003	0.2239	0.2276	1.1000e-003	0.2140	0.2151	0.0000	662.1818	662.1818	0.1494	0.0000	665.9177
Maximum	**3.0210**	**19.9764**	**15.2746**	**0.0262**	**0.1493**	**0.8117**	**0.8291**	**0.0754**	**0.7724**	**0.7777**	**0.0000**	**2,301.6310**	**2,301.6310**	**0.5554**	**0.0000**	**2,315.5148**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	0.1115	2.5974	2.9979	5.2000e-003	0.0601	0.0310	0.0911	0.0299	0.0310	0.0609	0.0000	467.1940	467.1940	0.1275	0.0000	470.3806
2019	1.5805	13.1945	15.5531	0.0262	0.0175	0.1697	0.1872	5.2800e-003	0.1694	0.1747	0.0000	2,301.6289	2,301.6289	0.5554	0.0000	2,315.5127
2020	0.6933	3.4854	4.6916	7.6300e-003	3.6500e-003	0.0789	0.0825	1.1000e-003	0.0788	0.0799	0.0000	662.1811	662.1811	0.1494	0.0000	665.9170
Maximum	**1.5805**	**13.1945**	**15.5531**	**0.0262**	**0.0601**	**0.1697**	**0.1872**	**0.0299**	**0.1694**	**0.1747**	**0.0000**	**2,301.6289**	**2,301.6289**	**0.5554**	**0.0000**	**2,315.5127**

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**47.14**	**34.94**	**-1.90**	**0.00**	**52.36**	**77.07**	**74.04**	**55.57**	**75.90**	**74.56**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
2	**6-7-2018**	**9-6-2018**	0.1136	0.0391
3	**9-7-2018**	**12-6-2018**	3.4209	1.8961
4	**12-7-2018**	**3-6-2019**	4.6072	2.7793
5	**3-7-2019**	**6-6-2019**	4.8887	3.0476
6	**6-7-2019**	**9-6-2019**	6.5248	4.2095
7	**9-7-2019**	**12-6-2019**	6.3724	4.2133
8	**12-7-2019**	**3-6-2020**	5.1734	3.5201
9	**3-7-2020**	**6-6-2020**	2.5070	1.6161
10	**6-7-2020**	**9-6-2020**	0.0837	0.0358
		Highest	6.5248	4.2133

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.4144	2.1000e-004	0.0222	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.0426	0.0426	1.2000e-004	0.0000	0.0456
Energy	0.0515	0.4682	0.3933	2.8100e-003		0.0356	0.0356		0.0356	0.0356	0.0000	4,081.0293	4,081.0293	0.1535	0.0391	4,096.5146
Mobile	1.4568	6.1068	16.5428	0.0461	3.5832	0.0554	3.6386	0.9599	0.0522	1.0121	0.0000	4,233.6306	4,233.6306	0.2548	0.0000	4,240.0006
Waste						0.0000	0.0000		0.0000	0.0000	85.7353	0.0000	85.7353	5.0668	0.0000	212.4055
Water						0.0000	0.0000		0.0000	0.0000	25.6080	523.1105	548.7185	2.6513	0.0665	634.8049
Total	**3.9226**	**6.5752**	**16.9583**	**0.0489**	**3.5832**	**0.0911**	**3.6743**	**0.9599**	**0.0879**	**1.0478**	**111.3433**	**8,837.8130**	**8,949.1563**	**8.1265**	**0.1055**	**9,183.7712**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.4144	2.1000e-004	0.0222	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.0426	0.0426	1.2000e-004	0.0000	0.0456
Energy	0.0515	0.4682	0.3933	2.8100e-003		0.0356	0.0356		0.0356	0.0356	0.0000	4,081.0293	4,081.0293	0.1535	0.0391	4,096.5146
Mobile	1.4568	6.1068	16.5428	0.0461	3.5832	0.0554	3.6386	0.9599	0.0522	1.0121	0.0000	4,233.6306	4,233.6306	0.2548	0.0000	4,240.0006
Waste						0.0000	0.0000		0.0000	0.0000	85.7353	0.0000	85.7353	5.0668	0.0000	212.4055
Water						0.0000	0.0000		0.0000	0.0000	25.6080	523.1105	548.7185	2.6513	0.0665	634.8049
Total	**3.9226**	**6.5752**	**16.9583**	**0.0489**	**3.5832**	**0.0911**	**3.6743**	**0.9599**	**0.0879**	**1.0478**	**111.3433**	**8,837.8130**	**8,949.1563**	**8.1265**	**0.1055**	**9,183.7712**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	9/1/2018	9/8/2018	5	6	
2	Grading	Grading	9/8/2018	10/2/2018	5	17	
3	Utilities	Site Preparation	10/3/2018	12/17/2018	5	55	
4	Building Construction 1	Building Construction	10/3/2018	5/1/2020	5	412	
5	Building Construction 2	Building Construction	11/3/2018	1/1/2020	5	303	
6	Building Construction 3	Building Construction	12/1/2018	5/1/2020	5	369	
7	Sitework	Site Preparation	1/1/2019	7/1/2020	5	390	
8	Architectural Coating 2	Architectural Coating	5/1/2019	4/1/2020	5	240	
9	Parking Structure	Building Construction	6/1/2019	7/3/2019	5	23	
10	Cafe	Building Construction	6/1/2019	2/1/2020	5	176	
11	Architectural Coating 3	Architectural Coating	7/17/2019	5/1/2020	5	207	
12	Architectural Coating 1	Architectural Coating	8/1/2019	3/1/2020	5	153	
13	Landscape	Site Preparation	2/1/2020	7/1/2020	5	107	
14	Paving	Paving	2/1/2020	4/2/2020	5	43	

Acres of Grading (Site Preparation Phase): 10.43

Acres of Grading (Grading Phase): 10.43

Acres of Paving: 15.29

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 180,000; Non-Residential Outdoor: 60,000; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Scrapers	1	8.00	367	0.48

Site Preparation	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Grading	Excavators	0	8.00	158	0.38
Grading	Graders	0	8.00	187	0.41
Grading	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Scrapers	5	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	5	8.00	97	0.37
Utilities	Excavators	1	8.00	158	0.38
Utilities	Rubber Tired Dozers	0	8.00	247	0.40
Utilities	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Building Construction 1	Aerial Lifts	7	8.00	63	0.31
Building Construction 1	Cranes	1	8.00	231	0.29
Building Construction 1	Forklifts	2	8.00	89	0.20
Building Construction 1	Generator Sets	0	8.00	84	0.74
Building Construction 1	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction 1	Welders	5	8.00	46	0.45
Building Construction 2	Aerial Lifts	7	8.00	63	0.31
Building Construction 2	Cranes	1	8.00	231	0.29
Building Construction 2	Forklifts	2	8.00	89	0.20
Building Construction 2	Generator Sets	0	8.00	84	0.74
Building Construction 2	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction 2	Welders	5	8.00	46	0.45
Building Construction 3	Aerial Lifts	7	8.00	63	0.31
Building Construction 3	Cranes	1	8.00	231	0.29
Building Construction 3	Forklifts	2	8.00	89	0.20
Building Construction 3	Generator Sets	0	8.00	84	0.74
Building Construction 3	Tractors/Loaders/Backhoes	6	8.00	97	0.37
Building Construction 3	Welders	5	8.00	46	0.45

Sitework	Air Compressors	2	8.00	78	0.48
Sitework	Rubber Tired Dozers	0	8.00	247	0.40
Sitework	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Architectural Coating 2	Air Compressors	2	8.00	78	0.48
Parking Structure	Air Compressors	4	8.00	78	0.48
Parking Structure	Cranes	1	8.00	231	0.29
Parking Structure	Forklifts	2	8.00	89	0.20
Parking Structure	Generator Sets	0	8.00	84	0.74
Parking Structure	Rubber Tired Dozers	0	8.00	247	0.40
Parking Structure	Scrapers	0	8.00	367	0.48
Parking Structure	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Parking Structure	Welders	1	8.00	46	0.45
Cafe	Cranes	1	8.00	231	0.29
Cafe	Forklifts	1	8.00	89	0.20
Cafe	Generator Sets	0	8.00	84	0.74
Cafe	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Cafe	Welders	0	8.00	46	0.45
Architectural Coating 3	Air Compressors	2	8.00	78	0.48
Architectural Coating 1	Air Compressors	2	8.00	78	0.48
Landscape	Rubber Tired Dozers	0	8.00	247	0.40
Landscape	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Air Compressors	4	8.00	78	0.48
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	0	8.00	80	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	6	0.00	16.00	24.00	10.80	0.19	0.19	LD_Mix	HDT_Mix	HHDT
Grading	12	0.00	16.00	6,468.00	10.80	0.19	0.19	LD_Mix	HDT_Mix	HHDT
Utilities	5	0.00	12.00	110.00	10.80	0.19	0.19	LD_Mix	HDT_Mix	HHDT
Building Construction 1	17	0.00	184.00	0.00	10.80	0.19	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction 2	17	0.00	184.00	0.00	10.80	0.19	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction 3	21	0.00	184.00	0.00	10.80	0.19	20.00	LD_Mix	HDT_Mix	HHDT
Sitework	2	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating 2	2	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Parking Structure	11	0.00	184.00	0.00	10.80	0.19	20.00	LD_Mix	HDT_Mix	HHDT
Cafe	3	0.00	184.00	0.00	10.80	0.19	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating 3	2	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating 1	2	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Landscape	2	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

3.2 Site Preparation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0347	0.0000	0.0347	0.0171	0.0000	0.0171	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0107	0.1180	0.0614	1.0000e-004		5.8500e-003	5.8500e-003		5.3800e-003	5.3800e-003	0.0000	9.4880	9.4880	2.9500e-003	0.0000	9.5618
Total	**0.0107**	**0.1180**	**0.0614**	**1.0000e-004**	**0.0347**	**5.8500e-003**	**0.0406**	**0.0171**	**5.3800e-003**	**0.0224**	**0.0000**	**9.4880**	**9.4880**	**2.9500e-003**	**0.0000**	**9.5618**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0000e-005	1.0400e-003	1.7000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1050	0.1050	2.0000e-005	0.0000	0.1055
Vendor	8.0000e-005	2.6700e-003	7.8000e-004	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	1.0000e-005	0.0000	0.2325	0.2325	5.0000e-005	0.0000	0.2337
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.0000e-004**	**3.7100e-003**	**9.5000e-004**	**0.0000**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**	**0.3375**	**0.3375**	**7.0000e-005**	**0.0000**	**0.3393**

3.2 Site Preparation - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0135	0.0000	0.0135	6.6500e-003	0.0000	6.6500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.2600e-003	0.0395	0.0604	1.0000e-004		1.4900e-003	1.4900e-003		1.4900e-003	1.4900e-003	0.0000	9.4880	9.4880	2.9500e-003	0.0000	9.5618
Total	**2.2600e-003**	**0.0395**	**0.0604**	**1.0000e-004**	**0.0135**	**1.4900e-003**	**0.0150**	**6.6500e-003**	**1.4900e-003**	**8.1400e-003**	**0.0000**	**9.4880**	**9.4880**	**2.9500e-003**	**0.0000**	**9.5618**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0000e-005	1.0400e-003	1.7000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1050	0.1050	2.0000e-005	0.0000	0.1055
Vendor	8.0000e-005	2.6700e-003	7.8000e-004	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	1.0000e-005	0.0000	0.2325	0.2325	5.0000e-005	0.0000	0.2337
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.0000e-004**	**3.7100e-003**	**9.5000e-004**	**0.0000**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**	**0.3375**	**0.3375**	**7.0000e-005**	**0.0000**	**0.3393**

3.3 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1115	0.0000	0.1115	0.0574	0.0000	0.0574	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0799	0.9284	0.5472	9.2000e-004		0.0421	0.0421		0.0387	0.0387	0.0000	84.1141	84.1141	0.0262	0.0000	84.7687
Total	**0.0799**	**0.9284**	**0.5472**	**9.2000e-004**	**0.1115**	**0.0421**	**0.1536**	**0.0574**	**0.0387**	**0.0961**	**0.0000**	**84.1141**	**84.1141**	**0.0262**	**0.0000**	**84.7687**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	7.3800e-003	0.3350	0.0557	3.5000e-004	5.9000e-004	3.6000e-004	9.5000e-004	1.7000e-004	3.4000e-004	5.1000e-004	0.0000	33.9433	33.9433	7.1100e-003	0.0000	34.1210
Vendor	2.6000e-004	9.0800e-003	2.6400e-003	1.0000e-005	3.0000e-005	1.0000e-005	4.0000e-005	1.0000e-005	1.0000e-005	2.0000e-005	0.0000	0.7906	0.7906	1.6000e-004	0.0000	0.7947
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**7.6400e-003**	**0.3441**	**0.0583**	**3.6000e-004**	**6.2000e-004**	**3.7000e-004**	**9.9000e-004**	**1.8000e-004**	**3.5000e-004**	**5.3000e-004**	**0.0000**	**34.7339**	**34.7339**	**7.2700e-003**	**0.0000**	**34.9157**

3.3 Grading - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0435	0.0000	0.0435	0.0224	0.0000	0.0224	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0210	0.3821	0.5199	9.2000e-004		0.0144	0.0144		0.0144	0.0144	0.0000	84.1140	84.1140	0.0262	0.0000	84.7686
Total	**0.0210**	**0.3821**	**0.5199**	**9.2000e-004**	**0.0435**	**0.0144**	**0.0579**	**0.0224**	**0.0144**	**0.0368**	**0.0000**	**84.1140**	**84.1140**	**0.0262**	**0.0000**	**84.7686**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	7.3800e-003	0.3350	0.0557	3.5000e-004	5.9000e-004	3.6000e-004	9.5000e-004	1.7000e-004	3.4000e-004	5.1000e-004	0.0000	33.9433	33.9433	7.1100e-003	0.0000	34.1210
Vendor	2.6000e-004	9.0800e-003	2.6400e-003	1.0000e-005	3.0000e-005	1.0000e-005	4.0000e-005	1.0000e-005	1.0000e-005	2.0000e-005	0.0000	0.7906	0.7906	1.6000e-004	0.0000	0.7947
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**7.6400e-003**	**0.3441**	**0.0583**	**3.6000e-004**	**6.2000e-004**	**3.7000e-004**	**9.9000e-004**	**1.8000e-004**	**3.5000e-004**	**5.3000e-004**	**0.0000**	**34.7339**	**34.7339**	**7.2700e-003**	**0.0000**	**34.9157**

3.4 Utilities - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0366	0.3676	0.3408	4.8000e-004		0.0242	0.0242		0.0222	0.0222	0.0000	43.3712	43.3712	0.0135	0.0000	43.7088
Total	**0.0366**	**0.3676**	**0.3408**	**4.8000e-004**	**0.0000**	**0.0242**	**0.0242**	**0.0000**	**0.0222**	**0.0222**	**0.0000**	**43.3712**	**43.3712**	**0.0135**	**0.0000**	**43.7088**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.2000e-004	5.5900e-003	9.3000e-004	1.0000e-005	1.0000e-005	1.0000e-005	2.0000e-005	0.0000	1.0000e-005	1.0000e-005	0.0000	0.5668	0.5668	1.2000e-004	0.0000	0.5697
Vendor	6.3000e-004	0.0216	6.3000e-003	2.0000e-005	6.0000e-005	3.0000e-005	9.0000e-005	2.0000e-005	3.0000e-005	5.0000e-005	0.0000	1.8836	1.8836	3.9000e-004	0.0000	1.8933
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**7.5000e-004**	**0.0272**	**7.2300e-003**	**3.0000e-005**	**7.0000e-005**	**4.0000e-005**	**1.1000e-004**	**2.0000e-005**	**4.0000e-005**	**6.0000e-005**	**0.0000**	**2.4503**	**2.4503**	**5.1000e-004**	**0.0000**	**2.4630**

3.4 Utilities - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.5300e-003	0.0841	0.3587	4.8000e-004		3.7500e-003	3.7500e-003		3.7500e-003	3.7500e-003	0.0000	43.3712	43.3712	0.0135	0.0000	43.7087
Total	**7.5300e-003**	**0.0841**	**0.3587**	**4.8000e-004**	**0.0000**	**3.7500e-003**	**3.7500e-003**	**0.0000**	**3.7500e-003**	**3.7500e-003**	**0.0000**	**43.3712**	**43.3712**	**0.0135**	**0.0000**	**43.7087**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.2000e-004	5.5900e-003	9.3000e-004	1.0000e-005	1.0000e-005	1.0000e-005	2.0000e-005	0.0000	1.0000e-005	1.0000e-005	0.0000	0.5668	0.5668	1.2000e-004	0.0000	0.5697
Vendor	6.3000e-004	0.0216	6.3000e-003	2.0000e-005	6.0000e-005	3.0000e-005	9.0000e-005	2.0000e-005	3.0000e-005	5.0000e-005	0.0000	1.8836	1.8836	3.9000e-004	0.0000	1.8933
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**7.5000e-004**	**0.0272**	**7.2300e-003**	**3.0000e-005**	**7.0000e-005**	**4.0000e-005**	**1.1000e-004**	**2.0000e-005**	**4.0000e-005**	**6.0000e-005**	**0.0000**	**2.4503**	**2.4503**	**5.1000e-004**	**0.0000**	**2.4630**

3.5 Building Construction 1 - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1268	0.9157	0.8496	1.2700e-003		0.0520	0.0520		0.0493	0.0493	0.0000	108.3896	108.3896	0.0301	0.0000	109.1432
Total	**0.1268**	**0.9157**	**0.8496**	**1.2700e-003**		**0.0520**	**0.0520**		**0.0493**	**0.0493**	**0.0000**	**108.3896**	**108.3896**	**0.0301**	**0.0000**	**109.1432**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0114	0.3929	0.1145	3.5000e-004	1.1700e-003	5.5000e-004	1.7200e-003	3.5000e-004	5.3000e-004	8.8000e-004	0.0000	34.2299	34.2299	7.0700e-003	0.0000	34.4066
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0114**	**0.3929**	**0.1145**	**3.5000e-004**	**1.1700e-003**	**5.5000e-004**	**1.7200e-003**	**3.5000e-004**	**5.3000e-004**	**8.8000e-004**	**0.0000**	**34.2299**	**34.2299**	**7.0700e-003**	**0.0000**	**34.4066**

3.5 Building Construction 1 - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0244	0.4755	0.8475	1.2700e-003		4.9000e-003	4.9000e-003		4.9000e-003	4.9000e-003	0.0000	108.3895	108.3895	0.0301	0.0000	109.1431
Total	**0.0244**	**0.4755**	**0.8475**	**1.2700e-003**		**4.9000e-003**	**4.9000e-003**		**4.9000e-003**	**4.9000e-003**	**0.0000**	**108.3895**	**108.3895**	**0.0301**	**0.0000**	**109.1431**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0114	0.3929	0.1145	3.5000e-004	1.1700e-003	5.5000e-004	1.7200e-003	3.5000e-004	5.3000e-004	8.8000e-004	0.0000	34.2299	34.2299	7.0700e-003	0.0000	34.4066
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0114**	**0.3929**	**0.1145**	**3.5000e-004**	**1.1700e-003**	**5.5000e-004**	**1.7200e-003**	**3.5000e-004**	**5.3000e-004**	**8.8000e-004**	**0.0000**	**34.2299**	**34.2299**	**7.0700e-003**	**0.0000**	**34.4066**

3.5 Building Construction 1 - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.4568	3.4485	3.3894	5.1600e-003		0.1831	0.1831		0.1737	0.1737	0.0000	436.8454	436.8454	0.1199	0.0000	439.8426
Total	**0.4568**	**3.4485**	**3.3894**	**5.1600e-003**		**0.1831**	**0.1831**		**0.1737**	**0.1737**	**0.0000**	**436.8454**	**436.8454**	**0.1199**	**0.0000**	**439.8426**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0424	1.5602	0.4263	1.4200e-003	4.7600e-003	1.9300e-003	6.6900e-003	1.4400e-003	1.8500e-003	3.2900e-003	0.0000	139.3500	139.3500	0.0274	0.0000	140.0338
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0424**	**1.5602**	**0.4263**	**1.4200e-003**	**4.7600e-003**	**1.9300e-003**	**6.6900e-003**	**1.4400e-003**	**1.8500e-003**	**3.2900e-003**	**0.0000**	**139.3500**	**139.3500**	**0.0274**	**0.0000**	**140.0338**

3.5 Building Construction 1 - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0997	1.9392	3.4563	5.1600e-003		0.0200	0.0200		0.0200	0.0200	0.0000	436.8449	436.8449	0.1199	0.0000	439.8421
Total	**0.0997**	**1.9392**	**3.4563**	**5.1600e-003**		**0.0200**	**0.0200**		**0.0200**	**0.0200**	**0.0000**	**436.8449**	**436.8449**	**0.1199**	**0.0000**	**439.8421**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0424	1.5602	0.4263	1.4200e-003	4.7600e-003	1.9300e-003	6.6900e-003	1.4400e-003	1.8500e-003	3.2900e-003	0.0000	139.3500	139.3500	0.0274	0.0000	140.0338
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0424**	**1.5602**	**0.4263**	**1.4200e-003**	**4.7600e-003**	**1.9300e-003**	**6.6900e-003**	**1.4400e-003**	**1.8500e-003**	**3.2900e-003**	**0.0000**	**139.3500**	**139.3500**	**0.0274**	**0.0000**	**140.0338**

3.5 Building Construction 1 - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1385	1.0806	1.1233	1.7400e-003		0.0535	0.0535		0.0508	0.0508	0.0000	144.9800	144.9800	0.0396	0.0000	145.9705
Total	**0.1385**	**1.0806**	**1.1233**	**1.7400e-003**		**0.0535**	**0.0535**		**0.0508**	**0.0508**	**0.0000**	**144.9800**	**144.9800**	**0.0396**	**0.0000**	**145.9705**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0126	0.5072	0.1308	4.8000e-004	1.6100e-003	4.3000e-004	2.0400e-003	4.9000e-004	4.1000e-004	9.0000e-004	0.0000	47.0937	47.0937	8.5200e-003	0.0000	47.3066
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0126**	**0.5072**	**0.1308**	**4.8000e-004**	**1.6100e-003**	**4.3000e-004**	**2.0400e-003**	**4.9000e-004**	**4.1000e-004**	**9.0000e-004**	**0.0000**	**47.0937**	**47.0937**	**8.5200e-003**	**0.0000**	**47.3066**

3.5 Building Construction 1 - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0336	0.6538	1.1653	1.7400e-003		6.7300e-003	6.7300e-003		6.7300e-003	6.7300e-003	0.0000	144.9798	144.9798	0.0396	0.0000	145.9703
Total	**0.0336**	**0.6538**	**1.1653**	**1.7400e-003**		**6.7300e-003**	**6.7300e-003**		**6.7300e-003**	**6.7300e-003**	**0.0000**	**144.9798**	**144.9798**	**0.0396**	**0.0000**	**145.9703**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0126	0.5072	0.1308	4.8000e-004	1.6100e-003	4.3000e-004	2.0400e-003	4.9000e-004	4.1000e-004	9.0000e-004	0.0000	47.0937	47.0937	8.5200e-003	0.0000	47.3066
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0126**	**0.5072**	**0.1308**	**4.8000e-004**	**1.6100e-003**	**4.3000e-004**	**2.0400e-003**	**4.9000e-004**	**4.1000e-004**	**9.0000e-004**	**0.0000**	**47.0937**	**47.0937**	**8.5200e-003**	**0.0000**	**47.3066**

3.6 Building Construction 2 - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0812	0.5866	0.5443	8.1000e-004		0.0333	0.0333		0.0316	0.0316	0.0000	69.4371	69.4371	0.0193	0.0000	69.9199
Total	**0.0812**	**0.5866**	**0.5443**	**8.1000e-004**		**0.0333**	**0.0333**		**0.0316**	**0.0316**	**0.0000**	**69.4371**	**69.4371**	**0.0193**	**0.0000**	**69.9199**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.3300e-003	0.2517	0.0734	2.2000e-004	7.5000e-004	3.5000e-004	1.1000e-003	2.3000e-004	3.4000e-004	5.6000e-004	0.0000	21.9285	21.9285	4.5300e-003	0.0000	22.0417
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**7.3300e-003**	**0.2517**	**0.0734**	**2.2000e-004**	**7.5000e-004**	**3.5000e-004**	**1.1000e-003**	**2.3000e-004**	**3.4000e-004**	**5.6000e-004**	**0.0000**	**21.9285**	**21.9285**	**4.5300e-003**	**0.0000**	**22.0417**

3.6 Building Construction 2 - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0157	0.3046	0.5429	8.1000e-004		3.1400e-003	3.1400e-003		3.1400e-003	3.1400e-003	0.0000	69.4370	69.4370	0.0193	0.0000	69.9198
Total	**0.0157**	**0.3046**	**0.5429**	**8.1000e-004**		**3.1400e-003**	**3.1400e-003**		**3.1400e-003**	**3.1400e-003**	**0.0000**	**69.4370**	**69.4370**	**0.0193**	**0.0000**	**69.9198**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.3300e-003	0.2517	0.0734	2.2000e-004	7.5000e-004	3.5000e-004	1.1000e-003	2.3000e-004	3.4000e-004	5.6000e-004	0.0000	21.9285	21.9285	4.5300e-003	0.0000	22.0417
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**7.3300e-003**	**0.2517**	**0.0734**	**2.2000e-004**	**7.5000e-004**	**3.5000e-004**	**1.1000e-003**	**2.3000e-004**	**3.4000e-004**	**5.6000e-004**	**0.0000**	**21.9285**	**21.9285**	**4.5300e-003**	**0.0000**	**22.0417**

3.6 Building Construction 2 - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.4568	3.4485	3.3894	5.1600e-003		0.1831	0.1831		0.1737	0.1737	0.0000	436.8454	436.8454	0.1199	0.0000	439.8426
Total	**0.4568**	**3.4485**	**3.3894**	**5.1600e-003**		**0.1831**	**0.1831**		**0.1737**	**0.1737**	**0.0000**	**436.8454**	**436.8454**	**0.1199**	**0.0000**	**439.8426**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0424	1.5602	0.4263	1.4200e-003	4.7600e-003	1.9300e-003	6.6900e-003	1.4400e-003	1.8500e-003	3.2900e-003	0.0000	139.3500	139.3500	0.0274	0.0000	140.0338
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0424**	**1.5602**	**0.4263**	**1.4200e-003**	**4.7600e-003**	**1.9300e-003**	**6.6900e-003**	**1.4400e-003**	**1.8500e-003**	**3.2900e-003**	**0.0000**	**139.3500**	**139.3500**	**0.0274**	**0.0000**	**140.0338**

3.6 Building Construction 2 - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0997	1.9392	3.4563	5.1600e-003		0.0200	0.0200		0.0200	0.0200	0.0000	436.8449	436.8449	0.1199	0.0000	439.8421
Total	**0.0997**	**1.9392**	**3.4563**	**5.1600e-003**		**0.0200**	**0.0200**		**0.0200**	**0.0200**	**0.0000**	**436.8449**	**436.8449**	**0.1199**	**0.0000**	**439.8421**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0424	1.5602	0.4263	1.4200e-003	4.7600e-003	1.9300e-003	6.6900e-003	1.4400e-003	1.8500e-003	3.2900e-003	0.0000	139.3500	139.3500	0.0274	0.0000	140.0338
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0424**	**1.5602**	**0.4263**	**1.4200e-003**	**4.7600e-003**	**1.9300e-003**	**6.6900e-003**	**1.4400e-003**	**1.8500e-003**	**3.2900e-003**	**0.0000**	**139.3500**	**139.3500**	**0.0274**	**0.0000**	**140.0338**

3.6 Building Construction 2 - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.5700e-003	0.0123	0.0128	2.0000e-005		6.1000e-004	6.1000e-004		5.8000e-004	5.8000e-004	0.0000	1.6475	1.6475	4.5000e-004	0.0000	1.6588
Total	**1.5700e-003**	**0.0123**	**0.0128**	**2.0000e-005**		**6.1000e-004**	**6.1000e-004**		**5.8000e-004**	**5.8000e-004**	**0.0000**	**1.6475**	**1.6475**	**4.5000e-004**	**0.0000**	**1.6588**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.4000e-004	5.7600e-003	1.4900e-003	1.0000e-005	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.5352	0.5352	1.0000e-004	0.0000	0.5376
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.4000e-004**	**5.7600e-003**	**1.4900e-003**	**1.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.5352**	**0.5352**	**1.0000e-004**	**0.0000**	**0.5376**

3.6 Building Construction 2 - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.8000e-004	7.4300e-003	0.0132	2.0000e-005		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	1.6475	1.6475	4.5000e-004	0.0000	1.6588
Total	**3.8000e-004**	**7.4300e-003**	**0.0132**	**2.0000e-005**		**8.0000e-005**	**8.0000e-005**		**8.0000e-005**	**8.0000e-005**	**0.0000**	**1.6475**	**1.6475**	**4.5000e-004**	**0.0000**	**1.6588**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.4000e-004	5.7600e-003	1.4900e-003	1.0000e-005	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.5352	0.5352	1.0000e-004	0.0000	0.5376
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.4000e-004**	**5.7600e-003**	**1.4900e-003**	**1.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.5352**	**0.5352**	**1.0000e-004**	**0.0000**	**0.5376**

3.7 Building Construction 3 - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0528	0.4109	0.3769	5.5000e-004		0.0249	0.0249		0.0234	0.0234	0.0000	47.4827	47.4827	0.0136	0.0000	47.8227
Total	**0.0528**	**0.4109**	**0.3769**	**5.5000e-004**		**0.0249**	**0.0249**		**0.0234**	**0.0234**	**0.0000**	**47.4827**	**47.4827**	**0.0136**	**0.0000**	**47.8227**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.7500e-003	0.1289	0.0376	1.2000e-004	3.8000e-004	1.8000e-004	5.6000e-004	1.2000e-004	1.7000e-004	2.9000e-004	0.0000	11.2317	11.2317	2.3200e-003	0.0000	11.2897
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.7500e-003**	**0.1289**	**0.0376**	**1.2000e-004**	**3.8000e-004**	**1.8000e-004**	**5.6000e-004**	**1.2000e-004**	**1.7000e-004**	**2.9000e-004**	**0.0000**	**11.2317**	**11.2317**	**2.3200e-003**	**0.0000**	**11.2897**

3.7 Building Construction 3 - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.6200e-003	0.1629	0.3765	5.5000e-004		1.8200e-003	1.8200e-003		1.8200e-003	1.8200e-003	0.0000	47.4826	47.4826	0.0136	0.0000	47.8226
Total	**9.6200e-003**	**0.1629**	**0.3765**	**5.5000e-004**		**1.8200e-003**	**1.8200e-003**		**1.8200e-003**	**1.8200e-003**	**0.0000**	**47.4826**	**47.4826**	**0.0136**	**0.0000**	**47.8226**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.7500e-003	0.1289	0.0376	1.2000e-004	3.8000e-004	1.8000e-004	5.6000e-004	1.2000e-004	1.7000e-004	2.9000e-004	0.0000	11.2317	11.2317	2.3200e-003	0.0000	11.2897
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.7500e-003**	**0.1289**	**0.0376**	**1.2000e-004**	**3.8000e-004**	**1.8000e-004**	**5.6000e-004**	**1.2000e-004**	**1.7000e-004**	**2.9000e-004**	**0.0000**	**11.2317**	**11.2317**	**2.3200e-003**	**0.0000**	**11.2897**

3.7 Building Construction 3 - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.5783	4.6686	4.5914	6.7900e-003		0.2646	0.2646		0.2486	0.2486	0.0000	582.4820	582.4820	0.1660	0.0000	586.6311
Total	**0.5783**	**4.6686**	**4.5914**	**6.7900e-003**		**0.2646**	**0.2646**		**0.2486**	**0.2486**	**0.0000**	**582.4820**	**582.4820**	**0.1660**	**0.0000**	**586.6311**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0424	1.5602	0.4263	1.4200e-003	4.7600e-003	1.9300e-003	6.6900e-003	1.4400e-003	1.8500e-003	3.2900e-003	0.0000	139.3500	139.3500	0.0274	0.0000	140.0338
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0424**	**1.5602**	**0.4263**	**1.4200e-003**	**4.7600e-003**	**1.9300e-003**	**6.6900e-003**	**1.4400e-003**	**1.8500e-003**	**3.2900e-003**	**0.0000**	**139.3500**	**139.3500**	**0.0274**	**0.0000**	**140.0338**

3.7 Building Construction 3 - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1195	2.0251	4.6788	6.7900e-003		0.0226	0.0226		0.0226	0.0226	0.0000	582.4813	582.4813	0.1660	0.0000	586.6304
Total	**0.1195**	**2.0251**	**4.6788**	**6.7900e-003**		**0.0226**	**0.0226**		**0.0226**	**0.0226**	**0.0000**	**582.4813**	**582.4813**	**0.1660**	**0.0000**	**586.6304**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0424	1.5602	0.4263	1.4200e-003	4.7600e-003	1.9300e-003	6.6900e-003	1.4400e-003	1.8500e-003	3.2900e-003	0.0000	139.3500	139.3500	0.0274	0.0000	140.0338
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0424**	**1.5602**	**0.4263**	**1.4200e-003**	**4.7600e-003**	**1.9300e-003**	**6.6900e-003**	**1.4400e-003**	**1.8500e-003**	**3.2900e-003**	**0.0000**	**139.3500**	**139.3500**	**0.0274**	**0.0000**	**140.0338**

3.7 Building Construction 3 - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1754	1.4511	1.5246	2.2900e-003		0.0770	0.0770		0.0723	0.0723	0.0000	193.0021	193.0021	0.0552	0.0000	194.3808
Total	**0.1754**	**1.4511**	**1.5246**	**2.2900e-003**		**0.0770**	**0.0770**		**0.0723**	**0.0723**	**0.0000**	**193.0021**	**193.0021**	**0.0552**	**0.0000**	**194.3808**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0126	0.5072	0.1308	4.8000e-004	1.6100e-003	4.3000e-004	2.0400e-003	4.9000e-004	4.1000e-004	9.0000e-004	0.0000	47.0937	47.0937	8.5200e-003	0.0000	47.3066
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0126**	**0.5072**	**0.1308**	**4.8000e-004**	**1.6100e-003**	**4.3000e-004**	**2.0400e-003**	**4.9000e-004**	**4.1000e-004**	**9.0000e-004**	**0.0000**	**47.0937**	**47.0937**	**8.5200e-003**	**0.0000**	**47.3066**

3.7 Building Construction 3 - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0403	0.6828	1.5775	2.2900e-003		7.6200e-003	7.6200e-003		7.6200e-003	7.6200e-003	0.0000	193.0018	193.0018	0.0552	0.0000	194.3806
Total	**0.0403**	**0.6828**	**1.5775**	**2.2900e-003**		**7.6200e-003**	**7.6200e-003**		**7.6200e-003**	**7.6200e-003**	**0.0000**	**193.0018**	**193.0018**	**0.0552**	**0.0000**	**194.3806**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0126	0.5072	0.1308	4.8000e-004	1.6100e-003	4.3000e-004	2.0400e-003	4.9000e-004	4.1000e-004	9.0000e-004	0.0000	47.0937	47.0937	8.5200e-003	0.0000	47.3066
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0126**	**0.5072**	**0.1308**	**4.8000e-004**	**1.6100e-003**	**4.3000e-004**	**2.0400e-003**	**4.9000e-004**	**4.1000e-004**	**9.0000e-004**	**0.0000**	**47.0937**	**47.0937**	**8.5200e-003**	**0.0000**	**47.3066**

3.8 Sitework - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0927	0.6387	0.6408	1.0300e-003		0.0448	0.0448		0.0448	0.0448	0.0000	88.8532	88.8532	7.5000e-003	0.0000	89.0409
Total	**0.0927**	**0.6387**	**0.6408**	**1.0300e-003**	**0.0000**	**0.0448**	**0.0448**	**0.0000**	**0.0448**	**0.0448**	**0.0000**	**88.8532**	**88.8532**	**7.5000e-003**	**0.0000**	**89.0409**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.8 Sitework - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0207	0.4722	0.6377	1.0300e-003		0.0331	0.0331		0.0331	0.0331	0.0000	88.8531	88.8531	7.5000e-003	0.0000	89.0407
Total	**0.0207**	**0.4722**	**0.6377**	**1.0300e-003**	**0.0000**	**0.0331**	**0.0331**	**0.0000**	**0.0331**	**0.0331**	**0.0000**	**88.8531**	**88.8531**	**7.5000e-003**	**0.0000**	**89.0407**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.8 Sitework - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0423	0.2941	0.3199	5.2000e-004		0.0194	0.0194		0.0194	0.0194	0.0000	44.5968	44.5968	3.4500e-003	0.0000	44.6832
Total	**0.0423**	**0.2941**	**0.3199**	**5.2000e-004**	**0.0000**	**0.0194**	**0.0194**	**0.0000**	**0.0194**	**0.0194**	**0.0000**	**44.5968**	**44.5968**	**3.4500e-003**	**0.0000**	**44.6832**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.8 Sitework - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0104	0.2370	0.3201	5.2000e-004		0.0166	0.0166		0.0166	0.0166	0.0000	44.5968	44.5968	3.4500e-003	0.0000	44.6831
Total	**0.0104**	**0.2370**	**0.3201**	**5.2000e-004**	**0.0000**	**0.0166**	**0.0166**	**0.0000**	**0.0166**	**0.0166**	**0.0000**	**44.5968**	**44.5968**	**3.4500e-003**	**0.0000**	**44.6831**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.9 Architectural Coating 2 - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.2535					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0622	0.4283	0.4296	6.9000e-004		0.0300	0.0300		0.0300	0.0300	0.0000	59.5759	59.5759	5.0300e-003	0.0000	59.7017
Total	**0.3157**	**0.4283**	**0.4296**	**6.9000e-004**		**0.0300**	**0.0300**		**0.0300**	**0.0300**	**0.0000**	**59.5759**	**59.5759**	**5.0300e-003**	**0.0000**	**59.7017**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.9 Architectural Coating 2 - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.2535					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0139	0.3166	0.4276	6.9000e-004		0.0222	0.0222		0.0222	0.0222	0.0000	59.5759	59.5759	5.0300e-003	0.0000	59.7017
Total	**0.2674**	**0.3166**	**0.4276**	**6.9000e-004**		**0.0222**	**0.0222**		**0.0222**	**0.0222**	**0.0000**	**59.5759**	**59.5759**	**5.0300e-003**	**0.0000**	**59.7017**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.9 Architectural Coating 2 - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0956					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0213	0.1482	0.1612	2.6000e-004		9.7600e-003	9.7600e-003		9.7600e-003	9.7600e-003	0.0000	22.4686	22.4686	1.7400e-003	0.0000	22.5121
Total	**0.1169**	**0.1482**	**0.1612**	**2.6000e-004**		**9.7600e-003**	**9.7600e-003**		**9.7600e-003**	**9.7600e-003**	**0.0000**	**22.4686**	**22.4686**	**1.7400e-003**	**0.0000**	**22.5121**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.9 Architectural Coating 2 - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0956					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.2300e-003	0.1194	0.1613	2.6000e-004		8.3700e-003	8.3700e-003		8.3700e-003	8.3700e-003	0.0000	22.4686	22.4686	1.7400e-003	0.0000	22.5121
Total	**0.1008**	**0.1194**	**0.1613**	**2.6000e-004**		**8.3700e-003**	**8.3700e-003**		**8.3700e-003**	**8.3700e-003**	**0.0000**	**22.4686**	**22.4686**	**1.7400e-003**	**0.0000**	**22.5121**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.10 Parking Structure - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0383	0.3138	0.2670	4.2000e-004		0.0199	0.0199		0.0190	0.0190	0.0000	36.5665	36.5665	7.6100e-003	0.0000	36.7568
Total	**0.0383**	**0.3138**	**0.2670**	**4.2000e-004**		**0.0199**	**0.0199**		**0.0190**	**0.0190**	**0.0000**	**36.5665**	**36.5665**	**7.6100e-003**	**0.0000**	**36.7568**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.7400e-003	0.1375	0.0376	1.3000e-004	4.2000e-004	1.7000e-004	5.9000e-004	1.3000e-004	1.6000e-004	2.9000e-004	0.0000	12.2799	12.2799	2.4100e-003	0.0000	12.3402
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.7400e-003**	**0.1375**	**0.0376**	**1.3000e-004**	**4.2000e-004**	**1.7000e-004**	**5.9000e-004**	**1.3000e-004**	**1.6000e-004**	**2.9000e-004**	**0.0000**	**12.2799**	**12.2799**	**2.4100e-003**	**0.0000**	**12.3402**

3.10 Parking Structure - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	7.5200e-003	0.1339	0.2725	4.2000e-004		7.2900e-003	7.2900e-003		7.2900e-003	7.2900e-003	0.0000	36.5664	36.5664	7.6100e-003	0.0000	36.7568
Total	**7.5200e-003**	**0.1339**	**0.2725**	**4.2000e-004**		**7.2900e-003**	**7.2900e-003**		**7.2900e-003**	**7.2900e-003**	**0.0000**	**36.5664**	**36.5664**	**7.6100e-003**	**0.0000**	**36.7568**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.7400e-003	0.1375	0.0376	1.3000e-004	4.2000e-004	1.7000e-004	5.9000e-004	1.3000e-004	1.6000e-004	2.9000e-004	0.0000	12.2799	12.2799	2.4100e-003	0.0000	12.3402
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.7400e-003**	**0.1375**	**0.0376**	**1.3000e-004**	**4.2000e-004**	**1.7000e-004**	**5.9000e-004**	**1.3000e-004**	**1.6000e-004**	**2.9000e-004**	**0.0000**	**12.2799**	**12.2799**	**2.4100e-003**	**0.0000**	**12.3402**

3.11 Cafe - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0682	0.7427	0.4400	7.9000e-004		0.0396	0.0396		0.0365	0.0365	0.0000	71.0194	71.0194	0.0225	0.0000	71.5812
Total	**0.0682**	**0.7427**	**0.4400**	**7.9000e-004**		**0.0396**	**0.0396**		**0.0365**	**0.0365**	**0.0000**	**71.0194**	**71.0194**	**0.0225**	**0.0000**	**71.5812**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0247	0.9086	0.2483	8.3000e-004	2.7700e-003	1.1200e-003	3.9000e-003	8.4000e-004	1.0800e-003	1.9100e-003	0.0000	81.1540	81.1540	0.0159	0.0000	81.5523
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0247**	**0.9086**	**0.2483**	**8.3000e-004**	**2.7700e-003**	**1.1200e-003**	**3.9000e-003**	**8.4000e-004**	**1.0800e-003**	**1.9100e-003**	**0.0000**	**81.1540**	**81.1540**	**0.0159**	**0.0000**	**81.5523**

3.11 Cafe - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0151	0.2270	0.4997	7.9000e-004		8.4800e-003	8.4800e-003		8.4800e-003	8.4800e-003	0.0000	71.0194	71.0194	0.0225	0.0000	71.5811
Total	**0.0151**	**0.2270**	**0.4997**	**7.9000e-004**		**8.4800e-003**	**8.4800e-003**		**8.4800e-003**	**8.4800e-003**	**0.0000**	**71.0194**	**71.0194**	**0.0225**	**0.0000**	**71.5811**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0247	0.9086	0.2483	8.3000e-004	2.7700e-003	1.1200e-003	3.9000e-003	8.4000e-004	1.0800e-003	1.9100e-003	0.0000	81.1540	81.1540	0.0159	0.0000	81.5523
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0247**	**0.9086**	**0.2483**	**8.3000e-004**	**2.7700e-003**	**1.1200e-003**	**3.9000e-003**	**8.4000e-004**	**1.0800e-003**	**1.9100e-003**	**0.0000**	**81.1540**	**81.1540**	**0.0159**	**0.0000**	**81.5523**

3.11 Cafe - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.2800e-003	0.1011	0.0641	1.2000e-004		5.2000e-003	5.2000e-003		4.7800e-003	4.7800e-003	0.0000	10.5118	10.5118	3.4000e-003	0.0000	10.5968
Total	**9.2800e-003**	**0.1011**	**0.0641**	**1.2000e-004**		**5.2000e-003**	**5.2000e-003**		**4.7800e-003**	**4.7800e-003**	**0.0000**	**10.5118**	**10.5118**	**3.4000e-003**	**0.0000**	**10.5968**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.2900e-003	0.1326	0.0342	1.3000e-004	4.2000e-004	1.1000e-004	5.3000e-004	1.3000e-004	1.1000e-004	2.3000e-004	0.0000	12.3086	12.3086	2.2300e-003	0.0000	12.3642
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.2900e-003**	**0.1326**	**0.0342**	**1.3000e-004**	**4.2000e-004**	**1.1000e-004**	**5.3000e-004**	**1.3000e-004**	**1.1000e-004**	**2.3000e-004**	**0.0000**	**12.3086**	**12.3086**	**2.2300e-003**	**0.0000**	**12.3642**

3.11 Cafe - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.2800e-003	0.0344	0.0756	1.2000e-004		1.2800e-003	1.2800e-003		1.2800e-003	1.2800e-003	0.0000	10.5118	10.5118	3.4000e-003	0.0000	10.5968
Total	**2.2800e-003**	**0.0344**	**0.0756**	**1.2000e-004**		**1.2800e-003**	**1.2800e-003**		**1.2800e-003**	**1.2800e-003**	**0.0000**	**10.5118**	**10.5118**	**3.4000e-003**	**0.0000**	**10.5968**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.2900e-003	0.1326	0.0342	1.3000e-004	4.2000e-004	1.1000e-004	5.3000e-004	1.3000e-004	1.1000e-004	2.3000e-004	0.0000	12.3086	12.3086	2.2300e-003	0.0000	12.3642
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.2900e-003**	**0.1326**	**0.0342**	**1.3000e-004**	**4.2000e-004**	**1.1000e-004**	**5.3000e-004**	**1.3000e-004**	**1.1000e-004**	**2.3000e-004**	**0.0000**	**12.3086**	**12.3086**	**2.2300e-003**	**0.0000**	**12.3642**

3.12 Architectural Coating 3 - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.4058					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0426	0.2937	0.2946	4.8000e-004		0.0206	0.0206		0.0206	0.0206	0.0000	40.8521	40.8521	3.4500e-003	0.0000	40.9383
Total	**0.4484**	**0.2937**	**0.2946**	**4.8000e-004**		**0.0206**	**0.0206**		**0.0206**	**0.0206**	**0.0000**	**40.8521**	**40.8521**	**3.4500e-003**	**0.0000**	**40.9383**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.12 Architectural Coating 3 - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.4058					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.5100e-003	0.2171	0.2932	4.8000e-004		0.0152	0.0152		0.0152	0.0152	0.0000	40.8520	40.8520	3.4500e-003	0.0000	40.9383
Total	**0.4153**	**0.2171**	**0.2932**	**4.8000e-004**		**0.0152**	**0.0152**		**0.0152**	**0.0152**	**0.0000**	**40.8520**	**40.8520**	**3.4500e-003**	**0.0000**	**40.9383**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.12 Architectural Coating 3 - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.2976					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0284	0.1976	0.2149	3.5000e-004		0.0130	0.0130		0.0130	0.0130	0.0000	29.9582	29.9582	2.3200e-003	0.0000	30.0162
Total	**0.3260**	**0.1976**	**0.2149**	**3.5000e-004**		**0.0130**	**0.0130**		**0.0130**	**0.0130**	**0.0000**	**29.9582**	**29.9582**	**2.3200e-003**	**0.0000**	**30.0162**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.12 Architectural Coating 3 - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.2976					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.9700e-003	0.1592	0.2150	3.5000e-004		0.0112	0.0112		0.0112	0.0112	0.0000	29.9581	29.9581	2.3200e-003	0.0000	30.0161
Total	**0.3045**	**0.1592**	**0.2150**	**3.5000e-004**		**0.0112**	**0.0112**		**0.0112**	**0.0112**	**0.0000**	**29.9581**	**29.9581**	**2.3200e-003**	**0.0000**	**30.0161**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.13 Architectural Coating 1 - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.3715					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0387	0.2667	0.2676	4.3000e-004		0.0187	0.0187		0.0187	0.0187	0.0000	37.1073	37.1073	3.1300e-003	0.0000	37.1856
Total	**0.4102**	**0.2667**	**0.2676**	**4.3000e-004**		**0.0187**	**0.0187**		**0.0187**	**0.0187**	**0.0000**	**37.1073**	**37.1073**	**3.1300e-003**	**0.0000**	**37.1856**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.13 Architectural Coating 1 - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.3715					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.6400e-003	0.1972	0.2663	4.3000e-004		0.0138	0.0138		0.0138	0.0138	0.0000	37.1072	37.1072	3.1300e-003	0.0000	37.1856
Total	**0.3801**	**0.1972**	**0.2663**	**4.3000e-004**		**0.0138**	**0.0138**		**0.0138**	**0.0138**	**0.0000**	**37.1072**	**37.1072**	**3.1300e-003**	**0.0000**	**37.1856**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.13 Architectural Coating 1 - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.1466					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0139	0.0965	0.1050	1.7000e-004		6.3600e-003	6.3600e-003		6.3600e-003	6.3600e-003	0.0000	14.6387	14.6387	1.1300e-003	0.0000	14.6670
Total	**0.1604**	**0.0965**	**0.1050**	**1.7000e-004**		**6.3600e-003**	**6.3600e-003**		**6.3600e-003**	**6.3600e-003**	**0.0000**	**14.6387**	**14.6387**	**1.1300e-003**	**0.0000**	**14.6670**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.13 Architectural Coating 1 - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.1466					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.4100e-003	0.0778	0.1051	1.7000e-004		5.4500e-003	5.4500e-003		5.4500e-003	5.4500e-003	0.0000	14.6386	14.6386	1.1300e-003	0.0000	14.6670
Total	**0.1500**	**0.0778**	**0.1051**	**1.7000e-004**		**5.4500e-003**	**5.4500e-003**		**5.4500e-003**	**5.4500e-003**	**0.0000**	**14.6386**	**14.6386**	**1.1300e-003**	**0.0000**	**14.6670**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.14 Landscape - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0226	0.2274	0.2462	3.4000e-004		0.0144	0.0144		0.0132	0.0132	0.0000	29.4681	29.4681	9.5300e-003	0.0000	29.7064
Total	**0.0226**	**0.2274**	**0.2462**	**3.4000e-004**	**0.0000**	**0.0144**	**0.0144**	**0.0000**	**0.0132**	**0.0132**	**0.0000**	**29.4681**	**29.4681**	**9.5300e-003**	**0.0000**	**29.7064**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.14 Landscape - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.1000e-003	0.0178	0.2529	3.4000e-004		5.5000e-004	5.5000e-004		5.5000e-004	5.5000e-004	0.0000	29.4681	29.4681	9.5300e-003	0.0000	29.7063
Total	**4.1000e-003**	**0.0178**	**0.2529**	**3.4000e-004**	**0.0000**	**5.5000e-004**	**5.5000e-004**	**0.0000**	**5.5000e-004**	**5.5000e-004**	**0.0000**	**29.4681**	**29.4681**	**9.5300e-003**	**0.0000**	**29.7063**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.15 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0491	0.4154	0.4539	7.3000e-004		0.0237	0.0237		0.0229	0.0229	0.0000	63.8789	63.8789	0.0133	0.0000	64.2112
Paving	1.8100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0509**	**0.4154**	**0.4539**	**7.3000e-004**		**0.0237**	**0.0237**		**0.0229**	**0.0229**	**0.0000**	**63.8789**	**63.8789**	**0.0133**	**0.0000**	**64.2112**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.15 Paving - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0165	0.3431	0.5082	7.3000e-004		0.0200	0.0200		0.0200	0.0200	0.0000	63.8788	63.8788	0.0133	0.0000	64.2111
Paving	1.8100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0183**	**0.3431**	**0.5082**	**7.3000e-004**		**0.0200**	**0.0200**		**0.0200**	**0.0200**	**0.0000**	**63.8788**	**63.8788**	**0.0133**	**0.0000**	**64.2111**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.4568	6.1068	16.5428	0.0461	3.5832	0.0554	3.6386	0.9599	0.0522	1.0121	0.0000	4,233.6306	4,233.6306	0.2548	0.0000	4,240.0006
Unmitigated	1.4568	6.1068	16.5428	0.0461	3.5832	0.0554	3.6386	0.9599	0.0522	1.0121	0.0000	4,233.6306	4,233.6306	0.2548	0.0000	4,240.0006

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
General Office Building	5,263.60	1,076.34	445.07	9,504,182	9,504,182
Other Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	5,263.60	1,076.34	445.07	9,504,182	9,504,182

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking with Elevator	0.574135	0.045525	0.189369	0.116519	0.019283	0.005646	0.014833	0.022073	0.001871	0.002173	0.006385	0.000739	0.001452
General Office Building	0.574135	0.045525	0.189369	0.116519	0.019283	0.005646	0.014833	0.022073	0.001871	0.002173	0.006385	0.000739	0.001452
Other Asphalt Surfaces	0.574135	0.045525	0.189369	0.116519	0.019283	0.005646	0.014833	0.022073	0.001871	0.002173	0.006385	0.000739	0.001452
Parking Lot	0.574135	0.045525	0.189369	0.116519	0.019283	0.005646	0.014833	0.022073	0.001871	0.002173	0.006385	0.000739	0.001452

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	3,571.3659	3,571.3659	0.1438	0.0297	3,583.8225
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	3,571.3659	3,571.3659	0.1438	0.0297	3,583.8225
NaturalGas Mitigated	0.0515	0.4682	0.3933	2.8100e-003		0.0356	0.0356		0.0356	0.0356	0.0000	509.6635	509.6635	9.7700e-003	9.3400e-003	512.6921
NaturalGas Unmitigated	0.0515	0.4682	0.3933	2.8100e-003		0.0356	0.0356		0.0356	0.0356	0.0000	509.6635	509.6635	9.7700e-003	9.3400e-003	512.6921

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	9.55073e+006	0.0515	0.4682	0.3933	2.8100e-003		0.0356	0.0356		0.0356	0.0356	0.0000	509.6635	509.6635	9.7700e-003	9.3400e-003	512.6921
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0515**	**0.4682**	**0.3933**	**2.8100e-003**		**0.0356**	**0.0356**		**0.0356**	**0.0356**	**0.0000**	**509.6635**	**509.6635**	**9.7700e-003**	**9.3400e-003**	**512.6921**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	9.55073e+006	0.0515	0.4682	0.3933	2.8100e-003		0.0356	0.0356		0.0356	0.0356	0.0000	509.6635	509.6635	9.7700e-003	9.3400e-003	512.6921
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0515**	**0.4682**	**0.3933**	**2.8100e-003**		**0.0356**	**0.0356**		**0.0356**	**0.0356**	**0.0000**	**509.6635**	**509.6635**	**9.7700e-003**	**9.3400e-003**	**512.6921**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	4.0922e+006	1,337.3683	0.0538	0.0111	1,342.0329
General Office Building	6.80768e+006	2,224.8090	0.0896	0.0185	2,232.5689
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	28116	9.1886	3.7000e-004	8.0000e-005	9.2206
Total		**3,571.3659**	**0.1438**	**0.0298**	**3,583.8225**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	4.0922e+006	1,337.3683	0.0538	0.0111	1,342.0329
General Office Building	6.80768e+006	2,224.8090	0.0896	0.0185	2,232.5689
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	28116	9.1886	3.7000e-004	8.0000e-005	9.2206
Total		**3,571.3659**	**0.1438**	**0.0298**	**3,583.8225**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.4144	2.1000e-004	0.0222	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.0426	0.0426	1.2000e-004	0.0000	0.0456
Unmitigated	2.4144	2.1000e-004	0.0222	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.0426	0.0426	1.2000e-004	0.0000	0.0456

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.5955					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.8167					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.1200e-003	2.1000e-004	0.0222	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.0426	0.0426	1.2000e-004	0.0000	0.0456
Total	**2.4144**	**2.1000e-004**	**0.0222**	**0.0000**		**8.0000e-005**	**8.0000e-005**		**8.0000e-005**	**8.0000e-005**	**0.0000**	**0.0426**	**0.0426**	**1.2000e-004**	**0.0000**	**0.0456**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.5955					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.8167					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.1200e-003	2.1000e-004	0.0222	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.0426	0.0426	1.2000e-004	0.0000	0.0456
Total	**2.4144**	**2.1000e-004**	**0.0222**	**0.0000**		**8.0000e-005**	**8.0000e-005**		**8.0000e-005**	**8.0000e-005**	**0.0000**	**0.0426**	**0.0426**	**1.2000e-004**	**0.0000**	**0.0456**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	548.7185	2.6513	0.0665	634.8049
Unmitigated	548.7185	2.6513	0.0665	634.8049

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	80.7178 / 49.4722	548.7185	2.6513	0.0665	634.8049
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**548.7185**	**2.6513**	**0.0665**	**634.8049**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	80.7178 / 49.4722	548.7185	2.6513	0.0665	634.8049
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**548.7185**	**2.6513**	**0.0665**	**634.8049**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	85.7353	5.0668	0.0000	212.4055
Unmitigated	85.7353	5.0668	0.0000	212.4055

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
General Office Building	422.36	85.7353	5.0668	0.0000	212.4055
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**85.7353**	**5.0668**	**0.0000**	**212.4055**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
General Office Building	422.36	85.7353	5.0668	0.0000	212.4055
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**85.7353**	**5.0668**	**0.0000**	**212.4055**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Torrey Highlands

San Diego County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	454.15	1000sqft	10.43	454,148.00	0
Enclosed Parking with Elevator	1,860.00	Space	13.94	607,152.00	0
Other Asphalt Surfaces	0.62	Acre	0.62	27,007.20	0
Parking Lot	71.00	Space	0.73	31,950.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2018
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - modified per project specifics

Construction Phase - construction schedule per applicant

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Trips and VMT - modified

Grading - modified

Architectural Coating - Arch coating based on CalEEMod calc methodolgy

Vehicle Trips - modified

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Area Coating - VOC content per SDAPCD Rule 67.0.1

Energy Use - modified

Construction Off-road Equipment Mitigation - Tier 2 equipment

Torrey Highlands - San Diego County, Summer

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	227,074.00	90,000.00
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	227,074.00	122,029.00
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	227,074.00	60,000.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	681,222.00	270,000.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	681,222.00	360,000.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	681,222.00	180,000.00
tblArchitecturalCoating	ConstArea_Parking	39,967.00	0.00
tblArchitecturalCoating	ConstArea_Parking	39,967.00	0.00
tblArchitecturalCoating	ConstArea_Parking	39,967.00	0.00
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	100.00
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	100.00
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	100.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	50.00
tblArchitecturalCoating	EF_Parking	250.00	0.00
tblArchitecturalCoating	EF_Parking	250.00	0.00
tblArchitecturalCoating	EF_Parking	250.00	0.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	100.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	100.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	100.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	50.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	50.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	50.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	100
tblAreaCoating	Area_EF_Parking	250	0

tblAreaCoating	Area_Nonresidential_Exterior	227074	544633
tblAreaCoating	Area_Nonresidential_Interior	681222	810000
tblAreaCoating	Area_Parking	39967	0
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	100	250
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	21.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	16.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	28.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	16.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	35.00	207.00

tblConstructionPhase	NumDays	35.00	153.00
tblConstructionPhase	NumDays	35.00	240.00
tblConstructionPhase	NumDays	440.00	176.00
tblConstructionPhase	NumDays	440.00	412.00
tblConstructionPhase	NumDays	440.00	303.00
tblConstructionPhase	NumDays	440.00	369.00
tblConstructionPhase	NumDays	440.00	23.00
tblConstructionPhase	NumDays	45.00	17.00
tblConstructionPhase	NumDays	35.00	43.00
tblConstructionPhase	NumDays	20.00	6.00
tblConstructionPhase	NumDays	20.00	107.00
tblConstructionPhase	NumDays	20.00	55.00
tblConstructionPhase	NumDays	20.00	390.00
tblEnergyUse	LightingElect	1.75	2.63
tblEnergyUse	LightingElect	3.81	4.33
tblEnergyUse	LightingElect	0.35	0.88
tblEnergyUse	T24E	4.66	5.69
tblEnergyUse	T24NG	15.99	16.83
tblGrading	AcresOfGrading	85.00	10.43
tblGrading	AcresOfGrading	6.00	10.43
tblGrading	MaterialExported	0.00	51,740.00
tblLandUse	LandUseSquareFeet	454,150.00	454,148.00
tblLandUse	LandUseSquareFeet	744,000.00	607,152.00
tblLandUse	LandUseSquareFeet	28,400.00	31,950.00
tblLandUse	LotAcreage	16.74	13.94
tblLandUse	LotAcreage	0.64	0.73
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	6.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	3.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName		Site Preparation
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblTripsAndVMT	HaulingTripLength	20.00	0.19
tblTripsAndVMT	HaulingTripLength	20.00	0.19
tblTripsAndVMT	HaulingTripLength	20.00	0.19
tblTripsAndVMT	HaulingTripNumber	0.00	24.00
tblTripsAndVMT	HaulingTripNumber	0.00	110.00
tblTripsAndVMT	VendorTripLength	7.30	0.19

tblTripsAndVMT	VendorTripLength	7.30	0.19
tblTripsAndVMT	VendorTripLength	7.30	0.19
tblTripsAndVMT	VendorTripLength	7.30	0.19
tblTripsAndVMT	VendorTripLength	7.30	0.19
tblTripsAndVMT	VendorTripLength	7.30	0.19
tblTripsAndVMT	VendorTripLength	7.30	0.19
tblTripsAndVMT	VendorTripLength	7.30	0.19
tblTripsAndVMT	VendorTripNumber	0.00	16.00
tblTripsAndVMT	VendorTripNumber	0.00	16.00
tblTripsAndVMT	VendorTripNumber	0.00	12.00
tblTripsAndVMT	WorkerTripNumber	15.00	0.00
tblTripsAndVMT	WorkerTripNumber	425.00	0.00
tblTripsAndVMT	WorkerTripNumber	85.00	0.00
tblTripsAndVMT	WorkerTripNumber	85.00	0.00
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tblTripsAndVMT	WorkerTripNumber	20.00	0.00
tblTripsAndVMT	WorkerTripNumber	30.00	0.00
tblTripsAndVMT	WorkerTripNumber	13.00	0.00
tblTripsAndVMT	WorkerTripNumber	425.00	0.00
tblTripsAndVMT	WorkerTripNumber	425.00	0.00
tblTripsAndVMT	WorkerTripNumber	425.00	0.00
tblTripsAndVMT	WorkerTripNumber	5.00	0.00
tblTripsAndVMT	WorkerTripNumber	85.00	0.00
tblTripsAndVMT	WorkerTripNumber	425.00	0.00
tblVehicleTrips	ST_TR	2.46	2.37
tblVehicleTrips	SU_TR	1.05	0.98
tblVehicleTrips	WD_TR	11.03	11.59

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	15.3555	199.0474	111.5088	0.1951	27.0886	7.3291	34.4177	13.5974	6.7443	20.3416	0.0000	19,989.3899	19,989.3899	5.6202	0.0000	20,129.8957
2019	32.8894	195.9258	140.5996	0.2512	0.1857	7.8409	8.0265	0.0559	7.4535	7.5094	0.0000	24,511.9382	24,511.9382	5.7038	0.0000	24,654.5322
2020	31.2425	155.4690	121.4816	0.2190	0.1485	5.9732	6.0845	0.0447	5.7078	5.7413	0.0000	21,062.6286	21,062.6286	4.7329	0.0000	21,180.9516
Maximum	**32.8894**	**199.0474**	**140.5996**	**0.2512**	**27.0886**	**7.8409**	**34.4177**	**13.5974**	**7.4535**	**20.3416**	**0.0000**	**24,511.9382**	**24,511.9382**	**5.7038**	**0.0000**	**24,654.5322**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	4.2690	103.3562	112.0023	0.1951	10.6124	2.3350	12.9474	5.3166	2.3333	7.6499	0.0000	19,989.3899	19,989.3899	5.6202	0.0000	20,129.8957
2019	20.9938	127.5517	143.5068	0.2512	0.1857	1.8003	1.9860	0.0559	1.7973	1.8532	0.0000	24,511.9382	24,511.9382	5.7038	0.0000	24,654.5322
2020	20.8463	109.3165	125.6056	0.2190	0.1485	2.3997	2.5111	0.0447	2.3985	2.4321	0.0000	21,062.6285	21,062.6285	4.7329	0.0000	21,180.9516
Maximum	**20.9938**	**127.5517**	**143.5068**	**0.2512**	**10.6124**	**2.3997**	**12.9474**	**5.3166**	**2.3985**	**7.6499**	**0.0000**	**24,511.9382**	**24,511.9382**	**5.7038**	**0.0000**	**24,654.5322**

Torrey Highlands - San Diego County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**41.99**	**38.19**	**-2.01**	**0.00**	**60.08**	**69.09**	**64.05**	**60.45**	**67.20**	**64.47**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	13.2414	2.3100e-003	0.2470	2.0000e-005		8.9000e-004	8.9000e-004		8.9000e-004	8.9000e-004		0.5221	0.5221	1.4300e-003		0.5580
Energy	0.2822	2.5653	2.1549	0.0154		0.1950	0.1950		0.1950	0.1950		3,078.3989	3,078.3989	0.0590	0.0564	3,096.6922
Mobile	11.1510	42.9380	122.3546	0.3504	26.6825	0.4018	27.0843	7.1337	0.3787	7.5124		35,471.9719	35,471.9719	2.0521		35,523.2743
Total	**24.6745**	**45.5056**	**124.7564**	**0.3659**	**26.6825**	**0.5977**	**27.2802**	**7.1337**	**0.5746**	**7.7082**		**38,550.8929**	**38,550.8929**	**2.1125**	**0.0564**	**38,620.5245**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	13.2414	2.3100e-003	0.2470	2.0000e-005		8.9000e-004	8.9000e-004		8.9000e-004	8.9000e-004		0.5221	0.5221	1.4300e-003		0.5580
Energy	0.2822	2.5653	2.1549	0.0154		0.1950	0.1950		0.1950	0.1950		3,078.3989	3,078.3989	0.0590	0.0564	3,096.6922
Mobile	11.1510	42.9380	122.3546	0.3504	26.6825	0.4018	27.0843	7.1337	0.3787	7.5124		35,471.9719	35,471.9719	2.0521		35,523.2743
Total	**24.6745**	**45.5056**	**124.7564**	**0.3659**	**26.6825**	**0.5977**	**27.2802**	**7.1337**	**0.5746**	**7.7082**		**38,550.8929**	**38,550.8929**	**2.1125**	**0.0564**	**38,620.5245**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	9/1/2018	9/8/2018	5	6	
2	Grading	Grading	9/8/2018	10/2/2018	5	17	
3	Utilities	Site Preparation	10/3/2018	12/17/2018	5	55	
4	Building Construction 1	Building Construction	10/3/2018	5/1/2020	5	412	
5	Building Construction 2	Building Construction	11/3/2018	1/1/2020	5	303	
6	Building Construction 3	Building Construction	12/1/2018	5/1/2020	5	369	
7	Sitework	Site Preparation	1/1/2019	7/1/2020	5	390	
8	Architectural Coating 2	Architectural Coating	5/1/2019	4/1/2020	5	240	
9	Parking Structure	Building Construction	6/1/2019	7/3/2019	5	23	
10	Cafe	Building Construction	6/1/2019	2/1/2020	5	176	
11	Architectural Coating 3	Architectural Coating	7/17/2019	5/1/2020	5	207	
12	Architectural Coating 1	Architectural Coating	8/1/2019	3/1/2020	5	153	
13	Landscape	Site Preparation	2/1/2020	7/1/2020	5	107	
14	Paving	Paving	2/1/2020	4/2/2020	5	43	

Acres of Grading (Site Preparation Phase): 10.43

Acres of Grading (Grading Phase): 10.43

Acres of Paving: 15.29

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 180,000; Non-Residential Outdoor: 60,000; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Scrapers	1	8.00	367	0.48
Site Preparation	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Grading	Excavators	0	8.00	158	0.38
Grading	Graders	0	8.00	187	0.41
Grading	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Scrapers	5	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	5	8.00	97	0.37
Utilities	Excavators	1	8.00	158	0.38
Utilities	Rubber Tired Dozers	0	8.00	247	0.40
Utilities	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Building Construction 1	Aerial Lifts	7	8.00	63	0.31
Building Construction 1	Cranes	1	8.00	231	0.29
Building Construction 1	Forklifts	2	8.00	89	0.20
Building Construction 1	Generator Sets	0	8.00	84	0.74
Building Construction 1	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction 1	Welders	5	8.00	46	0.45
Building Construction 2	Aerial Lifts	7	8.00	63	0.31
Building Construction 2	Cranes	1	8.00	231	0.29
Building Construction 2	Forklifts	2	8.00	89	0.20
Building Construction 2	Generator Sets	0	8.00	84	0.74
Building Construction 2	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction 2	Welders	5	8.00	46	0.45

Building Construction 3	Aerial Lifts	7	8.00	63	0.31
Building Construction 3	Cranes	1	8.00	231	0.29
Building Construction 3	Forklifts	2	8.00	89	0.20
Building Construction 3	Generator Sets	0	8.00	84	0.74
Building Construction 3	Tractors/Loaders/Backhoes	6	8.00	97	0.37
Building Construction 3	Welders	5	8.00	46	0.45
Sitework	Air Compressors	2	8.00	78	0.48
Sitework	Rubber Tired Dozers	0	8.00	247	0.40
Sitework	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Architectural Coating 2	Air Compressors	2	8.00	78	0.48
Parking Structure	Air Compressors	4	8.00	78	0.48
Parking Structure	Cranes	1	8.00	231	0.29
Parking Structure	Forklifts	2	8.00	89	0.20
Parking Structure	Generator Sets	0	8.00	84	0.74
Parking Structure	Rubber Tired Dozers	0	8.00	247	0.40
Parking Structure	Scrapers	0	8.00	367	0.48
Parking Structure	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Parking Structure	Welders	1	8.00	46	0.45
Cafe	Cranes	1	8.00	231	0.29
Cafe	Forklifts	1	8.00	89	0.20
Cafe	Generator Sets	0	8.00	84	0.74
Cafe	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Cafe	Welders	0	8.00	46	0.45
Architectural Coating 3	Air Compressors	2	8.00	78	0.48
Architectural Coating 1	Air Compressors	2	8.00	78	0.48
Landscape	Rubber Tired Dozers	0	8.00	247	0.40
Landscape	Tractors/Loaders/Backhoes	2	8.00	97	0.37

Paving	Air Compressors	4	8.00	78	0.48
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	0	8.00	80	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	6	0.00	16.00	24.00	10.80	0.19	0.19	LD_Mix	HDT_Mix	HHDT
Grading	12	0.00	16.00	6,468.00	10.80	0.19	0.19	LD_Mix	HDT_Mix	HHDT
Utilities	5	0.00	12.00	110.00	10.80	0.19	0.19	LD_Mix	HDT_Mix	HHDT
Building Construction 1	17	0.00	184.00	0.00	10.80	0.19	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction 2	17	0.00	184.00	0.00	10.80	0.19	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction 3	21	0.00	184.00	0.00	10.80	0.19	20.00	LD_Mix	HDT_Mix	HHDT
Sitework	2	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating 2	2	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Parking Structure	11	0.00	184.00	0.00	10.80	0.19	20.00	LD_Mix	HDT_Mix	HHDT
Cafe	3	0.00	184.00	0.00	10.80	0.19	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating 3	2	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating 1	2	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Landscape	2	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

3.2 Site Preparation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					13.8877	0.0000	13.8877	6.8195	0.0000	6.8195			0.0000			0.0000
Off-Road	4.2774	47.2006	24.5498	0.0415		2.3393	2.3393		2.1522	2.1522		4,183.4734	4,183.4734	1.3024		4,216.0327
Total	**4.2774**	**47.2006**	**24.5498**	**0.0415**	**13.8877**	**2.3393**	**16.2270**	**6.8195**	**2.1522**	**8.9717**		**4,183.4734**	**4,183.4734**	**1.3024**		**4,216.0327**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	8.6600e-003	0.4210	0.0591	4.5000e-004	8.5000e-004	3.9000e-004	1.2400e-003	2.4000e-004	3.8000e-004	6.1000e-004		48.7170	48.7170	9.1800e-003		48.9464
Vendor	0.0297	1.0799	0.2798	1.0000e-003	3.2300e-003	1.3800e-003	4.6100e-003	9.7000e-004	1.3200e-003	2.2900e-003		107.5670	107.5670	0.0201		108.0683
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0384**	**1.5008**	**0.3389**	**1.4500e-003**	**4.0800e-003**	**1.7700e-003**	**5.8500e-003**	**1.2100e-003**	**1.7000e-003**	**2.9000e-003**		**156.2840**	**156.2840**	**0.0292**		**157.0146**

3.2 Site Preparation - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.4162	0.0000	5.4162	2.6596	0.0000	2.6596			0.0000			0.0000
Off-Road	0.9050	15.7872	24.1654	0.0415		0.5953	0.5953		0.5953	0.5953	0.0000	4,183.4734	4,183.4734	1.3024		4,216.0327
Total	**0.9050**	**15.7872**	**24.1654**	**0.0415**	**5.4162**	**0.5953**	**6.0115**	**2.6596**	**0.5953**	**3.2549**	**0.0000**	**4,183.4734**	**4,183.4734**	**1.3024**		**4,216.0327**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	8.6600e-003	0.4210	0.0591	4.5000e-004	8.5000e-004	3.9000e-004	1.2400e-003	2.4000e-004	3.8000e-004	6.1000e-004		48.7170	48.7170	9.1800e-003		48.9464
Vendor	0.0297	1.0799	0.2798	1.0000e-003	3.2300e-003	1.3800e-003	4.6100e-003	9.7000e-004	1.3200e-003	2.2900e-003		107.5670	107.5670	0.0201		108.0683
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0384**	**1.5008**	**0.3389**	**1.4500e-003**	**4.0800e-003**	**1.7700e-003**	**5.8500e-003**	**1.2100e-003**	**1.7000e-003**	**2.9000e-003**		**156.2840**	**156.2840**	**0.0292**		**157.0146**

3.3 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					13.1225	0.0000	13.1225	6.7555	0.0000	6.7555			0.0000			0.0000
Off-Road	9.3973	109.2263	64.3702	0.1084		4.9491	4.9491		4.5532	4.5532		10,908.2208	10,908.2208	3.3959		10,993.1177
Total	**9.3973**	**109.2263**	**64.3702**	**0.1084**	**13.1225**	**4.9491**	**18.0716**	**6.7555**	**4.5532**	**11.3086**		**10,908.2208**	**10,908.2208**	**3.3959**		**10,993.1177**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.8237	40.0397	5.6212	0.0428	0.0711	0.0375	0.1087	0.0202	0.0359	0.0561		4,633.8446	4,633.8446	0.8727		4,655.6623
Vendor	0.0297	1.0799	0.2798	1.0000e-003	3.2300e-003	1.3800e-003	4.6100e-003	9.7000e-004	1.3200e-003	2.2900e-003		107.5670	107.5670	0.0201		108.0683
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.8534**	**41.1196**	**5.9010**	**0.0438**	**0.0744**	**0.0389**	**0.1133**	**0.0212**	**0.0372**	**0.0584**		**4,741.4117**	**4,741.4117**	**0.8928**		**4,763.7306**

3.3 Grading - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.1178	0.0000	5.1178	2.6346	0.0000	2.6346			0.0000			0.0000
Off-Road	2.4723	44.9486	61.1616	0.1084		1.6991	1.6991		1.6991	1.6991	0.0000	10,908.2208	10,908.2208	3.3959		10,993.1177
Total	**2.4723**	**44.9486**	**61.1616**	**0.1084**	**5.1178**	**1.6991**	**6.8168**	**2.6346**	**1.6991**	**4.3337**	**0.0000**	**10,908.2208**	**10,908.2208**	**3.3959**		**10,993.1177**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.8237	40.0397	5.6212	0.0428	0.0711	0.0375	0.1087	0.0202	0.0359	0.0561		4,633.8446	4,633.8446	0.8727		4,655.6623
Vendor	0.0297	1.0799	0.2798	1.0000e-003	3.2300e-003	1.3800e-003	4.6100e-003	9.7000e-004	1.3200e-003	2.2900e-003		107.5670	107.5670	0.0201		108.0683
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.8534**	**41.1196**	**5.9010**	**0.0438**	**0.0744**	**0.0389**	**0.1133**	**0.0212**	**0.0372**	**0.0584**		**4,741.4117**	**4,741.4117**	**0.8928**		**4,763.7306**

3.4 Utilities - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	1.3536	13.6148	12.6225	0.0176		0.8954	0.8954		0.8237	0.8237		1,770.6889	1,770.6889	0.5512		1,784.4699
Total	**1.3536**	**13.6148**	**12.6225**	**0.0176**	**0.0000**	**0.8954**	**0.8954**	**0.0000**	**0.8237**	**0.8237**		**1,770.6889**	**1,770.6889**	**0.5512**		**1,784.4699**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.3300e-003	0.2105	0.0296	2.2000e-004	3.8000e-004	2.0000e-004	5.8000e-004	1.1000e-004	1.9000e-004	3.0000e-004		24.3585	24.3585	4.5900e-003		24.4732
Vendor	0.0223	0.8099	0.2099	7.5000e-004	2.4200e-003	1.0300e-003	3.4600e-003	7.3000e-004	9.9000e-004	1.7200e-003		80.6753	80.6753	0.0150		81.0512
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0266**	**1.0204**	**0.2394**	**9.7000e-004**	**2.8000e-003**	**1.2300e-003**	**4.0400e-003**	**8.4000e-004**	**1.1800e-003**	**2.0200e-003**		**105.0338**	**105.0338**	**0.0196**		**105.5244**

3.4 Utilities - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.2790	3.1150	13.2863	0.0176		0.1389	0.1389		0.1389	0.1389	0.0000	1,770.6889	1,770.6889	0.5512		1,784.4699
Total	**0.2790**	**3.1150**	**13.2863**	**0.0176**	**0.0000**	**0.1389**	**0.1389**	**0.0000**	**0.1389**	**0.1389**	**0.0000**	**1,770.6889**	**1,770.6889**	**0.5512**		**1,784.4699**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.3300e-003	0.2105	0.0296	2.2000e-004	3.8000e-004	2.0000e-004	5.8000e-004	1.1000e-004	1.9000e-004	3.0000e-004		24.3585	24.3585	4.5900e-003		24.4732
Vendor	0.0223	0.8099	0.2099	7.5000e-004	2.4200e-003	1.0300e-003	3.4600e-003	7.3000e-004	9.9000e-004	1.7200e-003		80.6753	80.6753	0.0150		81.0512
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0266**	**1.0204**	**0.2394**	**9.7000e-004**	**2.8000e-003**	**1.2300e-003**	**4.0400e-003**	**8.4000e-004**	**1.1800e-003**	**2.0200e-003**		**105.0338**	**105.0338**	**0.0196**		**105.5244**

3.5 Building Construction 1 - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.9619	28.6146	26.5486	0.0396		1.6244	1.6244		1.5399	1.5399		3,733.7213	3,733.7213	1.0384		3,759.6807
Total	**3.9619**	**28.6146**	**26.5486**	**0.0396**		**1.6244**	**1.6244**		**1.5399**	**1.5399**		**3,733.7213**	**3,733.7213**	**1.0384**		**3,759.6807**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3417	12.4188	3.2181	0.0115	0.0371	0.0159	0.0530	0.0112	0.0152	0.0264		1,237.0210	1,237.0210	0.2306		1,242.7851
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.3417**	**12.4188**	**3.2181**	**0.0115**	**0.0371**	**0.0159**	**0.0530**	**0.0112**	**0.0152**	**0.0264**		**1,237.0210**	**1,237.0210**	**0.2306**		**1,242.7851**

3.5 Building Construction 1 - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7638	14.8600	26.4847	0.0396		0.1530	0.1530		0.1530	0.1530	0.0000	3,733.7213	3,733.7213	1.0384		3,759.6807
Total	**0.7638**	**14.8600**	**26.4847**	**0.0396**		**0.1530**	**0.1530**		**0.1530**	**0.1530**	**0.0000**	**3,733.7213**	**3,733.7213**	**1.0384**		**3,759.6807**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3417	12.4188	3.2181	0.0115	0.0371	0.0159	0.0530	0.0112	0.0152	0.0264		1,237.0210	1,237.0210	0.2306		1,242.7851
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.3417**	**12.4188**	**3.2181**	**0.0115**	**0.0371**	**0.0159**	**0.0530**	**0.0112**	**0.0152**	**0.0264**		**1,237.0210**	**1,237.0210**	**0.2306**		**1,242.7851**

3.5 Building Construction 1 - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.5005	26.4255	25.9721	0.0396		1.4034	1.4034		1.3310	1.3310		3,689.9591	3,689.9591	1.0127		3,715.2756
Total	**3.5005**	**26.4255**	**25.9721**	**0.0396**		**1.4034**	**1.4034**		**1.3310**	**1.3310**		**3,689.9591**	**3,689.9591**	**1.0127**		**3,715.2756**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3105	12.0899	2.9290	0.0115	0.0371	0.0136	0.0508	0.0112	0.0130	0.0242		1,235.1507	1,235.1507	0.2188		1,240.6208
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.3105**	**12.0899**	**2.9290**	**0.0115**	**0.0371**	**0.0136**	**0.0508**	**0.0112**	**0.0130**	**0.0242**		**1,235.1507**	**1,235.1507**	**0.2188**		**1,240.6208**

3.5 Building Construction 1 - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7638	14.8600	26.4847	0.0396		0.1530	0.1530		0.1530	0.1530	0.0000	3,689.9591	3,689.9591	1.0127		3,715.2756
Total	**0.7638**	**14.8600**	**26.4847**	**0.0396**		**0.1530**	**0.1530**		**0.1530**	**0.1530**	**0.0000**	**3,689.9591**	**3,689.9591**	**1.0127**		**3,715.2756**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3105	12.0899	2.9290	0.0115	0.0371	0.0136	0.0508	0.0112	0.0130	0.0242		1,235.1507	1,235.1507	0.2188		1,240.6208
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.3105**	**12.0899**	**2.9290**	**0.0115**	**0.0371**	**0.0136**	**0.0508**	**0.0112**	**0.0130**	**0.0242**		**1,235.1507**	**1,235.1507**	**0.2188**		**1,240.6208**

3.5 Building Construction 1 - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1480	24.5589	25.5301	0.0396		1.2165	1.2165		1.1540	1.1540		3,632.1159	3,632.1159	0.9925		3,656.9290
Total	**3.1480**	**24.5589**	**25.5301**	**0.0396**		**1.2165**	**1.2165**		**1.1540**	**1.1540**		**3,632.1159**	**3,632.1159**	**0.9925**		**3,656.9290**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2737	11.6541	2.6655	0.0115	0.0371	8.9800e-003	0.0461	0.0112	8.5800e-003	0.0198		1,238.3763	1,238.3763	0.2020		1,243.4260
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.2737**	**11.6541**	**2.6655**	**0.0115**	**0.0371**	**8.9800e-003**	**0.0461**	**0.0112**	**8.5800e-003**	**0.0198**		**1,238.3763**	**1,238.3763**	**0.2020**		**1,243.4260**

3.5 Building Construction 1 - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7638	14.8600	26.4847	0.0396		0.1530	0.1530		0.1530	0.1530	0.0000	3,632.1159	3,632.1159	0.9925		3,656.9290
Total	**0.7638**	**14.8600**	**26.4847**	**0.0396**		**0.1530**	**0.1530**		**0.1530**	**0.1530**	**0.0000**	**3,632.1159**	**3,632.1159**	**0.9925**		**3,656.9290**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2737	11.6541	2.6655	0.0115	0.0371	8.9800e-003	0.0461	0.0112	8.5800e-003	0.0198		1,238.3763	1,238.3763	0.2020		1,243.4260
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.2737**	**11.6541**	**2.6655**	**0.0115**	**0.0371**	**8.9800e-003**	**0.0461**	**0.0112**	**8.5800e-003**	**0.0198**		**1,238.3763**	**1,238.3763**	**0.2020**		**1,243.4260**

3.6 Building Construction 2 - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.9619	28.6146	26.5486	0.0396		1.6244	1.6244		1.5399	1.5399		3,733.7213	3,733.7213	1.0384		3,759.6807
Total	**3.9619**	**28.6146**	**26.5486**	**0.0396**		**1.6244**	**1.6244**		**1.5399**	**1.5399**		**3,733.7213**	**3,733.7213**	**1.0384**		**3,759.6807**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3417	12.4188	3.2181	0.0115	0.0371	0.0159	0.0530	0.0112	0.0152	0.0264		1,237.0210	1,237.0210	0.2306		1,242.7851
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.3417**	**12.4188**	**3.2181**	**0.0115**	**0.0371**	**0.0159**	**0.0530**	**0.0112**	**0.0152**	**0.0264**		**1,237.0210**	**1,237.0210**	**0.2306**		**1,242.7851**

3.6 Building Construction 2 - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7638	14.8600	26.4847	0.0396		0.1530	0.1530		0.1530	0.1530	0.0000	3,733.7213	3,733.7213	1.0384		3,759.6807
Total	**0.7638**	**14.8600**	**26.4847**	**0.0396**		**0.1530**	**0.1530**		**0.1530**	**0.1530**	**0.0000**	**3,733.7213**	**3,733.7213**	**1.0384**		**3,759.6807**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3417	12.4188	3.2181	0.0115	0.0371	0.0159	0.0530	0.0112	0.0152	0.0264		1,237.0210	1,237.0210	0.2306		1,242.7851
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.3417**	**12.4188**	**3.2181**	**0.0115**	**0.0371**	**0.0159**	**0.0530**	**0.0112**	**0.0152**	**0.0264**		**1,237.0210**	**1,237.0210**	**0.2306**		**1,242.7851**

3.6 Building Construction 2 - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.5005	26.4255	25.9721	0.0396		1.4034	1.4034		1.3310	1.3310		3,689.9591	3,689.9591	1.0127		3,715.2756
Total	**3.5005**	**26.4255**	**25.9721**	**0.0396**		**1.4034**	**1.4034**		**1.3310**	**1.3310**		**3,689.9591**	**3,689.9591**	**1.0127**		**3,715.2756**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3105	12.0899	2.9290	0.0115	0.0371	0.0136	0.0508	0.0112	0.0130	0.0242		1,235.1507	1,235.1507	0.2188		1,240.6208
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.3105**	**12.0899**	**2.9290**	**0.0115**	**0.0371**	**0.0136**	**0.0508**	**0.0112**	**0.0130**	**0.0242**		**1,235.1507**	**1,235.1507**	**0.2188**		**1,240.6208**

3.6 Building Construction 2 - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7638	14.8600	26.4847	0.0396		0.1530	0.1530		0.1530	0.1530	0.0000	3,689.9591	3,689.9591	1.0127		3,715.2756
Total	**0.7638**	**14.8600**	**26.4847**	**0.0396**		**0.1530**	**0.1530**		**0.1530**	**0.1530**	**0.0000**	**3,689.9591**	**3,689.9591**	**1.0127**		**3,715.2756**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3105	12.0899	2.9290	0.0115	0.0371	0.0136	0.0508	0.0112	0.0130	0.0242		1,235.1507	1,235.1507	0.2188		1,240.6208
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.3105**	**12.0899**	**2.9290**	**0.0115**	**0.0371**	**0.0136**	**0.0508**	**0.0112**	**0.0130**	**0.0242**		**1,235.1507**	**1,235.1507**	**0.2188**		**1,240.6208**

3.6 Building Construction 2 - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1480	24.5589	25.5301	0.0396		1.2165	1.2165		1.1540	1.1540		3,632.1159	3,632.1159	0.9925		3,656.9290
Total	**3.1480**	**24.5589**	**25.5301**	**0.0396**		**1.2165**	**1.2165**		**1.1540**	**1.1540**		**3,632.1159**	**3,632.1159**	**0.9925**		**3,656.9290**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2737	11.6541	2.6655	0.0115	0.0371	8.9800e-003	0.0461	0.0112	8.5800e-003	0.0198		1,238.3763	1,238.3763	0.2020		1,243.4260
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.2737**	**11.6541**	**2.6655**	**0.0115**	**0.0371**	**8.9800e-003**	**0.0461**	**0.0112**	**8.5800e-003**	**0.0198**		**1,238.3763**	**1,238.3763**	**0.2020**		**1,243.4260**

3.6 Building Construction 2 - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7638	14.8600	26.4847	0.0396		0.1530	0.1530		0.1530	0.1530	0.0000	3,632.1159	3,632.1159	0.9925		3,656.9290
Total	**0.7638**	**14.8600**	**26.4847**	**0.0396**		**0.1530**	**0.1530**		**0.1530**	**0.1530**	**0.0000**	**3,632.1159**	**3,632.1159**	**0.9925**		**3,656.9290**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2737	11.6541	2.6655	0.0115	0.0371	8.9800e-003	0.0461	0.0112	8.5800e-003	0.0198		1,238.3763	1,238.3763	0.2020		1,243.4260
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.2737**	**11.6541**	**2.6655**	**0.0115**	**0.0371**	**8.9800e-003**	**0.0461**	**0.0112**	**8.5800e-003**	**0.0198**		**1,238.3763**	**1,238.3763**	**0.2020**		**1,243.4260**

3.7 Building Construction 3 - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	5.0264	39.1335	35.8955	0.0520		2.3696	2.3696		2.2255	2.2255		4,984.8251	4,984.8251	1.4279		5,020.5217
Total	**5.0264**	**39.1335**	**35.8955**	**0.0520**		**2.3696**	**2.3696**		**2.2255**	**2.2255**		**4,984.8251**	**4,984.8251**	**1.4279**		**5,020.5217**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3417	12.4188	3.2181	0.0115	0.0371	0.0159	0.0530	0.0112	0.0152	0.0264		1,237.0210	1,237.0210	0.2306		1,242.7851
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.3417**	**12.4188**	**3.2181**	**0.0115**	**0.0371**	**0.0159**	**0.0530**	**0.0112**	**0.0152**	**0.0264**		**1,237.0210**	**1,237.0210**	**0.2306**		**1,242.7851**

3.7 Building Construction 3 - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9157	15.5183	35.8530	0.0520		0.1733	0.1733		0.1733	0.1733	0.0000	4,984.8251	4,984.8251	1.4279		5,020.5217
Total	**0.9157**	**15.5183**	**35.8530**	**0.0520**		**0.1733**	**0.1733**		**0.1733**	**0.1733**	**0.0000**	**4,984.8251**	**4,984.8251**	**1.4279**		**5,020.5217**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3417	12.4188	3.2181	0.0115	0.0371	0.0159	0.0530	0.0112	0.0152	0.0264		1,237.0210	1,237.0210	0.2306		1,242.7851
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.3417**	**12.4188**	**3.2181**	**0.0115**	**0.0371**	**0.0159**	**0.0530**	**0.0112**	**0.0152**	**0.0264**		**1,237.0210**	**1,237.0210**	**0.2306**		**1,242.7851**

3.7 Building Construction 3 - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.4317	35.7750	35.1829	0.0520		2.0275	2.0275		1.9052	1.9052		4,920.1266	4,920.1266	1.4019		4,955.1734
Total	**4.4317**	**35.7750**	**35.1829**	**0.0520**		**2.0275**	**2.0275**		**1.9052**	**1.9052**		**4,920.1266**	**4,920.1266**	**1.4019**		**4,955.1734**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3105	12.0899	2.9290	0.0115	0.0371	0.0136	0.0508	0.0112	0.0130	0.0242		1,235.1507	1,235.1507	0.2188		1,240.6208
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.3105**	**12.0899**	**2.9290**	**0.0115**	**0.0371**	**0.0136**	**0.0508**	**0.0112**	**0.0130**	**0.0242**		**1,235.1507**	**1,235.1507**	**0.2188**		**1,240.6208**

3.7 Building Construction 3 - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9157	15.5183	35.8530	0.0520		0.1733	0.1733		0.1733	0.1733	0.0000	4,920.1265	4,920.1265	1.4019		4,955.1734
Total	**0.9157**	**15.5183**	**35.8530**	**0.0520**		**0.1733**	**0.1733**		**0.1733**	**0.1733**	**0.0000**	**4,920.1265**	**4,920.1265**	**1.4019**		**4,955.1734**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3105	12.0899	2.9290	0.0115	0.0371	0.0136	0.0508	0.0112	0.0130	0.0242		1,235.1507	1,235.1507	0.2188		1,240.6208
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.3105**	**12.0899**	**2.9290**	**0.0115**	**0.0371**	**0.0136**	**0.0508**	**0.0112**	**0.0130**	**0.0242**		**1,235.1507**	**1,235.1507**	**0.2188**		**1,240.6208**

3.7 Building Construction 3 - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.9860	32.9795	34.6489	0.0520		1.7490	1.7490		1.6439	1.6439		4,835.1899	4,835.1899	1.3816		4,869.7305
Total	**3.9860**	**32.9795**	**34.6489**	**0.0520**		**1.7490**	**1.7490**		**1.6439**	**1.6439**		**4,835.1899**	**4,835.1899**	**1.3816**		**4,869.7305**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2737	11.6541	2.6655	0.0115	0.0371	8.9800e-003	0.0461	0.0112	8.5800e-003	0.0198		1,238.3763	1,238.3763	0.2020		1,243.4260
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.2737**	**11.6541**	**2.6655**	**0.0115**	**0.0371**	**8.9800e-003**	**0.0461**	**0.0112**	**8.5800e-003**	**0.0198**		**1,238.3763**	**1,238.3763**	**0.2020**		**1,243.4260**

3.7 Building Construction 3 - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9157	15.5183	35.8530	0.0520		0.1733	0.1733		0.1733	0.1733	0.0000	4,835.1899	4,835.1899	1.3816		4,869.7305
Total	**0.9157**	**15.5183**	**35.8530**	**0.0520**		**0.1733**	**0.1733**		**0.1733**	**0.1733**	**0.0000**	**4,835.1899**	**4,835.1899**	**1.3816**		**4,869.7305**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2737	11.6541	2.6655	0.0115	0.0371	8.9800e-003	0.0461	0.0112	8.5800e-003	0.0198		1,238.3763	1,238.3763	0.2020		1,243.4260
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.2737**	**11.6541**	**2.6655**	**0.0115**	**0.0371**	**8.9800e-003**	**0.0461**	**0.0112**	**8.5800e-003**	**0.0198**		**1,238.3763**	**1,238.3763**	**0.2020**		**1,243.4260**

3.8 Sitework - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.7105	4.8944	4.9102	7.9200e-003		0.3434	0.3434		0.3434	0.3434		750.5281	750.5281	0.0634		752.1129
Total	**0.7105**	**4.8944**	**4.9102**	**7.9200e-003**	**0.0000**	**0.3434**	**0.3434**	**0.0000**	**0.3434**	**0.3434**		**750.5281**	**750.5281**	**0.0634**		**752.1129**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.8 Sitework - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1585	3.6186	4.8864	7.9200e-003		0.2536	0.2536		0.2536	0.2536	0.0000	750.5281	750.5281	0.0634		752.1129
Total	**0.1585**	**3.6186**	**4.8864**	**7.9200e-003**	**0.0000**	**0.2536**	**0.2536**	**0.0000**	**0.2536**	**0.2536**	**0.0000**	**750.5281**	**750.5281**	**0.0634**		**752.1129**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.8 Sitework - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.6458	4.4902	4.8838	7.9200e-003		0.2958	0.2958		0.2958	0.2958		750.5281	750.5281	0.0581		751.9809
Total	**0.6458**	**4.4902**	**4.8838**	**7.9200e-003**	**0.0000**	**0.2958**	**0.2958**	**0.0000**	**0.2958**	**0.2958**		**750.5281**	**750.5281**	**0.0581**		**751.9809**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.8 Sitework - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1585	3.6186	4.8864	7.9200e-003		0.2536	0.2536		0.2536	0.2536	0.0000	750.5281	750.5281	0.0581		751.9809
Total	**0.1585**	**3.6186**	**4.8864**	**7.9200e-003**	**0.0000**	**0.2536**	**0.2536**	**0.0000**	**0.2536**	**0.2536**	**0.0000**	**750.5281**	**750.5281**	**0.0581**		**751.9809**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.9 Architectural Coating 2 - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	2.8969					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.7105	4.8944	4.9102	7.9200e-003		0.3434	0.3434		0.3434	0.3434		750.5281	750.5281	0.0634		752.1129
Total	**3.6074**	**4.8944**	**4.9102**	**7.9200e-003**		**0.3434**	**0.3434**		**0.3434**	**0.3434**		**750.5281**	**750.5281**	**0.0634**		**752.1129**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.9 Architectural Coating 2 - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	2.8969					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1585	3.6186	4.8864	7.9200e-003		0.2536	0.2536		0.2536	0.2536	0.0000	750.5281	750.5281	0.0634		752.1129
Total	**3.0554**	**3.6186**	**4.8864**	**7.9200e-003**		**0.2536**	**0.2536**		**0.2536**	**0.2536**	**0.0000**	**750.5281**	**750.5281**	**0.0634**		**752.1129**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.9 Architectural Coating 2 - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	2.8969					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.6458	4.4902	4.8838	7.9200e-003		0.2958	0.2958		0.2958	0.2958		750.5281	750.5281	0.0581		751.9809
Total	**3.5427**	**4.4902**	**4.8838**	**7.9200e-003**		**0.2958**	**0.2958**		**0.2958**	**0.2958**		**750.5281**	**750.5281**	**0.0581**		**751.9809**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.9 Architectural Coating 2 - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	2.8969					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1585	3.6186	4.8864	7.9200e-003		0.2536	0.2536		0.2536	0.2536	0.0000	750.5281	750.5281	0.0581		751.9809
Total	**3.0554**	**3.6186**	**4.8864**	**7.9200e-003**		**0.2536**	**0.2536**		**0.2536**	**0.2536**	**0.0000**	**750.5281**	**750.5281**	**0.0581**		**751.9809**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.10 Parking Structure - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.3285	27.2887	23.2170	0.0365		1.7305	1.7305		1.6549	1.6549		3,505.0110	3,505.0110	0.7299		3,523.2573
Total	**3.3285**	**27.2887**	**23.2170**	**0.0365**		**1.7305**	**1.7305**		**1.6549**	**1.6549**		**3,505.0110**	**3,505.0110**	**0.7299**		**3,523.2573**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3105	12.0899	2.9290	0.0115	0.0371	0.0136	0.0508	0.0112	0.0130	0.0242		1,235.1507	1,235.1507	0.2188		1,240.6208
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.3105**	**12.0899**	**2.9290**	**0.0115**	**0.0371**	**0.0136**	**0.0508**	**0.0112**	**0.0130**	**0.0242**		**1,235.1507**	**1,235.1507**	**0.2188**		**1,240.6208**

3.10 Parking Structure - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6542	11.6393	23.6910	0.0365		0.6342	0.6342		0.6342	0.6342	0.0000	3,505.0110	3,505.0110	0.7299		3,523.2573
Total	**0.6542**	**11.6393**	**23.6910**	**0.0365**		**0.6342**	**0.6342**		**0.6342**	**0.6342**	**0.0000**	**3,505.0110**	**3,505.0110**	**0.7299**		**3,523.2573**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3105	12.0899	2.9290	0.0115	0.0371	0.0136	0.0508	0.0112	0.0130	0.0242		1,235.1507	1,235.1507	0.2188		1,240.6208
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.3105**	**12.0899**	**2.9290**	**0.0115**	**0.0371**	**0.0136**	**0.0508**	**0.0112**	**0.0130**	**0.0242**		**1,235.1507**	**1,235.1507**	**0.2188**		**1,240.6208**

3.11 Cafe - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8968	9.7727	5.7899	0.0104		0.5213	0.5213		0.4796	0.4796		1,030.0729	1,030.0729	0.3259		1,038.2205
Total	**0.8968**	**9.7727**	**5.7899**	**0.0104**		**0.5213**	**0.5213**		**0.4796**	**0.4796**		**1,030.0729**	**1,030.0729**	**0.3259**		**1,038.2205**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3105	12.0899	2.9290	0.0115	0.0371	0.0136	0.0508	0.0112	0.0130	0.0242		1,235.1507	1,235.1507	0.2188		1,240.6208
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.3105**	**12.0899**	**2.9290**	**0.0115**	**0.0371**	**0.0136**	**0.0508**	**0.0112**	**0.0130**	**0.0242**		**1,235.1507**	**1,235.1507**	**0.2188**		**1,240.6208**

3.11 Cafe - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1986	2.9873	6.5755	0.0104		0.1116	0.1116		0.1116	0.1116	0.0000	1,030.0729	1,030.0729	0.3259		1,038.2205
Total	**0.1986**	**2.9873**	**6.5755**	**0.0104**		**0.1116**	**0.1116**		**0.1116**	**0.1116**	**0.0000**	**1,030.0729**	**1,030.0729**	**0.3259**		**1,038.2205**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3105	12.0899	2.9290	0.0115	0.0371	0.0136	0.0508	0.0112	0.0130	0.0242		1,235.1507	1,235.1507	0.2188		1,240.6208
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.3105**	**12.0899**	**2.9290**	**0.0115**	**0.0371**	**0.0136**	**0.0508**	**0.0112**	**0.0130**	**0.0242**		**1,235.1507**	**1,235.1507**	**0.2188**		**1,240.6208**

3.11 Cafe - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8069	8.7942	5.5753	0.0104		0.4521	0.4521		0.4159	0.4159		1,007.5890	1,007.5890	0.3259		1,015.7358
Total	**0.8069**	**8.7942**	**5.5753**	**0.0104**		**0.4521**	**0.4521**		**0.4159**	**0.4159**		**1,007.5890**	**1,007.5890**	**0.3259**		**1,015.7358**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2737	11.6541	2.6655	0.0115	0.0371	8.9800e-003	0.0461	0.0112	8.5800e-003	0.0198		1,238.3763	1,238.3763	0.2020		1,243.4260
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.2737**	**11.6541**	**2.6655**	**0.0115**	**0.0371**	**8.9800e-003**	**0.0461**	**0.0112**	**8.5800e-003**	**0.0198**		**1,238.3763**	**1,238.3763**	**0.2020**		**1,243.4260**

3.11 Cafe - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1986	2.9873	6.5755	0.0104		0.1116	0.1116		0.1116	0.1116	0.0000	1,007.5890	1,007.5890	0.3259		1,015.7358
Total	**0.1986**	**2.9873**	**6.5755**	**0.0104**		**0.1116**	**0.1116**		**0.1116**	**0.1116**	**0.0000**	**1,007.5890**	**1,007.5890**	**0.3259**		**1,015.7358**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2737	11.6541	2.6655	0.0115	0.0371	8.9800e-003	0.0461	0.0112	8.5800e-003	0.0198		1,238.3763	1,238.3763	0.2020		1,243.4260
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.2737**	**11.6541**	**2.6655**	**0.0115**	**0.0371**	**8.9800e-003**	**0.0461**	**0.0112**	**8.5800e-003**	**0.0198**		**1,238.3763**	**1,238.3763**	**0.2020**		**1,243.4260**

3.12 Architectural Coating 3 - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	6.7628					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.7105	4.8944	4.9102	7.9200e-003		0.3434	0.3434		0.3434	0.3434		750.5281	750.5281	0.0634		752.1129
Total	**7.4733**	**4.8944**	**4.9102**	**7.9200e-003**		**0.3434**	**0.3434**		**0.3434**	**0.3434**		**750.5281**	**750.5281**	**0.0634**		**752.1129**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.12 Architectural Coating 3 - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	6.7628					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1585	3.6186	4.8864	7.9200e-003		0.2536	0.2536		0.2536	0.2536	0.0000	750.5281	750.5281	0.0634		752.1129
Total	**6.9213**	**3.6186**	**4.8864**	**7.9200e-003**		**0.2536**	**0.2536**		**0.2536**	**0.2536**	**0.0000**	**750.5281**	**750.5281**	**0.0634**		**752.1129**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.12 Architectural Coating 3 - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	6.7628					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.6458	4.4902	4.8838	7.9200e-003		0.2958	0.2958		0.2958	0.2958		750.5281	750.5281	0.0581		751.9809
Total	**7.4086**	**4.4902**	**4.8838**	**7.9200e-003**		**0.2958**	**0.2958**		**0.2958**	**0.2958**		**750.5281**	**750.5281**	**0.0581**		**751.9809**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.12 Architectural Coating 3 - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	6.7628					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1585	3.6186	4.8864	7.9200e-003		0.2536	0.2536		0.2536	0.2536	0.0000	750.5281	750.5281	0.0581		751.9809
Total	**6.9213**	**3.6186**	**4.8864**	**7.9200e-003**		**0.2536**	**0.2536**		**0.2536**	**0.2536**	**0.0000**	**750.5281**	**750.5281**	**0.0581**		**751.9809**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.13 Architectural Coating 1 - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	6.8162					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.7105	4.8944	4.9102	7.9200e-003		0.3434	0.3434		0.3434	0.3434		750.5281	750.5281	0.0634		752.1129
Total	**7.5267**	**4.8944**	**4.9102**	**7.9200e-003**		**0.3434**	**0.3434**		**0.3434**	**0.3434**		**750.5281**	**750.5281**	**0.0634**		**752.1129**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.13 Architectural Coating 1 - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	6.8162					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1585	3.6186	4.8864	7.9200e-003		0.2536	0.2536		0.2536	0.2536	0.0000	750.5281	750.5281	0.0634		752.1129
Total	**6.9747**	**3.6186**	**4.8864**	**7.9200e-003**		**0.2536**	**0.2536**		**0.2536**	**0.2536**	**0.0000**	**750.5281**	**750.5281**	**0.0634**		**752.1129**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.13 Architectural Coating 1 - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	6.8162					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.6458	4.4902	4.8838	7.9200e-003		0.2958	0.2958		0.2958	0.2958		750.5281	750.5281	0.0581		751.9809
Total	**7.4620**	**4.4902**	**4.8838**	**7.9200e-003**		**0.2958**	**0.2958**		**0.2958**	**0.2958**		**750.5281**	**750.5281**	**0.0581**		**751.9809**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.13 Architectural Coating 1 - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	6.8162					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1585	3.6186	4.8864	7.9200e-003		0.2536	0.2536		0.2536	0.2536	0.0000	750.5281	750.5281	0.0581		751.9809
Total	**6.9747**	**3.6186**	**4.8864**	**7.9200e-003**		**0.2536**	**0.2536**		**0.2536**	**0.2536**	**0.0000**	**750.5281**	**750.5281**	**0.0581**		**751.9809**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.14 Landscape - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.4190	4.2103	4.5594	6.2100e-003		0.2662	0.2662		0.2449	0.2449		601.5370	601.5370	0.1946		606.4008
Total	**0.4190**	**4.2103**	**4.5594**	**6.2100e-003**	**0.0000**	**0.2662**	**0.2662**	**0.0000**	**0.2449**	**0.2449**		**601.5370**	**601.5370**	**0.1946**		**606.4008**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.14 Landscape - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.0760	0.3292	4.6841	6.2100e-003		0.0101	0.0101		0.0101	0.0101	0.0000	601.5370	601.5370	0.1946		606.4008
Total	**0.0760**	**0.3292**	**4.6841**	**6.2100e-003**	**0.0000**	**0.0101**	**0.0101**	**0.0000**	**0.0101**	**0.0101**	**0.0000**	**601.5370**	**601.5370**	**0.1946**		**606.4008**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.15 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.2319	18.8838	20.6329	0.0334		1.0791	1.0791		1.0401	1.0401		3,200.6568	3,200.6568	0.6659		3,217.3044
Paving	0.0823					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.3141**	**18.8838**	**20.6329**	**0.0334**		**1.0791**	**1.0791**		**1.0401**	**1.0401**		**3,200.6568**	**3,200.6568**	**0.6659**		**3,217.3044**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.15 Paving - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7492	15.5943	23.1009	0.0334		0.9106	0.9106		0.9106	0.9106	0.0000	3,200.6568	3,200.6568	0.6659		3,217.3044
Paving	0.0823					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.8315**	**15.5943**	**23.1009**	**0.0334**		**0.9106**	**0.9106**		**0.9106**	**0.9106**	**0.0000**	**3,200.6568**	**3,200.6568**	**0.6659**		**3,217.3044**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	11.1510	42.9380	122.3546	0.3504	26.6825	0.4018	27.0843	7.1337	0.3787	7.5124		35,471.9719	35,471.9719	2.0521		35,523.2743
Unmitigated	11.1510	42.9380	122.3546	0.3504	26.6825	0.4018	27.0843	7.1337	0.3787	7.5124		35,471.9719	35,471.9719	2.0521		35,523.2743

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
General Office Building	5,263.60	1,076.34	445.07	9,504,182	9,504,182
Other Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	5,263.60	1,076.34	445.07	9,504,182	9,504,182

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking with Elevator	0.574135	0.045525	0.189369	0.116519	0.019283	0.005646	0.014833	0.022073	0.001871	0.002173	0.006385	0.000739	0.001452
General Office Building	0.574135	0.045525	0.189369	0.116519	0.019283	0.005646	0.014833	0.022073	0.001871	0.002173	0.006385	0.000739	0.001452
Other Asphalt Surfaces	0.574135	0.045525	0.189369	0.116519	0.019283	0.005646	0.014833	0.022073	0.001871	0.002173	0.006385	0.000739	0.001452
Parking Lot	0.574135	0.045525	0.189369	0.116519	0.019283	0.005646	0.014833	0.022073	0.001871	0.002173	0.006385	0.000739	0.001452

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.2822	2.5653	2.1549	0.0154		0.1950	0.1950		0.1950	0.1950		3,078.3989	3,078.3989	0.0590	0.0564	3,096.6922
NaturalGas Unmitigated	0.2822	2.5653	2.1549	0.0154		0.1950	0.1950		0.1950	0.1950		3,078.3989	3,078.3989	0.0590	0.0564	3,096.6922

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	26166.4	0.2822	2.5653	2.1549	0.0154		0.1950	0.1950		0.1950	0.1950		3,078.3989	3,078.3989	0.0590	0.0564	3,096.6922
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.2822**	**2.5653**	**2.1549**	**0.0154**		**0.1950**	**0.1950**		**0.1950**	**0.1950**		**3,078.3989**	**3,078.3989**	**0.0590**	**0.0564**	**3,096.6922**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	26.1664	0.2822	2.5653	2.1549	0.0154		0.1950	0.1950		0.1950	0.1950		3,078.3989	3,078.3989	0.0590	0.0564	3,096.6922
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.2822**	**2.5653**	**2.1549**	**0.0154**		**0.1950**	**0.1950**		**0.1950**	**0.1950**		**3,078.3989**	**3,078.3989**	**0.0590**	**0.0564**	**3,096.6922**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	13.2414	2.3100e-003	0.2470	2.0000e-005		8.9000e-004	8.9000e-004		8.9000e-004	8.9000e-004		0.5221	0.5221	1.4300e-003		0.5580
Unmitigated	13.2414	2.3100e-003	0.2470	2.0000e-005		8.9000e-004	8.9000e-004		8.9000e-004	8.9000e-004		0.5221	0.5221	1.4300e-003		0.5580

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	3.2631					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	9.9547					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0236	2.3100e-003	0.2470	2.0000e-005		8.9000e-004	8.9000e-004		8.9000e-004	8.9000e-004		0.5221	0.5221	1.4300e-003		0.5580
Total	**13.2414**	**2.3100e-003**	**0.2470**	**2.0000e-005**		**8.9000e-004**	**8.9000e-004**		**8.9000e-004**	**8.9000e-004**		**0.5221**	**0.5221**	**1.4300e-003**		**0.5580**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	3.2631					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	9.9547					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0236	2.3100e-003	0.2470	2.0000e-005		8.9000e-004	8.9000e-004		8.9000e-004	8.9000e-004		0.5221	0.5221	1.4300e-003		0.5580
Total	**13.2414**	**2.3100e-003**	**0.2470**	**2.0000e-005**		**8.9000e-004**	**8.9000e-004**		**8.9000e-004**	**8.9000e-004**		**0.5221**	**0.5221**	**1.4300e-003**		**0.5580**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Torrey Highlands

San Diego County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	454.15	1000sqft	10.43	454,148.00	0
Enclosed Parking with Elevator	1,860.00	Space	13.94	607,152.00	0
Other Asphalt Surfaces	0.62	Acre	0.62	27,007.20	0
Parking Lot	71.00	Space	0.73	31,950.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2018
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - modified per project specifics

Construction Phase - construction schedule per applicant

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Off-road Equipment - modified

Trips and VMT - modified

Grading - modified

Architectural Coating - Arch coating based on CalEEMod calc methodolgy

Vehicle Trips - modified

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Area Coating - VOC content per SDAPCD Rule 67.0.1

Energy Use - modified

Construction Off-road Equipment Mitigation - Tier 2 equipment

Torrey Highlands - San Diego County, Winter

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	227,074.00	90,000.00
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	227,074.00	122,029.00
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	227,074.00	60,000.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	681,222.00	270,000.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	681,222.00	360,000.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	681,222.00	180,000.00
tblArchitecturalCoating	ConstArea_Parking	39,967.00	0.00
tblArchitecturalCoating	ConstArea_Parking	39,967.00	0.00
tblArchitecturalCoating	ConstArea_Parking	39,967.00	0.00
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	100.00
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	100.00
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	100.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	50.00
tblArchitecturalCoating	EF_Parking	250.00	0.00
tblArchitecturalCoating	EF_Parking	250.00	0.00
tblArchitecturalCoating	EF_Parking	250.00	0.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	100.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	100.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	100.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	50.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	50.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	50.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	100
tblAreaCoating	Area_EF_Parking	250	0

tblAreaCoating	Area_Nonresidential_Exterior	227074	544633
tblAreaCoating	Area_Nonresidential_Interior	681222	810000
tblAreaCoating	Area_Parking	39967	0
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	100	250
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	21.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	16.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	28.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	16.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	35.00	207.00

tblConstructionPhase	NumDays	35.00	153.00
tblConstructionPhase	NumDays	35.00	240.00
tblConstructionPhase	NumDays	440.00	176.00
tblConstructionPhase	NumDays	440.00	412.00
tblConstructionPhase	NumDays	440.00	303.00
tblConstructionPhase	NumDays	440.00	369.00
tblConstructionPhase	NumDays	440.00	23.00
tblConstructionPhase	NumDays	45.00	17.00
tblConstructionPhase	NumDays	35.00	43.00
tblConstructionPhase	NumDays	20.00	6.00
tblConstructionPhase	NumDays	20.00	107.00
tblConstructionPhase	NumDays	20.00	55.00
tblConstructionPhase	NumDays	20.00	390.00
tblEnergyUse	LightingElect	1.75	2.63
tblEnergyUse	LightingElect	3.81	4.33
tblEnergyUse	LightingElect	0.35	0.88
tblEnergyUse	T24E	4.66	5.69
tblEnergyUse	T24NG	15.99	16.83
tblGrading	AcresOfGrading	85.00	10.43
tblGrading	AcresOfGrading	6.00	10.43
tblGrading	MaterialExported	0.00	51,740.00
tblLandUse	LandUseSquareFeet	454,150.00	454,148.00
tblLandUse	LandUseSquareFeet	744,000.00	607,152.00
tblLandUse	LandUseSquareFeet	28,400.00	31,950.00
tblLandUse	LotAcreage	16.74	13.94
tblLandUse	LotAcreage	0.64	0.73
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	6.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	3.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName		Site Preparation
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblTripsAndVMT	HaulingTripLength	20.00	0.19
tblTripsAndVMT	HaulingTripLength	20.00	0.19
tblTripsAndVMT	HaulingTripLength	20.00	0.19
tblTripsAndVMT	HaulingTripNumber	0.00	24.00
tblTripsAndVMT	HaulingTripNumber	0.00	110.00
tblTripsAndVMT	VendorTripLength	7.30	0.19

tblTripsAndVMT	VendorTripLength	7.30	0.19
tblTripsAndVMT	VendorTripLength	7.30	0.19
tblTripsAndVMT	VendorTripLength	7.30	0.19
tblTripsAndVMT	VendorTripLength	7.30	0.19
tblTripsAndVMT	VendorTripLength	7.30	0.19
tblTripsAndVMT	VendorTripLength	7.30	0.19
tblTripsAndVMT	VendorTripLength	7.30	0.19
tblTripsAndVMT	VendorTripNumber	0.00	16.00
tblTripsAndVMT	VendorTripNumber	0.00	16.00
tblTripsAndVMT	VendorTripNumber	0.00	12.00
tblTripsAndVMT	WorkerTripNumber	15.00	0.00
tblTripsAndVMT	WorkerTripNumber	425.00	0.00
tblTripsAndVMT	WorkerTripNumber	85.00	0.00
tblTripsAndVMT	WorkerTripNumber	85.00	0.00
tblTripsAndVMT	WorkerTripNumber	5.00	0.00
tblTripsAndVMT	WorkerTripNumber	20.00	0.00
tblTripsAndVMT	WorkerTripNumber	30.00	0.00
tblTripsAndVMT	WorkerTripNumber	13.00	0.00
tblTripsAndVMT	WorkerTripNumber	425.00	0.00
tblTripsAndVMT	WorkerTripNumber	425.00	0.00
tblTripsAndVMT	WorkerTripNumber	425.00	0.00
tblTripsAndVMT	WorkerTripNumber	5.00	0.00
tblTripsAndVMT	WorkerTripNumber	85.00	0.00
tblTripsAndVMT	WorkerTripNumber	425.00	0.00
tblVehicleTrips	ST_TR	2.46	2.37
tblVehicleTrips	SU_TR	1.05	0.98
tblVehicleTrips	WD_TR	11.03	11.59

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	15.4631	197.3953	113.7179	0.1898	27.0886	7.3410	34.4296	13.5974	6.7557	20.3530	0.0000	19,407.3267	19,407.3267	5.7377	0.0000	19,550.7702
2019	33.0163	194.1336	143.9641	0.2448	0.1857	7.8549	8.0405	0.0559	7.4669	7.5229	0.0000	23,820.4312	23,820.4312	5.8402	0.0000	23,966.4374
2020	31.3550	154.1182	123.9228	0.2140	0.1485	5.9789	6.0903	0.0447	5.7133	5.7469	0.0000	20,504.8977	20,504.8977	4.8345	0.0000	20,625.7608
Maximum	**33.0163**	**197.3953**	**143.9641**	**0.2448**	**27.0886**	**7.8549**	**34.4296**	**13.5974**	**7.4669**	**20.3530**	**0.0000**	**23,820.4312**	**23,820.4312**	**5.8402**	**0.0000**	**23,966.4374**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	4.3776	101.7042	114.2113	0.1898	10.6124	2.3469	12.9593	5.3166	2.3447	7.6613	0.0000	19,407.3267	19,407.3267	5.7377	0.0000	19,550.7702
2019	21.1207	125.7595	146.8714	0.2448	0.1857	1.8143	2.0000	0.0559	1.8107	1.8667	0.0000	23,820.4312	23,820.4312	5.8402	0.0000	23,966.4374
2020	20.9588	107.9657	128.0468	0.2140	0.1485	2.4055	2.5169	0.0447	2.4041	2.4376	0.0000	20,504.8977	20,504.8977	4.8345	0.0000	20,625.7608
Maximum	**21.1207**	**125.7595**	**146.8714**	**0.2448**	**10.6124**	**2.4055**	**12.9593**	**5.3166**	**2.4041**	**7.6613**	**0.0000**	**23,820.4312**	**23,820.4312**	**5.8402**	**0.0000**	**23,966.4374**

Torrey Highlands - San Diego County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**41.81**	**38.53**	**-1.97**	**0.00**	**60.08**	**68.99**	**64.01**	**60.45**	**67.10**	**64.41**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	13.2414	2.3100e-003	0.2470	2.0000e-005		8.9000e-004	8.9000e-004		8.9000e-004	8.9000e-004		0.5221	0.5221	1.4300e-003		0.5580
Energy	0.2822	2.5653	2.1549	0.0154		0.1950	0.1950		0.1950	0.1950		3,078.3989	3,078.3989	0.0590	0.0564	3,096.6922
Mobile	10.9108	44.2991	122.1285	0.3321	26.6825	0.4057	27.0882	7.1337	0.3824	7.5161		33,618.8023	33,618.8023	2.0664		33,670.4612
Total	**24.4343**	**46.8667**	**124.5303**	**0.3475**	**26.6825**	**0.6015**	**27.2840**	**7.1337**	**0.5783**	**7.7119**		**36,697.7233**	**36,697.7233**	**2.1268**	**0.0564**	**36,767.7114**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	13.2414	2.3100e-003	0.2470	2.0000e-005		8.9000e-004	8.9000e-004		8.9000e-004	8.9000e-004		0.5221	0.5221	1.4300e-003		0.5580
Energy	0.2822	2.5653	2.1549	0.0154		0.1950	0.1950		0.1950	0.1950		3,078.3989	3,078.3989	0.0590	0.0564	3,096.6922
Mobile	10.9108	44.2991	122.1285	0.3321	26.6825	0.4057	27.0882	7.1337	0.3824	7.5161		33,618.8023	33,618.8023	2.0664		33,670.4612
Total	**24.4343**	**46.8667**	**124.5303**	**0.3475**	**26.6825**	**0.6015**	**27.2840**	**7.1337**	**0.5783**	**7.7119**		**36,697.7233**	**36,697.7233**	**2.1268**	**0.0564**	**36,767.7114**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	9/1/2018	9/8/2018	5	6	
2	Grading	Grading	9/8/2018	10/2/2018	5	17	
3	Utilities	Site Preparation	10/3/2018	12/17/2018	5	55	
4	Building Construction 1	Building Construction	10/3/2018	5/1/2020	5	412	
5	Building Construction 2	Building Construction	11/3/2018	1/1/2020	5	303	
6	Building Construction 3	Building Construction	12/1/2018	5/1/2020	5	369	
7	Sitework	Site Preparation	1/1/2019	7/1/2020	5	390	
8	Architectural Coating 2	Architectural Coating	5/1/2019	4/1/2020	5	240	
9	Parking Structure	Building Construction	6/1/2019	7/3/2019	5	23	
10	Cafe	Building Construction	6/1/2019	2/1/2020	5	176	
11	Architectural Coating 3	Architectural Coating	7/17/2019	5/1/2020	5	207	
12	Architectural Coating 1	Architectural Coating	8/1/2019	3/1/2020	5	153	
13	Landscape	Site Preparation	2/1/2020	7/1/2020	5	107	
14	Paving	Paving	2/1/2020	4/2/2020	5	43	

Acres of Grading (Site Preparation Phase): 10.43

Acres of Grading (Grading Phase): 10.43

Acres of Paving: 15.29

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 180,000; Non-Residential Outdoor: 60,000; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Scrapers	1	8.00	367	0.48
Site Preparation	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Grading	Excavators	0	8.00	158	0.38
Grading	Graders	0	8.00	187	0.41
Grading	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Scrapers	5	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	5	8.00	97	0.37
Utilities	Excavators	1	8.00	158	0.38
Utilities	Rubber Tired Dozers	0	8.00	247	0.40
Utilities	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Building Construction 1	Aerial Lifts	7	8.00	63	0.31
Building Construction 1	Cranes	1	8.00	231	0.29
Building Construction 1	Forklifts	2	8.00	89	0.20
Building Construction 1	Generator Sets	0	8.00	84	0.74
Building Construction 1	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction 1	Welders	5	8.00	46	0.45
Building Construction 2	Aerial Lifts	7	8.00	63	0.31
Building Construction 2	Cranes	1	8.00	231	0.29
Building Construction 2	Forklifts	2	8.00	89	0.20
Building Construction 2	Generator Sets	0	8.00	84	0.74
Building Construction 2	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction 2	Welders	5	8.00	46	0.45

Building Construction 3	Aerial Lifts	7	8.00	63	0.31
Building Construction 3	Cranes	1	8.00	231	0.29
Building Construction 3	Forklifts	2	8.00	89	0.20
Building Construction 3	Generator Sets	0	8.00	84	0.74
Building Construction 3	Tractors/Loaders/Backhoes	6	8.00	97	0.37
Building Construction 3	Welders	5	8.00	46	0.45
Sitework	Air Compressors	2	8.00	78	0.48
Sitework	Rubber Tired Dozers	0	8.00	247	0.40
Sitework	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Architectural Coating 2	Air Compressors	2	8.00	78	0.48
Parking Structure	Air Compressors	4	8.00	78	0.48
Parking Structure	Cranes	1	8.00	231	0.29
Parking Structure	Forklifts	2	8.00	89	0.20
Parking Structure	Generator Sets	0	8.00	84	0.74
Parking Structure	Rubber Tired Dozers	0	8.00	247	0.40
Parking Structure	Scrapers	0	8.00	367	0.48
Parking Structure	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Parking Structure	Welders	1	8.00	46	0.45
Cafe	Cranes	1	8.00	231	0.29
Cafe	Forklifts	1	8.00	89	0.20
Cafe	Generator Sets	0	8.00	84	0.74
Cafe	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Cafe	Welders	0	8.00	46	0.45
Architectural Coating 3	Air Compressors	2	8.00	78	0.48
Architectural Coating 1	Air Compressors	2	8.00	78	0.48
Landscape	Rubber Tired Dozers	0	8.00	247	0.40
Landscape	Tractors/Loaders/Backhoes	2	8.00	97	0.37

Paving	Air Compressors	4	8.00	78	0.48
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	0	8.00	80	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	6	0.00	16.00	24.00	10.80	0.19	0.19	LD_Mix	HDT_Mix	HHDT
Grading	12	0.00	16.00	6,468.00	10.80	0.19	0.19	LD_Mix	HDT_Mix	HHDT
Utilities	5	0.00	12.00	110.00	10.80	0.19	0.19	LD_Mix	HDT_Mix	HHDT
Building Construction 1	17	0.00	184.00	0.00	10.80	0.19	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction 2	17	0.00	184.00	0.00	10.80	0.19	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction 3	21	0.00	184.00	0.00	10.80	0.19	20.00	LD_Mix	HDT_Mix	HHDT
Sitework	2	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating 2	2	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Parking Structure	11	0.00	184.00	0.00	10.80	0.19	20.00	LD_Mix	HDT_Mix	HHDT
Cafe	3	0.00	184.00	0.00	10.80	0.19	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating 3	2	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating 1	2	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Landscape	2	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

3.2 Site Preparation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					13.8877	0.0000	13.8877	6.8195	0.0000	6.8195			0.0000			0.0000
Off-Road	4.2774	47.2006	24.5498	0.0415		2.3393	2.3393		2.1522	2.1522		4,183.4734	4,183.4734	1.3024		4,216.0327
Total	**4.2774**	**47.2006**	**24.5498**	**0.0415**	**13.8877**	**2.3393**	**16.2270**	**6.8195**	**2.1522**	**8.9717**		**4,183.4734**	**4,183.4734**	**1.3024**		**4,216.0327**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	9.7300e-003	0.4044	0.0806	4.0000e-004	8.5000e-004	5.1000e-004	1.3600e-003	2.4000e-004	4.9000e-004	7.3000e-004		42.9107	42.9107	0.0104		43.1693
Vendor	0.0328	1.0473	0.3422	8.9000e-004	3.2300e-003	1.6500e-003	4.8800e-003	9.7000e-004	1.5800e-003	2.5500e-003		95.5800	95.5800	0.0225		96.1432
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0425**	**1.4518**	**0.4228**	**1.2900e-003**	**4.0800e-003**	**2.1600e-003**	**6.2400e-003**	**1.2100e-003**	**2.0700e-003**	**3.2800e-003**		**138.4906**	**138.4906**	**0.0329**		**139.3126**

3.2 Site Preparation - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.4162	0.0000	5.4162	2.6596	0.0000	2.6596			0.0000			0.0000
Off-Road	0.9050	15.7872	24.1654	0.0415		0.5953	0.5953		0.5953	0.5953	0.0000	4,183.4734	4,183.4734	1.3024		4,216.0327
Total	**0.9050**	**15.7872**	**24.1654**	**0.0415**	**5.4162**	**0.5953**	**6.0115**	**2.6596**	**0.5953**	**3.2549**	**0.0000**	**4,183.4734**	**4,183.4734**	**1.3024**		**4,216.0327**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	9.7300e-003	0.4044	0.0806	4.0000e-004	8.5000e-004	5.1000e-004	1.3600e-003	2.4000e-004	4.9000e-004	7.3000e-004		42.9107	42.9107	0.0104		43.1693
Vendor	0.0328	1.0473	0.3422	8.9000e-004	3.2300e-003	1.6500e-003	4.8800e-003	9.7000e-004	1.5800e-003	2.5500e-003		95.5800	95.5800	0.0225		96.1432
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0425**	**1.4518**	**0.4228**	**1.2900e-003**	**4.0800e-003**	**2.1600e-003**	**6.2400e-003**	**1.2100e-003**	**2.0700e-003**	**3.2800e-003**		**138.4906**	**138.4906**	**0.0329**		**139.3126**

3.3 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					13.1225	0.0000	13.1225	6.7555	0.0000	6.7555			0.0000			0.0000
Off-Road	9.3973	109.2263	64.3702	0.1084		4.9491	4.9491		4.5532	4.5532		10,908.2208	10,908.2208	3.3959		10,993.1177
Total	**9.3973**	**109.2263**	**64.3702**	**0.1084**	**13.1225**	**4.9491**	**18.0716**	**6.7555**	**4.5532**	**11.3086**		**10,908.2208**	**10,908.2208**	**3.3959**		**10,993.1177**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.9252	38.4693	7.6633	0.0377	0.0711	0.0488	0.1199	0.0202	0.0467	0.0669		4,081.5620	4,081.5620	0.9841		4,106.1639
Vendor	0.0328	1.0473	0.3422	8.9000e-004	3.2300e-003	1.6500e-003	4.8800e-003	9.7000e-004	1.5800e-003	2.5500e-003		95.5800	95.5800	0.0225		96.1432
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.9579**	**39.5166**	**8.0055**	**0.0386**	**0.0744**	**0.0504**	**0.1248**	**0.0212**	**0.0482**	**0.0694**		**4,177.1419**	**4,177.1419**	**1.0066**		**4,202.3072**

3.3 Grading - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.1178	0.0000	5.1178	2.6346	0.0000	2.6346			0.0000			0.0000
Off-Road	2.4723	44.9486	61.1616	0.1084		1.6991	1.6991		1.6991	1.6991	0.0000	10,908.2208	10,908.2208	3.3959		10,993.1177
Total	**2.4723**	**44.9486**	**61.1616**	**0.1084**	**5.1178**	**1.6991**	**6.8168**	**2.6346**	**1.6991**	**4.3337**	**0.0000**	**10,908.2208**	**10,908.2208**	**3.3959**		**10,993.1177**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.9252	38.4693	7.6633	0.0377	0.0711	0.0488	0.1199	0.0202	0.0467	0.0669		4,081.5620	4,081.5620	0.9841		4,106.1639
Vendor	0.0328	1.0473	0.3422	8.9000e-004	3.2300e-003	1.6500e-003	4.8800e-003	9.7000e-004	1.5800e-003	2.5500e-003		95.5800	95.5800	0.0225		96.1432
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.9579**	**39.5166**	**8.0055**	**0.0386**	**0.0744**	**0.0504**	**0.1248**	**0.0212**	**0.0482**	**0.0694**		**4,177.1419**	**4,177.1419**	**1.0066**		**4,202.3072**

3.4 Utilities - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	1.3536	13.6148	12.6225	0.0176		0.8954	0.8954		0.8237	0.8237		1,770.6889	1,770.6889	0.5512		1,784.4699
Total	**1.3536**	**13.6148**	**12.6225**	**0.0176**	**0.0000**	**0.8954**	**0.8954**	**0.0000**	**0.8237**	**0.8237**		**1,770.6889**	**1,770.6889**	**0.5512**		**1,784.4699**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.8600e-003	0.2022	0.0403	2.0000e-004	3.8000e-004	2.6000e-004	6.3000e-004	1.1000e-004	2.5000e-004	3.5000e-004		21.4553	21.4553	5.1700e-003		21.5847
Vendor	0.0246	0.7855	0.2567	6.7000e-004	2.4200e-003	1.2400e-003	3.6600e-003	7.3000e-004	1.1900e-003	1.9200e-003		71.6850	71.6850	0.0169		72.1074
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0294**	**0.9877**	**0.2969**	**8.7000e-004**	**2.8000e-003**	**1.5000e-003**	**4.2900e-003**	**8.4000e-004**	**1.4400e-003**	**2.2700e-003**		**93.1403**	**93.1403**	**0.0221**		**93.6921**

3.4 Utilities - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.2790	3.1150	13.2863	0.0176		0.1389	0.1389		0.1389	0.1389	0.0000	1,770.6889	1,770.6889	0.5512		1,784.4699
Total	**0.2790**	**3.1150**	**13.2863**	**0.0176**	**0.0000**	**0.1389**	**0.1389**	**0.0000**	**0.1389**	**0.1389**	**0.0000**	**1,770.6889**	**1,770.6889**	**0.5512**		**1,784.4699**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.8600e-003	0.2022	0.0403	2.0000e-004	3.8000e-004	2.6000e-004	6.3000e-004	1.1000e-004	2.5000e-004	3.5000e-004		21.4553	21.4553	5.1700e-003		21.5847
Vendor	0.0246	0.7855	0.2567	6.7000e-004	2.4200e-003	1.2400e-003	3.6600e-003	7.3000e-004	1.1900e-003	1.9200e-003		71.6850	71.6850	0.0169		72.1074
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0294**	**0.9877**	**0.2969**	**8.7000e-004**	**2.8000e-003**	**1.5000e-003**	**4.2900e-003**	**8.4000e-004**	**1.4400e-003**	**2.2700e-003**		**93.1403**	**93.1403**	**0.0221**		**93.6921**

3.5 Building Construction 1 - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.9619	28.6146	26.5486	0.0396		1.6244	1.6244		1.5399	1.5399		3,733.7213	3,733.7213	1.0384		3,759.6807
Total	**3.9619**	**28.6146**	**26.5486**	**0.0396**		**1.6244**	**1.6244**		**1.5399**	**1.5399**		**3,733.7213**	**3,733.7213**	**1.0384**		**3,759.6807**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3766	12.0442	3.9353	0.0102	0.0371	0.0190	0.0561	0.0112	0.0182	0.0294		1,099.1696	1,099.1696	0.2591		1,105.6473
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.3766**	**12.0442**	**3.9353**	**0.0102**	**0.0371**	**0.0190**	**0.0561**	**0.0112**	**0.0182**	**0.0294**		**1,099.1696**	**1,099.1696**	**0.2591**		**1,105.6473**

3.5 Building Construction 1 - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7638	14.8600	26.4847	0.0396		0.1530	0.1530		0.1530	0.1530	0.0000	3,733.7213	3,733.7213	1.0384		3,759.6807
Total	**0.7638**	**14.8600**	**26.4847**	**0.0396**		**0.1530**	**0.1530**		**0.1530**	**0.1530**	**0.0000**	**3,733.7213**	**3,733.7213**	**1.0384**		**3,759.6807**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3766	12.0442	3.9353	0.0102	0.0371	0.0190	0.0561	0.0112	0.0182	0.0294		1,099.1696	1,099.1696	0.2591		1,105.6473
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.3766**	**12.0442**	**3.9353**	**0.0102**	**0.0371**	**0.0190**	**0.0561**	**0.0112**	**0.0182**	**0.0294**		**1,099.1696**	**1,099.1696**	**0.2591**		**1,105.6473**

3.5 Building Construction 1 - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.5005	26.4255	25.9721	0.0396		1.4034	1.4034		1.3310	1.3310		3,689.9591	3,689.9591	1.0127		3,715.2756
Total	**3.5005**	**26.4255**	**25.9721**	**0.0396**		**1.4034**	**1.4034**		**1.3310**	**1.3310**		**3,689.9591**	**3,689.9591**	**1.0127**		**3,715.2756**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3423	11.7315	3.6019	0.0102	0.0371	0.0164	0.0536	0.0112	0.0157	0.0269		1,096.8493	1,096.8493	0.2461		1,103.0018
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.3423**	**11.7315**	**3.6019**	**0.0102**	**0.0371**	**0.0164**	**0.0536**	**0.0112**	**0.0157**	**0.0269**		**1,096.8493**	**1,096.8493**	**0.2461**		**1,103.0018**

3.5 Building Construction 1 - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7638	14.8600	26.4847	0.0396		0.1530	0.1530		0.1530	0.1530	0.0000	3,689.9591	3,689.9591	1.0127		3,715.2756
Total	**0.7638**	**14.8600**	**26.4847**	**0.0396**		**0.1530**	**0.1530**		**0.1530**	**0.1530**	**0.0000**	**3,689.9591**	**3,689.9591**	**1.0127**		**3,715.2756**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3423	11.7315	3.6019	0.0102	0.0371	0.0164	0.0536	0.0112	0.0157	0.0269		1,096.8493	1,096.8493	0.2461		1,103.0018
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.3423**	**11.7315**	**3.6019**	**0.0102**	**0.0371**	**0.0164**	**0.0536**	**0.0112**	**0.0157**	**0.0269**		**1,096.8493**	**1,096.8493**	**0.2461**		**1,103.0018**

3.5 Building Construction 1 - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1480	24.5589	25.5301	0.0396		1.2165	1.2165		1.1540	1.1540		3,632.1159	3,632.1159	0.9925		3,656.9290
Total	**3.1480**	**24.5589**	**25.5301**	**0.0396**		**1.2165**	**1.2165**		**1.1540**	**1.1540**		**3,632.1159**	**3,632.1159**	**0.9925**		**3,656.9290**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3018	11.3165	3.2758	0.0102	0.0371	0.0109	0.0480	0.0112	0.0104	0.0216		1,098.9436	1,098.9436	0.2274		1,104.6283
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.3018**	**11.3165**	**3.2758**	**0.0102**	**0.0371**	**0.0109**	**0.0480**	**0.0112**	**0.0104**	**0.0216**		**1,098.9436**	**1,098.9436**	**0.2274**		**1,104.6283**

3.5 Building Construction 1 - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7638	14.8600	26.4847	0.0396		0.1530	0.1530		0.1530	0.1530	0.0000	3,632.1159	3,632.1159	0.9925		3,656.9290
Total	**0.7638**	**14.8600**	**26.4847**	**0.0396**		**0.1530**	**0.1530**		**0.1530**	**0.1530**	**0.0000**	**3,632.1159**	**3,632.1159**	**0.9925**		**3,656.9290**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3018	11.3165	3.2758	0.0102	0.0371	0.0109	0.0480	0.0112	0.0104	0.0216		1,098.9436	1,098.9436	0.2274		1,104.6283
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.3018**	**11.3165**	**3.2758**	**0.0102**	**0.0371**	**0.0109**	**0.0480**	**0.0112**	**0.0104**	**0.0216**		**1,098.9436**	**1,098.9436**	**0.2274**		**1,104.6283**

3.6 Building Construction 2 - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.9619	28.6146	26.5486	0.0396		1.6244	1.6244		1.5399	1.5399		3,733.7213	3,733.7213	1.0384		3,759.6807
Total	**3.9619**	**28.6146**	**26.5486**	**0.0396**		**1.6244**	**1.6244**		**1.5399**	**1.5399**		**3,733.7213**	**3,733.7213**	**1.0384**		**3,759.6807**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3766	12.0442	3.9353	0.0102	0.0371	0.0190	0.0561	0.0112	0.0182	0.0294		1,099.1696	1,099.1696	0.2591		1,105.6473
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.3766**	**12.0442**	**3.9353**	**0.0102**	**0.0371**	**0.0190**	**0.0561**	**0.0112**	**0.0182**	**0.0294**		**1,099.1696**	**1,099.1696**	**0.2591**		**1,105.6473**

3.6 Building Construction 2 - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7638	14.8600	26.4847	0.0396		0.1530	0.1530		0.1530	0.1530	0.0000	3,733.7213	3,733.7213	1.0384		3,759.6807
Total	**0.7638**	**14.8600**	**26.4847**	**0.0396**		**0.1530**	**0.1530**		**0.1530**	**0.1530**	**0.0000**	**3,733.7213**	**3,733.7213**	**1.0384**		**3,759.6807**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3766	12.0442	3.9353	0.0102	0.0371	0.0190	0.0561	0.0112	0.0182	0.0294		1,099.1696	1,099.1696	0.2591		1,105.6473
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.3766**	**12.0442**	**3.9353**	**0.0102**	**0.0371**	**0.0190**	**0.0561**	**0.0112**	**0.0182**	**0.0294**		**1,099.1696**	**1,099.1696**	**0.2591**		**1,105.6473**

3.6 Building Construction 2 - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.5005	26.4255	25.9721	0.0396		1.4034	1.4034		1.3310	1.3310		3,689.9591	3,689.9591	1.0127		3,715.2756
Total	**3.5005**	**26.4255**	**25.9721**	**0.0396**		**1.4034**	**1.4034**		**1.3310**	**1.3310**		**3,689.9591**	**3,689.9591**	**1.0127**		**3,715.2756**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3423	11.7315	3.6019	0.0102	0.0371	0.0164	0.0536	0.0112	0.0157	0.0269		1,096.8493	1,096.8493	0.2461		1,103.0018
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.3423**	**11.7315**	**3.6019**	**0.0102**	**0.0371**	**0.0164**	**0.0536**	**0.0112**	**0.0157**	**0.0269**		**1,096.8493**	**1,096.8493**	**0.2461**		**1,103.0018**

3.6 Building Construction 2 - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7638	14.8600	26.4847	0.0396		0.1530	0.1530		0.1530	0.1530	0.0000	3,689.9591	3,689.9591	1.0127		3,715.2756
Total	**0.7638**	**14.8600**	**26.4847**	**0.0396**		**0.1530**	**0.1530**		**0.1530**	**0.1530**	**0.0000**	**3,689.9591**	**3,689.9591**	**1.0127**		**3,715.2756**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3423	11.7315	3.6019	0.0102	0.0371	0.0164	0.0536	0.0112	0.0157	0.0269		1,096.8493	1,096.8493	0.2461		1,103.0018
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.3423**	**11.7315**	**3.6019**	**0.0102**	**0.0371**	**0.0164**	**0.0536**	**0.0112**	**0.0157**	**0.0269**		**1,096.8493**	**1,096.8493**	**0.2461**		**1,103.0018**

3.6 Building Construction 2 - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1480	24.5589	25.5301	0.0396		1.2165	1.2165		1.1540	1.1540		3,632.1159	3,632.1159	0.9925		3,656.9290
Total	**3.1480**	**24.5589**	**25.5301**	**0.0396**		**1.2165**	**1.2165**		**1.1540**	**1.1540**		**3,632.1159**	**3,632.1159**	**0.9925**		**3,656.9290**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3018	11.3165	3.2758	0.0102	0.0371	0.0109	0.0480	0.0112	0.0104	0.0216		1,098.9436	1,098.9436	0.2274		1,104.6283
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.3018**	**11.3165**	**3.2758**	**0.0102**	**0.0371**	**0.0109**	**0.0480**	**0.0112**	**0.0104**	**0.0216**		**1,098.9436**	**1,098.9436**	**0.2274**		**1,104.6283**

3.6 Building Construction 2 - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7638	14.8600	26.4847	0.0396		0.1530	0.1530		0.1530	0.1530	0.0000	3,632.1159	3,632.1159	0.9925		3,656.9290
Total	**0.7638**	**14.8600**	**26.4847**	**0.0396**		**0.1530**	**0.1530**		**0.1530**	**0.1530**	**0.0000**	**3,632.1159**	**3,632.1159**	**0.9925**		**3,656.9290**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3018	11.3165	3.2758	0.0102	0.0371	0.0109	0.0480	0.0112	0.0104	0.0216		1,098.9436	1,098.9436	0.2274		1,104.6283
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.3018**	**11.3165**	**3.2758**	**0.0102**	**0.0371**	**0.0109**	**0.0480**	**0.0112**	**0.0104**	**0.0216**		**1,098.9436**	**1,098.9436**	**0.2274**		**1,104.6283**

3.7 Building Construction 3 - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	5.0264	39.1335	35.8955	0.0520		2.3696	2.3696		2.2255	2.2255		4,984.8251	4,984.8251	1.4279		5,020.5217
Total	**5.0264**	**39.1335**	**35.8955**	**0.0520**		**2.3696**	**2.3696**		**2.2255**	**2.2255**		**4,984.8251**	**4,984.8251**	**1.4279**		**5,020.5217**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3766	12.0442	3.9353	0.0102	0.0371	0.0190	0.0561	0.0112	0.0182	0.0294		1,099.1696	1,099.1696	0.2591		1,105.6473
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.3766**	**12.0442**	**3.9353**	**0.0102**	**0.0371**	**0.0190**	**0.0561**	**0.0112**	**0.0182**	**0.0294**		**1,099.1696**	**1,099.1696**	**0.2591**		**1,105.6473**

3.7 Building Construction 3 - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9157	15.5183	35.8530	0.0520		0.1733	0.1733		0.1733	0.1733	0.0000	4,984.8251	4,984.8251	1.4279		5,020.5217
Total	**0.9157**	**15.5183**	**35.8530**	**0.0520**		**0.1733**	**0.1733**		**0.1733**	**0.1733**	**0.0000**	**4,984.8251**	**4,984.8251**	**1.4279**		**5,020.5217**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3766	12.0442	3.9353	0.0102	0.0371	0.0190	0.0561	0.0112	0.0182	0.0294		1,099.1696	1,099.1696	0.2591		1,105.6473
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.3766**	**12.0442**	**3.9353**	**0.0102**	**0.0371**	**0.0190**	**0.0561**	**0.0112**	**0.0182**	**0.0294**		**1,099.1696**	**1,099.1696**	**0.2591**		**1,105.6473**

3.7 Building Construction 3 - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.4317	35.7750	35.1829	0.0520		2.0275	2.0275		1.9052	1.9052		4,920.1266	4,920.1266	1.4019		4,955.1734
Total	**4.4317**	**35.7750**	**35.1829**	**0.0520**		**2.0275**	**2.0275**		**1.9052**	**1.9052**		**4,920.1266**	**4,920.1266**	**1.4019**		**4,955.1734**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3423	11.7315	3.6019	0.0102	0.0371	0.0164	0.0536	0.0112	0.0157	0.0269		1,096.8493	1,096.8493	0.2461		1,103.0018
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.3423**	**11.7315**	**3.6019**	**0.0102**	**0.0371**	**0.0164**	**0.0536**	**0.0112**	**0.0157**	**0.0269**		**1,096.8493**	**1,096.8493**	**0.2461**		**1,103.0018**

3.7 Building Construction 3 - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9157	15.5183	35.8530	0.0520		0.1733	0.1733		0.1733	0.1733	0.0000	4,920.1265	4,920.1265	1.4019		4,955.1734
Total	**0.9157**	**15.5183**	**35.8530**	**0.0520**		**0.1733**	**0.1733**		**0.1733**	**0.1733**	**0.0000**	**4,920.1265**	**4,920.1265**	**1.4019**		**4,955.1734**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3423	11.7315	3.6019	0.0102	0.0371	0.0164	0.0536	0.0112	0.0157	0.0269		1,096.8493	1,096.8493	0.2461		1,103.0018
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.3423**	**11.7315**	**3.6019**	**0.0102**	**0.0371**	**0.0164**	**0.0536**	**0.0112**	**0.0157**	**0.0269**		**1,096.8493**	**1,096.8493**	**0.2461**		**1,103.0018**

3.7 Building Construction 3 - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.9860	32.9795	34.6489	0.0520		1.7490	1.7490		1.6439	1.6439		4,835.1899	4,835.1899	1.3816		4,869.7305
Total	**3.9860**	**32.9795**	**34.6489**	**0.0520**		**1.7490**	**1.7490**		**1.6439**	**1.6439**		**4,835.1899**	**4,835.1899**	**1.3816**		**4,869.7305**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3018	11.3165	3.2758	0.0102	0.0371	0.0109	0.0480	0.0112	0.0104	0.0216		1,098.9436	1,098.9436	0.2274		1,104.6283
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.3018**	**11.3165**	**3.2758**	**0.0102**	**0.0371**	**0.0109**	**0.0480**	**0.0112**	**0.0104**	**0.0216**		**1,098.9436**	**1,098.9436**	**0.2274**		**1,104.6283**

3.7 Building Construction 3 - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9157	15.5183	35.8530	0.0520		0.1733	0.1733		0.1733	0.1733	0.0000	4,835.1899	4,835.1899	1.3816		4,869.7305
Total	**0.9157**	**15.5183**	**35.8530**	**0.0520**		**0.1733**	**0.1733**		**0.1733**	**0.1733**	**0.0000**	**4,835.1899**	**4,835.1899**	**1.3816**		**4,869.7305**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3018	11.3165	3.2758	0.0102	0.0371	0.0109	0.0480	0.0112	0.0104	0.0216		1,098.9436	1,098.9436	0.2274		1,104.6283
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.3018**	**11.3165**	**3.2758**	**0.0102**	**0.0371**	**0.0109**	**0.0480**	**0.0112**	**0.0104**	**0.0216**		**1,098.9436**	**1,098.9436**	**0.2274**		**1,104.6283**

3.8 Sitework - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.7105	4.8944	4.9102	7.9200e-003		0.3434	0.3434		0.3434	0.3434		750.5281	750.5281	0.0634		752.1129
Total	**0.7105**	**4.8944**	**4.9102**	**7.9200e-003**	**0.0000**	**0.3434**	**0.3434**	**0.0000**	**0.3434**	**0.3434**		**750.5281**	**750.5281**	**0.0634**		**752.1129**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.8 Sitework - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1585	3.6186	4.8864	7.9200e-003		0.2536	0.2536		0.2536	0.2536	0.0000	750.5281	750.5281	0.0634		752.1129
Total	**0.1585**	**3.6186**	**4.8864**	**7.9200e-003**	**0.0000**	**0.2536**	**0.2536**	**0.0000**	**0.2536**	**0.2536**	**0.0000**	**750.5281**	**750.5281**	**0.0634**		**752.1129**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.8 Sitework - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.6458	4.4902	4.8838	7.9200e-003		0.2958	0.2958		0.2958	0.2958		750.5281	750.5281	0.0581		751.9809
Total	**0.6458**	**4.4902**	**4.8838**	**7.9200e-003**	**0.0000**	**0.2958**	**0.2958**	**0.0000**	**0.2958**	**0.2958**		**750.5281**	**750.5281**	**0.0581**		**751.9809**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.8 Sitework - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1585	3.6186	4.8864	7.9200e-003		0.2536	0.2536		0.2536	0.2536	0.0000	750.5281	750.5281	0.0581		751.9809
Total	**0.1585**	**3.6186**	**4.8864**	**7.9200e-003**	**0.0000**	**0.2536**	**0.2536**	**0.0000**	**0.2536**	**0.2536**	**0.0000**	**750.5281**	**750.5281**	**0.0581**		**751.9809**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.9 Architectural Coating 2 - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	2.8969					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.7105	4.8944	4.9102	7.9200e-003		0.3434	0.3434		0.3434	0.3434		750.5281	750.5281	0.0634		752.1129
Total	**3.6074**	**4.8944**	**4.9102**	**7.9200e-003**		**0.3434**	**0.3434**		**0.3434**	**0.3434**		**750.5281**	**750.5281**	**0.0634**		**752.1129**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.9 Architectural Coating 2 - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	2.8969					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1585	3.6186	4.8864	7.9200e-003		0.2536	0.2536		0.2536	0.2536	0.0000	750.5281	750.5281	0.0634		752.1129
Total	**3.0554**	**3.6186**	**4.8864**	**7.9200e-003**		**0.2536**	**0.2536**		**0.2536**	**0.2536**	**0.0000**	**750.5281**	**750.5281**	**0.0634**		**752.1129**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.9 Architectural Coating 2 - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	2.8969					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.6458	4.4902	4.8838	7.9200e-003		0.2958	0.2958		0.2958	0.2958		750.5281	750.5281	0.0581		751.9809
Total	**3.5427**	**4.4902**	**4.8838**	**7.9200e-003**		**0.2958**	**0.2958**		**0.2958**	**0.2958**		**750.5281**	**750.5281**	**0.0581**		**751.9809**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.9 Architectural Coating 2 - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	2.8969					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1585	3.6186	4.8864	7.9200e-003		0.2536	0.2536		0.2536	0.2536	0.0000	750.5281	750.5281	0.0581		751.9809
Total	**3.0554**	**3.6186**	**4.8864**	**7.9200e-003**		**0.2536**	**0.2536**		**0.2536**	**0.2536**	**0.0000**	**750.5281**	**750.5281**	**0.0581**		**751.9809**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.10 Parking Structure - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.3285	27.2887	23.2170	0.0365		1.7305	1.7305		1.6549	1.6549		3,505.0110	3,505.0110	0.7299		3,523.2573
Total	**3.3285**	**27.2887**	**23.2170**	**0.0365**		**1.7305**	**1.7305**		**1.6549**	**1.6549**		**3,505.0110**	**3,505.0110**	**0.7299**		**3,523.2573**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3423	11.7315	3.6019	0.0102	0.0371	0.0164	0.0536	0.0112	0.0157	0.0269		1,096.8493	1,096.8493	0.2461		1,103.0018
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.3423**	**11.7315**	**3.6019**	**0.0102**	**0.0371**	**0.0164**	**0.0536**	**0.0112**	**0.0157**	**0.0269**		**1,096.8493**	**1,096.8493**	**0.2461**		**1,103.0018**

3.10 Parking Structure - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6542	11.6393	23.6910	0.0365		0.6342	0.6342		0.6342	0.6342	0.0000	3,505.0110	3,505.0110	0.7299		3,523.2573
Total	**0.6542**	**11.6393**	**23.6910**	**0.0365**		**0.6342**	**0.6342**		**0.6342**	**0.6342**	**0.0000**	**3,505.0110**	**3,505.0110**	**0.7299**		**3,523.2573**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3423	11.7315	3.6019	0.0102	0.0371	0.0164	0.0536	0.0112	0.0157	0.0269		1,096.8493	1,096.8493	0.2461		1,103.0018
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.3423**	**11.7315**	**3.6019**	**0.0102**	**0.0371**	**0.0164**	**0.0536**	**0.0112**	**0.0157**	**0.0269**		**1,096.8493**	**1,096.8493**	**0.2461**		**1,103.0018**

3.11 Cafe - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8968	9.7727	5.7899	0.0104		0.5213	0.5213		0.4796	0.4796		1,030.0729	1,030.0729	0.3259		1,038.2205
Total	**0.8968**	**9.7727**	**5.7899**	**0.0104**		**0.5213**	**0.5213**		**0.4796**	**0.4796**		**1,030.0729**	**1,030.0729**	**0.3259**		**1,038.2205**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3423	11.7315	3.6019	0.0102	0.0371	0.0164	0.0536	0.0112	0.0157	0.0269		1,096.8493	1,096.8493	0.2461		1,103.0018
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.3423**	**11.7315**	**3.6019**	**0.0102**	**0.0371**	**0.0164**	**0.0536**	**0.0112**	**0.0157**	**0.0269**		**1,096.8493**	**1,096.8493**	**0.2461**		**1,103.0018**

3.11 Cafe - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1986	2.9873	6.5755	0.0104		0.1116	0.1116		0.1116	0.1116	0.0000	1,030.0729	1,030.0729	0.3259		1,038.2205
Total	**0.1986**	**2.9873**	**6.5755**	**0.0104**		**0.1116**	**0.1116**		**0.1116**	**0.1116**	**0.0000**	**1,030.0729**	**1,030.0729**	**0.3259**		**1,038.2205**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3423	11.7315	3.6019	0.0102	0.0371	0.0164	0.0536	0.0112	0.0157	0.0269		1,096.8493	1,096.8493	0.2461		1,103.0018
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.3423**	**11.7315**	**3.6019**	**0.0102**	**0.0371**	**0.0164**	**0.0536**	**0.0112**	**0.0157**	**0.0269**		**1,096.8493**	**1,096.8493**	**0.2461**		**1,103.0018**

3.11 Cafe - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8069	8.7942	5.5753	0.0104		0.4521	0.4521		0.4159	0.4159		1,007.5890	1,007.5890	0.3259		1,015.7358
Total	**0.8069**	**8.7942**	**5.5753**	**0.0104**		**0.4521**	**0.4521**		**0.4159**	**0.4159**		**1,007.5890**	**1,007.5890**	**0.3259**		**1,015.7358**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3018	11.3165	3.2758	0.0102	0.0371	0.0109	0.0480	0.0112	0.0104	0.0216		1,098.9436	1,098.9436	0.2274		1,104.6283
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.3018**	**11.3165**	**3.2758**	**0.0102**	**0.0371**	**0.0109**	**0.0480**	**0.0112**	**0.0104**	**0.0216**		**1,098.9436**	**1,098.9436**	**0.2274**		**1,104.6283**

3.11 Cafe - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1986	2.9873	6.5755	0.0104		0.1116	0.1116		0.1116	0.1116	0.0000	1,007.5890	1,007.5890	0.3259		1,015.7358
Total	**0.1986**	**2.9873**	**6.5755**	**0.0104**		**0.1116**	**0.1116**		**0.1116**	**0.1116**	**0.0000**	**1,007.5890**	**1,007.5890**	**0.3259**		**1,015.7358**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3018	11.3165	3.2758	0.0102	0.0371	0.0109	0.0480	0.0112	0.0104	0.0216		1,098.9436	1,098.9436	0.2274		1,104.6283
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.3018**	**11.3165**	**3.2758**	**0.0102**	**0.0371**	**0.0109**	**0.0480**	**0.0112**	**0.0104**	**0.0216**		**1,098.9436**	**1,098.9436**	**0.2274**		**1,104.6283**

3.12 Architectural Coating 3 - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	6.7628					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.7105	4.8944	4.9102	7.9200e-003		0.3434	0.3434		0.3434	0.3434		750.5281	750.5281	0.0634		752.1129
Total	**7.4733**	**4.8944**	**4.9102**	**7.9200e-003**		**0.3434**	**0.3434**		**0.3434**	**0.3434**		**750.5281**	**750.5281**	**0.0634**		**752.1129**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.12 Architectural Coating 3 - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	6.7628					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1585	3.6186	4.8864	7.9200e-003		0.2536	0.2536		0.2536	0.2536	0.0000	750.5281	750.5281	0.0634		752.1129
Total	**6.9213**	**3.6186**	**4.8864**	**7.9200e-003**		**0.2536**	**0.2536**		**0.2536**	**0.2536**	**0.0000**	**750.5281**	**750.5281**	**0.0634**		**752.1129**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.12 Architectural Coating 3 - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	6.7628					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.6458	4.4902	4.8838	7.9200e-003		0.2958	0.2958		0.2958	0.2958		750.5281	750.5281	0.0581		751.9809
Total	**7.4086**	**4.4902**	**4.8838**	**7.9200e-003**		**0.2958**	**0.2958**		**0.2958**	**0.2958**		**750.5281**	**750.5281**	**0.0581**		**751.9809**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.12 Architectural Coating 3 - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	6.7628					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1585	3.6186	4.8864	7.9200e-003		0.2536	0.2536		0.2536	0.2536	0.0000	750.5281	750.5281	0.0581		751.9809
Total	**6.9213**	**3.6186**	**4.8864**	**7.9200e-003**		**0.2536**	**0.2536**		**0.2536**	**0.2536**	**0.0000**	**750.5281**	**750.5281**	**0.0581**		**751.9809**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.13 Architectural Coating 1 - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	6.8162					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.7105	4.8944	4.9102	7.9200e-003		0.3434	0.3434		0.3434	0.3434		750.5281	750.5281	0.0634		752.1129
Total	**7.5267**	**4.8944**	**4.9102**	**7.9200e-003**		**0.3434**	**0.3434**		**0.3434**	**0.3434**		**750.5281**	**750.5281**	**0.0634**		**752.1129**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.13 Architectural Coating 1 - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	6.8162					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1585	3.6186	4.8864	7.9200e-003		0.2536	0.2536		0.2536	0.2536	0.0000	750.5281	750.5281	0.0634		752.1129
Total	**6.9747**	**3.6186**	**4.8864**	**7.9200e-003**		**0.2536**	**0.2536**		**0.2536**	**0.2536**	**0.0000**	**750.5281**	**750.5281**	**0.0634**		**752.1129**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.13 Architectural Coating 1 - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	6.8162					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.6458	4.4902	4.8838	7.9200e-003		0.2958	0.2958		0.2958	0.2958		750.5281	750.5281	0.0581		751.9809
Total	**7.4620**	**4.4902**	**4.8838**	**7.9200e-003**		**0.2958**	**0.2958**		**0.2958**	**0.2958**		**750.5281**	**750.5281**	**0.0581**		**751.9809**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.13 Architectural Coating 1 - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	6.8162					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1585	3.6186	4.8864	7.9200e-003		0.2536	0.2536		0.2536	0.2536	0.0000	750.5281	750.5281	0.0581		751.9809
Total	**6.9747**	**3.6186**	**4.8864**	**7.9200e-003**		**0.2536**	**0.2536**		**0.2536**	**0.2536**	**0.0000**	**750.5281**	**750.5281**	**0.0581**		**751.9809**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.14 Landscape - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.4190	4.2103	4.5594	6.2100e-003		0.2662	0.2662		0.2449	0.2449		601.5370	601.5370	0.1946		606.4008
Total	**0.4190**	**4.2103**	**4.5594**	**6.2100e-003**	**0.0000**	**0.2662**	**0.2662**	**0.0000**	**0.2449**	**0.2449**		**601.5370**	**601.5370**	**0.1946**		**606.4008**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.14 Landscape - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.0760	0.3292	4.6841	6.2100e-003		0.0101	0.0101		0.0101	0.0101	0.0000	601.5370	601.5370	0.1946		606.4008
Total	**0.0760**	**0.3292**	**4.6841**	**6.2100e-003**	**0.0000**	**0.0101**	**0.0101**	**0.0000**	**0.0101**	**0.0101**	**0.0000**	**601.5370**	**601.5370**	**0.1946**		**606.4008**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.15 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.2319	18.8838	20.6329	0.0334		1.0791	1.0791		1.0401	1.0401		3,200.6568	3,200.6568	0.6659		3,217.3044
Paving	0.0823					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.3141**	**18.8838**	**20.6329**	**0.0334**		**1.0791**	**1.0791**		**1.0401**	**1.0401**		**3,200.6568**	**3,200.6568**	**0.6659**		**3,217.3044**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.15 Paving - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7492	15.5943	23.1009	0.0334		0.9106	0.9106		0.9106	0.9106	0.0000	3,200.6568	3,200.6568	0.6659		3,217.3044
Paving	0.0823					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.8315**	**15.5943**	**23.1009**	**0.0334**		**0.9106**	**0.9106**		**0.9106**	**0.9106**	**0.0000**	**3,200.6568**	**3,200.6568**	**0.6659**		**3,217.3044**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	10.9108	44.2991	122.1285	0.3321	26.6825	0.4057	27.0882	7.1337	0.3824	7.5161		33,618.8023	33,618.8023	2.0664		33,670.4612
Unmitigated	10.9108	44.2991	122.1285	0.3321	26.6825	0.4057	27.0882	7.1337	0.3824	7.5161		33,618.8023	33,618.8023	2.0664		33,670.4612

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
General Office Building	5,263.60	1,076.34	445.07	9,504,182	9,504,182
Other Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	5,263.60	1,076.34	445.07	9,504,182	9,504,182

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking with Elevator	0.574135	0.045525	0.189369	0.116519	0.019283	0.005646	0.014833	0.022073	0.001871	0.002173	0.006385	0.000739	0.001452
General Office Building	0.574135	0.045525	0.189369	0.116519	0.019283	0.005646	0.014833	0.022073	0.001871	0.002173	0.006385	0.000739	0.001452
Other Asphalt Surfaces	0.574135	0.045525	0.189369	0.116519	0.019283	0.005646	0.014833	0.022073	0.001871	0.002173	0.006385	0.000739	0.001452
Parking Lot	0.574135	0.045525	0.189369	0.116519	0.019283	0.005646	0.014833	0.022073	0.001871	0.002173	0.006385	0.000739	0.001452

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.2822	2.5653	2.1549	0.0154		0.1950	0.1950		0.1950	0.1950		3,078.3989	3,078.3989	0.0590	0.0564	3,096.6922
NaturalGas Unmitigated	0.2822	2.5653	2.1549	0.0154		0.1950	0.1950		0.1950	0.1950		3,078.3989	3,078.3989	0.0590	0.0564	3,096.6922

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	26166.4	0.2822	2.5653	2.1549	0.0154		0.1950	0.1950		0.1950	0.1950		3,078.3989	3,078.3989	0.0590	0.0564	3,096.6922
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.2822**	**2.5653**	**2.1549**	**0.0154**		**0.1950**	**0.1950**		**0.1950**	**0.1950**		**3,078.3989**	**3,078.3989**	**0.0590**	**0.0564**	**3,096.6922**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	26.1664	0.2822	2.5653	2.1549	0.0154		0.1950	0.1950		0.1950	0.1950		3,078.3989	3,078.3989	0.0590	0.0564	3,096.6922
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.2822**	**2.5653**	**2.1549**	**0.0154**		**0.1950**	**0.1950**		**0.1950**	**0.1950**		**3,078.3989**	**3,078.3989**	**0.0590**	**0.0564**	**3,096.6922**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	13.2414	2.3100e-003	0.2470	2.0000e-005		8.9000e-004	8.9000e-004		8.9000e-004	8.9000e-004		0.5221	0.5221	1.4300e-003		0.5580
Unmitigated	13.2414	2.3100e-003	0.2470	2.0000e-005		8.9000e-004	8.9000e-004		8.9000e-004	8.9000e-004		0.5221	0.5221	1.4300e-003		0.5580

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	3.2631					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	9.9547					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0236	2.3100e-003	0.2470	2.0000e-005		8.9000e-004	8.9000e-004		8.9000e-004	8.9000e-004		0.5221	0.5221	1.4300e-003		0.5580
Total	**13.2414**	**2.3100e-003**	**0.2470**	**2.0000e-005**		**8.9000e-004**	**8.9000e-004**		**8.9000e-004**	**8.9000e-004**		**0.5221**	**0.5221**	**1.4300e-003**		**0.5580**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	3.2631					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	9.9547					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0236	2.3100e-003	0.2470	2.0000e-005		8.9000e-004	8.9000e-004		8.9000e-004	8.9000e-004		0.5221	0.5221	1.4300e-003		0.5580
Total	**13.2414**	**2.3100e-003**	**0.2470**	**2.0000e-005**		**8.9000e-004**	**8.9000e-004**		**8.9000e-004**	**8.9000e-004**		**0.5221**	**0.5221**	**1.4300e-003**		**0.5580**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

HARP2 - HRACalc (dated 17023) 3/30/2018 4:01:58 PM - Output Log

GLCs loaded successfully
Pollutants loaded successfully
Pathway receptors loaded successfully
****
RISK SCENARIO SETTINGS

Receptor Type: Resident
Scenario: All
Calculation Method: Derived

****
EXPOSURE DURATION PARAMETERS FOR CANCER

Start Age: -0.25
Total Exposure Duration: 3

Exposure Duration Bin Distribution
3rd Trimester Bin: 0.25
0<2 Years Bin: 2
2<9 Years Bin: 1
2<16 Years Bin: 0
16<30 Years Bin: 0
16 to 70 Years Bin: 0

****
PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments. The remaining pathways are only used for cancer and noncancer chronic assessments.

Inhalation: True
Soil: True
Dermal: True
Mother's milk: True
Water: False
Fish: False
Homegrown crops: False
Beef: False
Dairy: False
Pig: False
Chicken: False
Egg: False

****
INHALATION

Daily breathing rate: LongTerm24HR

Worker Adjustment Factors
Worker adjustment factors enabled: NO

Fraction at time at home
3rd Trimester to 16 years: OFF
16 years to 70 years: ON

****
SOIL & DERMAL PATHWAY SETTINGS

Deposition rate (m/s): 0.05
Soil mixing depth (m): 0.01
Dermal climate: Mixed

****
TIER 2 SETTINGS

Tier2 adjustments were used in this assessment. Please see the input file for details.
Tier2 - What was changed: ED or start age changed|
Calculating cancer risk
Cancer risk breakdown by pollutant and receptor saved to: C:\Users\apoll\Desktop\HARP2\Torrey Highlands\TOREY HIGHLANDS\hra\Const-19CancerRisk.csv
Cancer risk total by receptor saved to: C:\Users\apoll\Desktop\HARP2\Torrey Highlands\TOREY HIGHLANDS\hra\Const-19CancerRiskSumByRec.csv
Calculating chronic risk
Chronic risk breakdown by pollutant and receptor saved to: C:\Users\apoll\Desktop\HARP2\Torrey Highlands\TOREY HIGHLANDS\hra\Const-19NCChronicRisk.csv
Chronic risk total by receptor saved to: C:\Users\apoll\Desktop\HARP2\Torrey Highlands\TOREY HIGHLANDS\hra\Const-19NCChronicRiskSumByRec.csv
Calculating acute risk
Acute risk breakdown by pollutant and receptor saved to: C:\Users\apoll\Desktop\HARP2\Torrey Highlands\TOREY HIGHLANDS\hra\Const-19NCAcuteRisk.csv
Acute risk total by receptor saved to: C:\Users\apoll\Desktop\HARP2\Torrey Highlands\TOREY HIGHLANDS\hra\Const-19NCAcuteRiskSumByRec.csv
HRA ran successfully

HARP2 - HRACalc (dated 17023) 3/7/2018 2:06:16 PM - Output Log

GLCs loaded successfully
Pollutants loaded successfully
Pathway receptors loaded successfully
****
RISK SCENARIO SETTINGS

Receptor Type: Resident
Scenario: All
Calculation Method: Derived

****
EXPOSURE DURATION PARAMETERS FOR CANCER

Start Age: -0.25
Total Exposure Duration: 3

Exposure Duration Bin Distribution
3rd Trimester Bin: 0.25
0<2 Years Bin: 2
2<9 Years Bin: 1
2<16 Years Bin: 0
16<30 Years Bin: 0
16 to 70 Years Bin: 0

****
PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments. The remaining pathways are only used for cancer and noncancer chronic assessments.

Inhalation: True
Soil: True
Dermal: True
Mother's milk: True
Water: False
Fish: False
Homegrown crops: False
Beef: False
Dairy: False
Pig: False
Chicken: False
Egg: False

****
INHALATION

Daily breathing rate: LongTerm24HR

Worker Adjustment Factors
Worker adjustment factors enabled: NO

Fraction at time at home
3rd Trimester to 16 years: OFF
16 years to 70 years: ON

****
SOIL & DERMAL PATHWAY SETTINGS

Deposition rate (m/s): 0.05
Soil mixing depth (m): 0.01
Dermal climate: Mixed

****
TIER 2 SETTINGS

Tier2 adjustments were used in this assessment. Please see the input file for details.
Tier2 - What was changed: ED or start age changed|
Calculating cancer risk
Cancer risk breakdown by pollutant and receptor saved to: C:\Users\apoll\Desktop\HARP2\Torrey Highlands\TOREY HIGHLANDS\hra\Const-18CancerRisk.csv
Cancer risk total by receptor saved to: C:\Users\apoll\Desktop\HARP2\Torrey Highlands\TOREY HIGHLANDS\hra\Const-18CancerRiskSumByRec.csv
Calculating chronic risk
Chronic risk breakdown by pollutant and receptor saved to: C:\Users\apoll\Desktop\HARP2\Torrey Highlands\TOREY HIGHLANDS\hra\Const-18NCChronicRisk.csv
Chronic risk total by receptor saved to: C:\Users\apoll\Desktop\HARP2\Torrey Highlands\TOREY HIGHLANDS\hra\Const-18NCChronicRiskSumByRec.csv
Calculating acute risk
Acute risk breakdown by pollutant and receptor saved to: C:\Users\apoll\Desktop\HARP2\Torrey Highlands\TOREY HIGHLANDS\hra\Const-18NCAcuteRisk.csv
Acute risk total by receptor saved to: C:\Users\apoll\Desktop\HARP2\Torrey Highlands\TOREY HIGHLANDS\hra\Const-18NCAcuteRiskSumByRec.csv
HRA ran successfully

*** MODELOPTs: RegDFAULT CONC ELEV RURAL ADJ_U*

*** MODEL SETUP OPTIONS SUMMARY ***
- -

**Model Is Setup For Calculation of Average CONCentration Values.

-- DEPOSITION LOGIC --
**NO GAS DEPOSITION Data Provided.
**NO PARTICLE DEPOSITION Data Provided.
**Model Uses NO DRY DEPLETION. DRYDPLT = F
**Model Uses NO WET DEPLETION. WETDPLT = F

**Model Uses RURAL Dispersion Only.

**Model Uses Regulatory DEFAULT Options:
1. Stack-tip Downwash.
2. Model Accounts for ELEVated Terrain Effects.
3. Use Calms Processing Routine.
4. Use Missing Data Processing Routine.
5. No Exponential Decay.

**Other Options Specified:
ADJ_U* - Use ADJ_U* BETA option for SBL in AERMET
TEMP_Sub - Meteorological data includes TEMP substitutions

**Model Assumes No FLAGPOLE Receptor Heights.

**The User Specified a Pollutant Type of: PM_10

**Model Calculates 1 Short Term Average(s) of: 1-HR
and Calculates PERIOD Averages

**This Run Includes: 1 Source(s); 1 Source Group(s); and 648 Receptor(s)

with: 0 POINT(s), including
0 POINTCAP(s) and 0 POINTHOR(s)
and: 0 VOLUME source(s)
and: 1 AREA type source(s)
and: 0 LINE source(s)
and: 0 OPENPIT source(s)
and: 0 BUOYANT LINE source(s) with 0 line(s)

**Model Set To Continue RUNning After the Setup Testing.

**The AERMET Input Meteorological Data Version Date: 16216

**Output Options Selected:

Model Outputs Tables of PERIOD Averages by Receptor
Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE Keyword)
Model Outputs External File(s) of High Values for Plotting (PLOTFILE Keyword)
Model Outputs Separate Summary File of High Ranked Values (SUMMFILE Keyword)

**NOTE: The Following Flags May Appear Following CONC Values: c for Calm Hours
m for Missing Hours
b for Both Calm and Missing Hours

**Misc. Inputs: Base Elev. for Pot. Temp. Profile (m MSL) = 127.00 ; Decay Coef. = 0.000 ; Rot. Angle = 0.0
Emission Units = GRAMS/SEC ; Emission Rate Unit Factor = 0.10000E+07
Output Units = MICROGRAMS/M**3

**Approximate Storage Requirements of Model = 3.6 MB of RAM.

**Detailed Error/Message File: Torrey Highlands.err
**File for Summary of Results: Torrey Highlands.sum

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
(1=YES; 0=NO)

```
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1
```

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

Surface file: ..\KMA2010_2012v16126_adjU\KMA2010_2012v16126_adjU.SFC Met Version:

16216
Profile file: ..\KMA2010_2012v16126_adjU\KMA2010_2012v16126_adjU.PFL
Surface format: FREE
Profile format: FREE
Surface station no.: 93107 Upper air station no.: 3190
Name: UNKNOWN Name: UNKNOWN
Year: 2010 Year: 2010

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	WD	HT	REF TA	HT
10	01	01	1	01	-5.1	0.103	-9.000	-9.000	-999.	79.	19.0	0.36	1.30	1.00	0.89	52.	10.0	283.8	10.0
10	01	01	1	02	-5.1	0.103	-9.000	-9.000	-999.	79.	19.0	0.36	1.30	1.00	0.89	43.	10.0	283.1	10.0
10	01	01	1	03	-5.1	0.103	-9.000	-9.000	-999.	79.	19.0	0.36	1.30	1.00	0.89	39.	10.0	283.1	10.0
10	01	01	1	04	-5.1	0.103	-9.000	-9.000	-999.	79.	19.0	0.36	1.30	1.00	0.89	55.	10.0	283.1	10.0
10	01	01	1	05	-5.1	0.103	-9.000	-9.000	-999.	79.	19.0	0.36	1.30	1.00	0.89	32.	10.0	282.5	10.0
10	01	01	1	06	-6.3	0.115	-9.000	-9.000	-999.	94.	21.4	0.48	1.30	1.00	0.89	67.	10.0	282.5	10.0
10	01	01	1	07	-5.1	0.103	-9.000	-9.000	-999.	79.	19.0	0.36	1.30	1.00	0.89	53.	10.0	282.0	10.0
10	01	01	1	08	-4.1	0.102	-9.000	-9.000	-999.	78.	23.3	0.36	1.30	0.50	0.89	50.	10.0	283.1	10.0
10	01	01	1	09	45.6	0.112	0.461	0.011	77.	90.	-2.8	0.48	1.30	0.30	0.45	88.	10.0	286.4	10.0
10	01	01	1	10	103.3	0.190	0.894	0.008	248.	199.	-6.0	0.49	1.30	0.23	0.89	174.	10.0	289.9	10.0
10	01	01	1	11	139.4	0.208	1.202	0.008	446.	227.	-5.8	0.58	1.30	0.21	0.89	263.	10.0	290.9	10.0
10	01	01	1	12	178.2	0.320	1.449	0.008	613.	435.	-16.5	0.49	1.30	0.20	1.79	327.	10.0	292.5	10.0
10	01	01	1	13	175.3	0.238	1.540	0.007	746.	282.	-6.9	0.33	1.30	0.20	1.34	344.	10.0	293.8	10.0
10	01	01	1	14	138.8	0.312	1.487	0.007	847.	418.	-19.5	0.49	1.30	0.21	1.79	326.	10.0	294.9	10.0
10	01	01	1	15	93.9	0.459	1.334	0.007	904.	747.	-92.1	0.49	1.30	0.24	3.13	303.	10.0	292.5	10.0
10	01	01	1	16	16.0	0.261	0.742	0.007	910.	355.	-99.2	0.49	1.30	0.33	1.79	307.	10.0	290.4	10.0
10	01	01	1	17	-13.8	0.182	-9.000	-9.000	-999.	191.	39.0	0.49	1.30	0.61	1.34	324.	10.0	289.2	10.0
10	01	01	1	18	-10.8	0.151	-9.000	-9.000	-999.	141.	28.4	0.33	1.30	1.00	1.34	341.	10.0	288.8	10.0
10	01	01	1	19	-15.1	0.181	-9.000	-9.000	-999.	185.	36.0	0.49	1.30	1.00	1.34	304.	10.0	287.5	10.0
10	01	01	1	20	-4.7	0.100	-9.000	-9.000	-999.	78.	18.5	0.33	1.30	1.00	0.89	341.	10.0	287.0	10.0
10	01	01	1	21	-1.7	0.071	-9.000	-9.000	-999.	46.	19.0	0.32	1.30	1.00	0.45	13.	10.0	286.4	10.0
10	01	01	1	22	-2.2	0.077	-9.000	-9.000	-999.	51.	18.2	0.53	1.30	1.00	0.45	92.	10.0	286.4	10.0
10	01	01	1	23	-17.2	0.194	-9.000	-9.000	-999.	205.	41.3	0.56	1.30	1.00	1.34	293.	10.0	285.4	10.0
10	01	01	1	24	-5.0	0.102	-9.000	-9.000	-999.	82.	19.0	0.36	1.30	1.00	0.89	33.	10.0	284.9	10.0

First hour of profile data

YR	MO	DY	HR	HEIGHT	F	WDIR	WSPD	AMB_TMP	sigmaA	sigmaW	sigmaV
10	01	01	01	10.0	1	52.	0.89	283.8	99.0	-99.00	-99.00

F indicates top of profile (=1) or below (=0)

*** AERMOD - VERSION 16216r *** *** C:\Users\apoll\Desktop\HARP2\Torrey Highlands\Torrey Highlands\Torre *** 03/07/18
*** AERMET - VERSION 16216 *** *** *** 11:54:21
PAGE 4
*** MODELOPTs: RegDFAULT CONC ELEV RURAL ADJ_U*

*** THE SUMMARY OF MAXIMUM PERIOD (26304 HRS) RESULTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

```
                                                                                NETWORK
GROUP ID                    AVERAGE CONC            RECEPTOR  (XR, YR, ZELEV, ZHILL, ZFLAG)  OF TYPE
GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

ALL       1ST HIGHEST VALUE IS      8.32328 AT (  485730.58,  3646139.46,   109.65,   123.00,    0.00)  DC
          2ND HIGHEST VALUE IS      7.44958 AT (  485736.74,  3646108.16,   110.78,   123.00,    0.00)  DC
          3RD HIGHEST VALUE IS      6.55447 AT (  485743.04,  3646072.28,   115.24,   122.00,    0.00)  DC
          4TH HIGHEST VALUE IS      4.94057 AT (  485749.47,  3646031.23,   118.16,   122.00,    0.00)  DC
          5TH HIGHEST VALUE IS      4.60139 AT (  485783.77,  3646114.61,   116.89,   116.89,    0.00)  DC
          6TH HIGHEST VALUE IS      4.20541 AT (  485783.77,  3646064.61,   118.08,   122.00,    0.00)  DC
          7TH HIGHEST VALUE IS      3.61019 AT (  485678.84,  3645982.53,   123.02,   123.02,    0.00)  DC
          8TH HIGHEST VALUE IS      3.45398 AT (  485719.44,  3645982.00,   121.29,   121.29,    0.00)  DC
          9TH HIGHEST VALUE IS      3.32628 AT (  485783.77,  3646014.61,   121.45,   121.45,    0.00)  DC
         10TH HIGHEST VALUE IS      3.20844 AT (  485761.64,  3645991.93,   121.34,   121.34,    0.00)  DC


 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
   *** AERMOD - VERSION 16216r ***   *** C:\Users\apoll\Desktop\HARP2\Torrey Highlands\Torrey
Highlands\Torre ***       03/07/18
 *** AERMET - VERSION  16216 ***   ***                                                  ***       11:54:21
                                                                                    PAGE   5
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL  ADJ_U*

                                  *** THE SUMMARY OF HIGHEST  1-HR RESULTS ***


                             ** CONC OF PM_10    IN MICROGRAMS/M**3                    **

                                        DATE                                        NETWORK
GROUP ID                    AVERAGE CONC     (YYMMDDHH)          RECEPTOR  (XR, YR, ZELEV, ZHILL,
ZFLAG)    OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

ALL      HIGH   1ST HIGH VALUE IS    1052.68197  ON 12012717: AT (  485678.84,  3645982.53,   123.02,   123.02,
0.00)  DC


 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
   *** AERMOD - VERSION 16216r ***   *** C:\Users\apoll\Desktop\HARP2\Torrey Highlands\Torrey
Highlands\Torre ***       03/07/18
 *** AERMET - VERSION  16216 ***   ***                                                  ***       11:54:21
                                                                                    PAGE   6
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL  ADJ_U*

 *** Message Summary : AERMOD Model Execution ***

  --------- Summary of Total Messages --------
```

```
A Total of          0 Fatal Error Message(s)
A Total of         38 Warning Message(s)
A Total of        556 Informational Message(s)

A Total of      26304 Hours Were Processed

A Total of        213 Calm Hours Identified

A Total of        343 Missing Hours Identified (  1.30 Percent)


  ******** FATAL ERROR MESSAGES ********
          ***  NONE  ***


  ********   WARNING MESSAGES   ********
ME W186     82      MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used        0.50
ME W187     82      MEOPEN: ADJ_U* Option for Low Winds used in AERMET
MX W441   14167       METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=    11081407
MX W441   14168       METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=    11081408
MX W441   14169       METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=    11081409
MX W441   14170       METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=    11081410
MX W441   14171       METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=    11081411
MX W441   14172       METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=    11081412
MX W441   14173       METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=    11081413
MX W441   14174       METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=    11081414
MX W441   14175       METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=    11081415
MX W441   14176       METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=    11081416
MX W441   14177       METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=    11081417
MX W441   14178       METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=    11081418
MX W441   14191       METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=    11081507
MX W441   14192       METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=    11081508
MX W441   14193       METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=    11081509
MX W441   14194       METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=    11081510
MX W441   14195       METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=    11081511
MX W441   14196       METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=    11081512
MX W441   14197       METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=    11081513
MX W441   14198       METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=    11081514
MX W441   14199       METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=    11081515
MX W441   14200       METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=    11081516
MX W441   14201       METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=    11081517
MX W441   14202       METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=    11081518
MX W441   14215       METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=    11081607
MX W441   14216       METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=    11081608
MX W441   14217       METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=    11081609
MX W441   14218       METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=    11081610
MX W441   14219       METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=    11081611
MX W441   14220       METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=    11081612
MX W441   14221       METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=    11081613
MX W441   14222       METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=    11081614
MX W441   14223       METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=    11081615
MX W441   14224       METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=    11081616
MX W441   14225       METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT=    11081617
```

MX W441 14226 METQA: Vert Pot Temp Grad abv ZI set to min .005, KURDAT= 11081618

APPENDIX C

CALINE4 Model Output Files

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: CDS & SR 56 WB Ramp (PM peak hour)
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT:

I. SITE VARIABLES

U= 1.0 M/S Z0= 100. CM ALT= 114.9 (M)
BRG= WORST CASE VD= 0.0 CM/S
CLAS= 7 (G) VS= 0.0 CM/S
MIXH= 1000. M AMB= 4.4 PPM
SIGTH= 10. DEGREES TEMP= 8.9 DEGREE (C)

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)
A. WBLA	500	0	-12	0	AG	900	2.6	0.0	33.0
B. WBTA	500	12	0	12	AG	0	2.6	0.0	33.0
C. WBRA	500	24	12	24	AG	719	2.6	0.0	33.0
D. WBD	0	12	-500	12	AG	1010	2.6	0.0	33.0
E. NBLA	0	-500	12	0	AG	780	2.6	0.0	33.0
F. NBTA	12	-500	12	0	AG	1015	2.6	0.0	33.0
G. NBD	12	0	12	500	AG	1734	2.6	0.0	33.0
H. SBTA	-12	500	-12	0	AG	959	2.6	0.0	33.0
I. SBRA	-24	500	-24	12	AG	230	2.6	0.0	33.0
J. SBD	-12	0	-12	-500	AG	1859	2.6	0.0	33.0

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. SR1	-60	60	5.9
2. SR2	60	60	5.9
3. SR3	-60	-60	5.9
4. SR4	60	-60	5.9
5. SR5	75	260	5.9

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 2

JOB: CDS & SR 56 WB Ramp (PM peak hour)
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT:

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. SR1	163.	4.8	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0
2. SR2	198.	4.9	0.1	0.0	0.1	0.0	0.1	0.1	0.0	0.0
3. SR3	69.	4.8	0.1	0.0	0.1	0.0	0.0	0.1	0.0	0.0
4. SR4	342.	4.8	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.1
5. SR5	194.	4.7	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0

RECEPTOR	CONC/LINK (PPM) I	J
1. SR1	0.0	0.2
2. SR2	0.0	0.1
3. SR3	0.0	0.1
4. SR4	0.0	0.0
5. SR5	0.0	0.1

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Blk Mtn & SR 56 WB Ramp (AM peak hour)
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT:

I. SITE VARIABLES

U= 1.0 M/S Z0= 100. CM ALT= 167.6 (M)
BRG= WORST CASE VD= 0.0 CM/S
CLAS= 7 (G) VS= 0.0 CM/S
MIXH= 1000. M AMB= 4.4 PPM
SIGTH= 10. DEGREES TEMP= 8.9 DEGREE (C)

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)
A. WBLA	500	0	-12	0	AG	540	2.6	0.0	33.0
B. WBTA	500	12	0	12	AG	30	2.6	0.0	33.0
C. WBRA	500	24	12	24	AG	310	2.6	0.0	33.0
D. WBD	0	12	-500	12	AG	1501	2.6	0.0	33.0
E. NBLA	0	-500	12	0	AG	641	2.6	0.0	33.0
F. NBTA	12	-500	12	0	AG	670	2.6	0.0	33.0
G. NBD	12	0	12	500	AG	980	2.6	0.0	33.0
H. SBTA	-12	500	-12	0	AG	1270	2.6	0.0	33.0
I. SBRA	-24	500	-24	12	AG	830	2.6	0.0	33.0
J. SBD	-12	0	-12	-500	AG	1810	2.6	0.0	33.0

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. SR1	-60	60	5.9
2. SR2	60	60	5.9
3. SR3	-60	-60	5.9
4. SR4	60	-60	5.9
5. SR5	-120	120	5.9

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 2

JOB: Blk Mtn & SR 56 WB Ramp (AM peak hour)
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT:

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. SR1	162.	4.8	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0
2. SR2	198.	4.8	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
3. SR3	15.	4.8	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1
4. SR4	315.	4.7	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1
5. SR5	158.	4.6	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0

RECEPTOR	CONC/LINK (PPM) I	J
1. SR1	0.0	0.2
2. SR2	0.0	0.1
3. SR3	0.1	0.0
4. SR4	0.0	0.0
5. SR5	0.0	0.1

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Blk Mtn & SR 56 EB Ramp (AM peak hour)
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT:

I. SITE VARIABLES

U= 1.0 M/S Z0= 100. CM ALT= 167.6 (M)
BRG= WORST CASE VD= 0.0 CM/S
CLAS= 7 (G) VS= 0.0 CM/S
MIXH= 1000. M AMB= 4.4 PPM
SIGTH= 10. DEGREES TEMP= 8.9 DEGREE (C)

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)
A. EBLA	-500	-12	30	-12	AG	190	2.6	0.0	33.0
B. EBRA	-500	-54	-18	-54	AG	409	2.6	0.0	33.0
C. EBD	0	-36	500	-36	AG	880	2.6	0.0	33.0
D. NBTA	30	-500	30	-12	AG	1121	2.6	0.0	33.0
E. NBRA	42	-500	42	-36	AG	390	2.6	0.0	33.0
F. NBD	30	-12	30	500	AG	1311	2.6	0.0	33.0
G. SBLA	0	500	0	-36	AG	490	2.6	0.0	33.0
H. SBTA	-18	500	-18	-12	AG	1320	2.6	0.0	33.0
I. SBD	-18	-12	-18	-500	AG	1729	2.6	0.0	33.0

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. SR1	-60	60	5.9
2. SR2	60	60	5.9
3. SR3	-60	-60	5.9
4. SR4	60	-60	5.9
5. SR5	-80	-250	5.9

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 2

JOB: Blk Mtn & SR 56 EB Ramp (AM peak hour)
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT:

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. SR1	162.	4.7	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
2. SR2	195.	4.8	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0
3. SR3	81.	4.8	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
4. SR4	343.	4.9	0.0	0.0	0.1	0.0	0.0	0.2	0.1	0.1
5. SR5	16.	4.7	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1

RECEPTOR	CONC/LINK (PPM) I
1. SR1	0.2
2. SR2	0.1
3. SR3	0.1
4. SR4	0.0
5. SR5	0.1

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Blk Mtn & Pk Vlg Rd (PM peak hour)
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT:

I. SITE VARIABLES

U=	1.0 M/S	Z0=	100. CM	ALT=	118.3 (M)
BRG=	WORST CASE	VD=	0.0 CM/S		
CLAS=	7 (G)	VS=	0.0 CM/S		
MIXH=	1000. M	AMB=	4.4 PPM		
SIGTH=	10. DEGREES	TEMP=	8.9 DEGREE (C)		

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)
A. WBRA	500	36	30	36	AG	50	2.6	0.0	33.0
B. WBTA	500	18	-30	18	AG	31	2.6	0.0	33.0
C. WBLA	500	-12	-18	-12	AG	70	2.6	0.0	33.0
D. WBD	-30	18	-500	18	AG	960	2.6	0.0	33.0
E. EBLA	-500	-12	30	-12	AG	360	2.6	0.0	33.0
F. EBTA	-500	-36	0	-36	AG	16	2.6	0.0	33.0
G. EBRA	-500	-54	-18	-54	AG	203	2.6	0.0	33.0
H. EBD	0	-36	500	-36	AG	246	2.6	0.0	33.0
I. NBLA	12	-500	12	18	AG	529	2.6	0.0	33.0
J. NBTA	30	-500	30	-12	AG	1413	2.6	0.0	33.0
K. NBRA	42	-500	42	-36	AG	140	2.6	0.0	33.0
L. NBD	30	-12	30	500	AG	1823	2.6	0.0	33.0
M. SBLA	0	500	0	-36	AG	90	2.6	0.0	33.0
N. SBTA	-18	500	-18	-12	AG	1387	2.6	0.0	33.0
O. SBRA	-30	500	-30	18	AG	400	2.6	0.0	33.0
P. SBD	-18	-12	-18	-500	AG	1660	2.6	0.0	33.0

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. SR1	-60	60	5.9
2. SR2	60	60	5.9
3. SR3	-60	-60	5.9
4. SR4	60	-60	5.9
5. SR5	-130	120	5.9
6. SR6	120	-210	5.9

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION

JOB: Blk Mtn & Pk Vlg Rd (PM peak hour)
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT:

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. SR1	161.	4.8	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
2. SR2	198.	4.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3. SR3	15.	4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4. SR4	342.	4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5. SR5	155.	4.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6. SR6	333.	4.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

RECEPTOR	CONC/LINK (PPM) I	J	K	L	M	N	O	P
1. SR1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.2
2. SR2	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.1
3. SR3	0.0	0.0	0.0	0.1	0.0	0.2	0.0	0.0
4. SR4	0.0	0.0	0.0	0.2	0.0	0.1	0.0	0.0
5. SR5	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1
6. SR6	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Blk Mtn & Pk Vlg Rd (AM peak hour)
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT:

I. SITE VARIABLES

U=	1.0 M/S	Z0=	100. CM	ALT=	118.3 (M)
BRG=	WORST CASE	VD=	0.0 CM/S		
CLAS=	7 (G)	VS=	0.0 CM/S		
MIXH=	1000. M	AMB=	4.4 PPM		
SIGTH=	10. DEGREES	TEMP=	8.9 DEGREE (C)		

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)
A. WBRA	500	36	30	36	AG	120	2.6	0.0	33.0
B. WBTA	500	18	-30	18	AG	46	2.6	0.0	33.0
C. WBLA	500	-12	-18	-12	AG	160	2.6	0.0	33.0
D. WBD	-30	18	-500	18	AG	382	2.6	0.0	33.0
E. EBLA	-500	-12	30	-12	AG	530	2.6	0.0	33.0
F. EBTA	-500	-36	0	-36	AG	71	2.6	0.0	33.0
G. EBRA	-500	-54	-18	-54	AG	328	2.6	0.0	33.0
H. EBD	0	-36	500	-36	AG	281	2.6	0.0	33.0
I. NBLA	12	-500	12	18	AG	126	2.6	0.0	33.0
J. NBTA	30	-500	30	-12	AG	801	2.6	0.0	33.0
K. NBRA	42	-500	42	-36	AG	60	2.6	0.0	33.0
L. NBD	30	-12	30	500	AG	1451	2.6	0.0	33.0
M. SBLA	0	500	0	-36	AG	150	2.6	0.0	33.0
N. SBTA	-18	500	-18	-12	AG	1689	2.6	0.0	33.0
O. SBRA	-30	500	-30	18	AG	210	2.6	0.0	33.0
P. SBD	-18	-12	-18	-500	AG	2177	2.6	0.0	33.0

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. SR1	-60	60	5.9
2. SR2	60	60	5.9
3. SR3	-60	-60	5.9
4. SR4	60	-60	5.9
5. SR5	-130	120	5.9
6. SR6	120	-210	5.9

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION

JOB: Blk Mtn & Pk Vlg Rd (AM peak hour)
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT:

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. SR1	162.	4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2. SR2	213.	4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3. SR3	16.	4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4. SR4	344.	4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5. SR5	155.	4.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6. SR6	340.	4.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

RECEPTOR	CONC/LINK (PPM) I	J	K	L	M	N	O	P
1. SR1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.2
2. SR2	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.1
3. SR3	0.0	0.0	0.0	0.1	0.0	0.2	0.0	0.0
4. SR4	0.0	0.0	0.0	0.2	0.0	0.1	0.0	0.0
5. SR5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
6. SR6	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Blk Mtn & Pk Vlg Rd (AM peak hour)
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT:

I. SITE VARIABLES

U=	1.0 M/S	Z0=	100. CM	ALT=	118.3 (M)
BRG=	WORST CASE	VD=	0.0 CM/S		
CLAS=	7 (G)	VS=	0.0 CM/S		
MIXH=	1000. M	AMB=	4.4 PPM		
SIGTH=	10. DEGREES	TEMP=	8.9 DEGREE (C)		

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)
A. WBRA	500	36	30	36	AG	120	2.6	0.0	33.0
B. WBTA	500	18	-30	18	AG	46	2.6	0.0	33.0
C. WBLA	500	-12	-18	-12	AG	160	2.6	0.0	33.0
D. WBD	-30	18	-500	18	AG	382	2.6	0.0	33.0
E. EBLA	-500	-12	30	-12	AG	530	2.6	0.0	33.0
F. EBTA	-500	-36	0	-36	AG	71	2.6	0.0	33.0
G. EBRA	-500	-54	-18	-54	AG	328	2.6	0.0	33.0
H. EBD	0	-36	500	-36	AG	281	2.6	0.0	33.0
I. NBLA	12	-500	12	18	AG	126	2.6	0.0	33.0
J. NBTA	30	-500	30	-12	AG	801	2.6	0.0	33.0
K. NBRA	42	-500	42	-36	AG	60	2.6	0.0	33.0
L. NBD	30	-12	30	500	AG	1451	2.6	0.0	33.0
M. SBLA	0	500	0	-36	AG	150	2.6	0.0	33.0
N. SBTA	-18	500	-18	-12	AG	1689	2.6	0.0	33.0
O. SBRA	-30	500	-30	18	AG	210	2.6	0.0	33.0
P. SBD	-18	-12	-18	-500	AG	2177	2.6	0.0	33.0

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. SR1	-60	60	5.9
2. SR2	60	60	5.9
3. SR3	-60	-60	5.9
4. SR4	60	-60	5.9
5. SR5	-130	120	5.9
6. SR6	120	-210	5.9

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION

JOB: Blk Mtn & Pk Vlg Rd (AM peak hour)
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT:

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. SR1	162.	4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2. SR2	213.	4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3. SR3	16.	4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4. SR4	344.	4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5. SR5	155.	4.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6. SR6	340.	4.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

RECEPTOR	CONC/LINK (PPM) I	J	K	L	M	N	O	P
1. SR1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.2
2. SR2	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.1
3. SR3	0.0	0.0	0.0	0.1	0.0	0.2	0.0	0.0
4. SR4	0.0	0.0	0.0	0.2	0.0	0.1	0.0	0.0
5. SR5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
6. SR6	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Blk Mtn & Pk Vlg Rd (PM peak hour)
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT:

I. SITE VARIABLES

U=	1.0 M/S	Z0=	100. CM	ALT=	118.3 (M)
BRG=	WORST CASE	VD=	0.0 CM/S		
CLAS=	7 (G)	VS=	0.0 CM/S		
MIXH=	1000. M	AMB=	4.4 PPM		
SIGTH=	10. DEGREES	TEMP=	8.9 DEGREE (C)		

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)
A. WBRA	500	36	30	36	AG	50	2.6	0.0	33.0
B. WBTA	500	18	-30	18	AG	31	2.6	0.0	33.0
C. WBLA	500	-12	-18	-12	AG	70	2.6	0.0	33.0
D. WBD	-30	18	-500	18	AG	960	2.6	0.0	33.0
E. EBLA	-500	-12	30	-12	AG	360	2.6	0.0	33.0
F. EBTA	-500	-36	0	-36	AG	16	2.6	0.0	33.0
G. EBRA	-500	-54	-18	-54	AG	203	2.6	0.0	33.0
H. EBD	0	-36	500	-36	AG	246	2.6	0.0	33.0
I. NBLA	12	-500	12	18	AG	529	2.6	0.0	33.0
J. NBTA	30	-500	30	-12	AG	1413	2.6	0.0	33.0
K. NBRA	42	-500	42	-36	AG	140	2.6	0.0	33.0
L. NBD	30	-12	30	500	AG	1823	2.6	0.0	33.0
M. SBLA	0	500	0	-36	AG	90	2.6	0.0	33.0
N. SBTA	-18	500	-18	-12	AG	1387	2.6	0.0	33.0
O. SBRA	-30	500	-30	18	AG	400	2.6	0.0	33.0
P. SBD	-18	-12	-18	-500	AG	1660	2.6	0.0	33.0

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. SR1	-60	60	5.9
2. SR2	60	60	5.9
3. SR3	-60	-60	5.9
4. SR4	60	-60	5.9
5. SR5	-130	120	5.9
6. SR6	120	-210	5.9

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION

JOB: Blk Mtn & Pk Vlg Rd (PM peak hour)
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT:

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. SR1	161.	4.8	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
2. SR2	198.	4.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3. SR3	15.	4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4. SR4	342.	4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5. SR5	155.	4.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6. SR6	333.	4.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

RECEPTOR	CONC/LINK (PPM) I	J	K	L	M	N	O	P
1. SR1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.2
2. SR2	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.1
3. SR3	0.0	0.0	0.0	0.1	0.0	0.2	0.0	0.0
4. SR4	0.0	0.0	0.0	0.2	0.0	0.1	0.0	0.0
5. SR5	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1
6. SR6	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Blk Mtn & SR 56 EB Ramp (AM peak hour)
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT:

I. SITE VARIABLES

U= 1.0 M/S Z0= 100. CM ALT= 167.6 (M)
BRG= WORST CASE VD= 0.0 CM/S
CLAS= 7 (G) VS= 0.0 CM/S
MIXH= 1000. M AMB= 4.4 PPM
SIGTH= 10. DEGREES TEMP= 8.9 DEGREE (C)

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)
A. EBLA	-500	-12	30	-12	AG	190	2.6	0.0	33.0
B. EBRA	-500	-54	-18	-54	AG	409	2.6	0.0	33.0
C. EBD	0	-36	500	-36	AG	880	2.6	0.0	33.0
D. NBTA	30	-500	30	-12	AG	1121	2.6	0.0	33.0
E. NBRA	42	-500	42	-36	AG	390	2.6	0.0	33.0
F. NBD	30	-12	30	500	AG	1311	2.6	0.0	33.0
G. SBLA	0	500	0	-36	AG	490	2.6	0.0	33.0
H. SBTA	-18	500	-18	-12	AG	1320	2.6	0.0	33.0
I. SBD	-18	-12	-18	-500	AG	1729	2.6	0.0	33.0

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. SR1	-60	60	5.9
2. SR2	60	60	5.9
3. SR3	-60	-60	5.9
4. SR4	60	-60	5.9
5. SR5	-80	-250	5.9

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 2

JOB: Blk Mtn & SR 56 EB Ramp (AM peak hour)
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT:

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. SR1	162.	4.7	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
2. SR2	195.	4.8	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0
3. SR3	81.	4.8	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
4. SR4	343.	4.9	0.0	0.0	0.1	0.0	0.0	0.2	0.1	0.1
5. SR5	16.	4.7	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1

RECEPTOR	CONC/LINK (PPM) I
1. SR1	0.2
2. SR2	0.1
3. SR3	0.1
4. SR4	0.0
5. SR5	0.1

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Blk Mtn & SR 56 WB Ramp (AM peak hour)
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT:

I. SITE VARIABLES

U= 1.0 M/S Z0= 100. CM ALT= 167.6 (M)
BRG= WORST CASE VD= 0.0 CM/S
CLAS= 7 (G) VS= 0.0 CM/S
MIXH= 1000. M AMB= 4.4 PPM
SIGTH= 10. DEGREES TEMP= 8.9 DEGREE (C)

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)
A. WBLA	500	0	-12	0	AG	540	2.6	0.0	33.0
B. WBTA	500	12	0	12	AG	30	2.6	0.0	33.0
C. WBRA	500	24	12	24	AG	310	2.6	0.0	33.0
D. WBD	0	12	-500	12	AG	1501	2.6	0.0	33.0
E. NBLA	0	-500	12	0	AG	641	2.6	0.0	33.0
F. NBTA	12	-500	12	0	AG	670	2.6	0.0	33.0
G. NBD	12	0	12	500	AG	980	2.6	0.0	33.0
H. SBTA	-12	500	-12	0	AG	1270	2.6	0.0	33.0
I. SBRA	-24	500	-24	12	AG	830	2.6	0.0	33.0
J. SBD	-12	0	-12	-500	AG	1810	2.6	0.0	33.0

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. SR1	-60	60	5.9
2. SR2	60	60	5.9
3. SR3	-60	-60	5.9
4. SR4	60	-60	5.9
5. SR5	-120	120	5.9

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 2

JOB: Blk Mtn & SR 56 WB Ramp (AM peak hour)
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT:

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. SR1	162.	4.8	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0
2. SR2	198.	4.8	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
3. SR3	15.	4.8	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1
4. SR4	315.	4.7	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1
5. SR5	158.	4.6	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0

RECEPTOR	CONC/LINK (PPM) I	J
1. SR1	0.0	0.2
2. SR2	0.0	0.1
3. SR3	0.1	0.0
4. SR4	0.0	0.0
5. SR5	0.0	0.1

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: CDS & SR 56 WB Ramp (PM peak hour)
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT:

I. SITE VARIABLES

U= 1.0 M/S Z0= 100. CM ALT= 114.9 (M)
BRG= WORST CASE VD= 0.0 CM/S
CLAS= 7 (G) VS= 0.0 CM/S
MIXH= 1000. M AMB= 4.4 PPM
SIGTH= 10. DEGREES TEMP= 8.9 DEGREE (C)

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)
A. WBLA	500	0	-12	0	AG	900	2.6	0.0	33.0
B. WBTA	500	12	0	12	AG	0	2.6	0.0	33.0
C. WBRA	500	24	12	24	AG	719	2.6	0.0	33.0
D. WBD	0	12	-500	12	AG	1010	2.6	0.0	33.0
E. NBLA	0	-500	12	0	AG	780	2.6	0.0	33.0
F. NBTA	12	-500	12	0	AG	1015	2.6	0.0	33.0
G. NBD	12	0	12	500	AG	1734	2.6	0.0	33.0
H. SBTA	-12	500	-12	0	AG	959	2.6	0.0	33.0
I. SBRA	-24	500	-24	12	AG	230	2.6	0.0	33.0
J. SBD	-12	0	-12	-500	AG	1859	2.6	0.0	33.0

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. SR1	-60	60	5.9
2. SR2	60	60	5.9
3. SR3	-60	-60	5.9
4. SR4	60	-60	5.9
5. SR5	75	260	5.9

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 2

JOB: CDS & SR 56 WB Ramp (PM peak hour)
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT:

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. SR1	163.	4.8	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0
2. SR2	198.	4.9	0.1	0.0	0.1	0.0	0.1	0.1	0.0	0.0
3. SR3	69.	4.8	0.1	0.0	0.1	0.0	0.0	0.1	0.0	0.0
4. SR4	342.	4.8	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.1
5. SR5	194.	4.7	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0

RECEPTOR	CONC/LINK (PPM) I	J
1. SR1	0.0	0.2
2. SR2	0.0	0.1
3. SR3	0.0	0.1
4. SR4	0.0	0.0
5. SR5	0.0	0.1

APPENDIX F

Biological Resources Technical Report

BIOLOGICAL RESOURCES TECHNICAL REPORT
THE PRESERVE AT TORREY HIGHLANDS PROJECT

Prepared for:

The Preserve at Torrey Highlands, LLC.
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~~JUNE~~ OCTOBER 2018

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EXECUTIVE SUMMARY

The proposed Preserve at Torrey Highlands Project (project) site occupies 11.10 acres of undeveloped land in the northern portion of the City of San Diego (City). The project site is surrounded by SR-56 to the north, extensive housing developments to the east, and the City of San Diego Multi-Habitat Planning Area (MHPA) occurs immediately along the site border to the north, west, and south. The project consists of site grading for the construction of two professional office buildings, a small cafe, one parking garage, and landscaped common areas.

Vegetation mapping, a jurisdictional delineation, a focused survey for special status plants, and a focused survey for California gnatcatcher was conducted for the property in 2015 and 2016. The purpose of this biological resource technical report is to provide a description of the existing vegetation, jurisdictional resources, and survey results for plant and animal species recognized as sensitive by local, state, or federal wildlife agencies and/or environmental organizations. Following the surveys, direct, indirect and cumulative impacts to vegetation communities, jurisdictional resources, and species were evaluated based on the proposed project site plan. This report describes the biological character of the project study area; provides an analysis of direct, indirect and cumulative impacts based on the proposed project scenario; analyzes the biological significance of the site with respect to regional biological resource planning; and discusses mitigation measures which will reduce significant impacts to a level below significant. The entire project area is outside of the MHPA of the City of San Diego's Multiple Species Conservation Program (MSCP). The project site is bordered to the north, east, and south by the MHPA.

Based on species composition and physiognomy, three native plant communities are present on the property: chamise chaparral (8.09 acres), scrub oak chaparral (0.63 acres), and southern mixed chaparral (2.38 acres). The property also supports two unvegetated stream channels, one that bisects the site in the central portion and another that cuts through the northeast corner of the property. These unvegetated stream channels are non-wetland waters of the U.S. and under joint jurisdiction of the U.S. Army Corps of Engineers (ACOE), Regional Water Quality Control Board (RWQCB), and California Department of Fish and Wildlife (CDFW).

Five special status plant species and one special status wildlife species were detected on the property during the focused survey: summer holly (*Comarostaphylis diversifolia* ssp. *diversifolia*), California adolphia (*Adolphia californica*), Nuttall's scrub oak (*Quercus dumosa*), western dichondra (*Dichondra occidentalis*), ashy spike-moss (*Selaginella cinerascens*), and California gnatcatcher (*Polioptila polioptila californica*). While California gnatcatcher was observed on site, this species is not expected to breed on site due to lack of suitable coastal sage scrub habitat. It was likely dispersing through the site. Furthermore, a potential vernal pool complex was detected off site and immediately south of the

property and two vernal pool features (road ruts) are located on the property line. Buffers to avoid indirect impacts to vernal pool watersheds range from approximately 50 linear feet to 106 linear feet.

Implementation of the proposed project would result in grading of approximately 9.75 acres of the 11.10 acres of native vegetation on the property. Impacts to scrub oak chaparral (0.47 acres), chamise chaparral (7.31 acres), and southern mixed chaparral (1.97 acres) and to sensitive plant and wildlife species as result of the Preserve at Torrey Highlands Project are significant and will require mitigation in accordance with the City of San Diego's mitigation guidelines as set forth in the Biology Guidelines of the Land Development Code (2012a). Mitigation credits (0.5 acres of Tier I habitat and 4.39 acres of Tier III habitat) were previously purchased for the property from the City's Deer Canyon Mitigation Bank. In addition, a covenant of easement (COE) on site will provide for mitigation for project impacts.

Proposed project impacts (0.02 acres) to one of the unvegetated stream channels on site is considered significant and would require necessary permits from ACOE, RWQCB, and CDFW. The project includes implementation of the City's Land Use Adjacency Guidelines as conditions of project approval intended to reduce indirect impacts to the adjacent MHPA.

The proposed project does not interfere with the movement of native wildlife through identified wildlife corridors/habitat linkages to the north and south, including Deer Canyon, McGonigle Canyon, and Peñasquitos Canyon.

Of the ten special-status wildlife species observed on site or with moderate to high potential to occur, direct impacts to eight special-status wildlife species (coast patch-nosed snake, orange-throated whiptail, Coronado skink, Blainville's horned lizard, red diamond rattlesnake, San Diego desert woodrat, Dulzura pocket mouse, and northwestern San Diego pocket mouse) would be less than significant. Direct impacts to coastal California gnatcatcher are not expected. Implementation of the project could directly affect nesting Bell's sparrow if construction is scheduled during the nesting season. As such, as part of the regulatory requirement, pre-construction surveys for nesting Bell's sparrow shall be implemented prior to the commencement of construction activities to avoid impacts to nesting Bell's sparrow.

Indirect impacts to Blainville's horned lizard from the introduction of Argentine ants (*Linepithema humile*) would be avoided through compliance with area-specific management directives, including measures to maintain native ant species, discourage Argentine ant presence, and address potential edge effects on horned lizard from project impacts (City of San Diego 1997). Specifically, immediately prior to installation of common landscape improvements, container plants will be inspected for the presence of disease, weeds, and pests, including Argentine ants. Plants with pests, weeds, or diseases will be rejected. This directive is identified on the project landscape plan. Additionally, these directives discussed herein, including plant inspection, would

be made conditions of approval of the project. Moreover, because Argentine ants are associated with increased soil moisture, compliance with the MHPA LUAGs relating to drainage will minimize the risk of an invasion of Argentine ants that could impact Blainville's horned lizard. Specifically, all new and proposed parking lots and developed areas in and adjacent to the preserve will not drain directly into the MHPA. Lastly, consistent with the MHPA LUAGs and the project's landscape plan, non-native and invasive plants would not be planted adjacent to the MHPA areas surrounding the site (see Section 5.1.5.2). Compliance with both the area specific management directives and MHPA LUAGs related to indirect impacts to Blainville's horned lizard would be made conditions of approval of the project.

Indirect impacts to the remaining special-status wildlife species observed on site or with a moderate to high potential to occur would be less than significant with conformance with the MSCP, and implementation of the Area Specific Management Directives and the City's LUAGs.

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1 INTRODUCTION

The proposed Preserve at Torrey Highlands Project (project) consists of the construction of two professional office buildings, a small cafe, one parking garage, and landscaped common areas within an approximate 11.1-acre property located in the northern portion of the City of San Diego, California. In accordance with the current San Diego Land Development Code Biology Guidelines (San Diego 2012a) this survey letter report describes the survey methods; existing biological resources in terms of vegetation communities/land covers, plants, and wildlife; potential for sensitive biological resources to be present; project impacts to these resources; and recommended avoidance and mitigation measures, if needed. The project impacts, regulations, and mitigation measures are discussed in accordance with the California Environmental Quality Act (CEQA), Clean Water Act, Migratory Bird Treaty Act (MBTA), California Fish and Game Code, and the City of San Diego Final MSCP Subarea Plan (City Subarea Plan; San Diego 1997).

There are 0.92 acres that are considered Not a Part (NAP) of the project, but are included in the 11.10-acre total project acreage. This NAP area includes 0.16 acres of scrub oak chaparral, 0.41 acres of southern mixed chaparral, and 0.35 acres of chamise chaparral. The NAP area is associated with the extension of Camino del Sur associated with the proposed Merge 56 project located along the eastern edge of the site that would not be impacted by the proposed Preserve at Torrey Highlands project.

It should be noted that the previous project proponent (Our Lady of Mt. Carmel Catholic Church) purchased mitigation credits for 0.5 acres of southern maritime chaparral (Tier I) and 4.39 acres of southern mixed chaparral (Tier IIIA) within the Deer Canyon Mitigation Bank in preparation for that project. However, that project was never developed and the mitigation credits were never used; thus, the 0.5 acres of Tier I habitat and the 4.39 acres of Tier IIIA habitat at the Deer Canyon Mitigation Bank are useable to satisfy the mitigation requirements for the project proposed herein.

The biological survey discussed in this letter report concentrated on identifying biological resources that may be subject to regulation under Section 404 of the Clean Water Act (CWA) as administered by the U.S. Army Corps of Engineers (ACOE), Section 401 of the CWA and the Porter Cologne Act as administered by Regional Water Quality Control Board (RWQCB), Sections 1600–1603 of the Fish and Game Code as administered by the California Department of Fish and Wildlife (CDFW), the City's Multiple Species Conservation Plan (MSCP) Subarea Plan (Subarea Plan), Sections within Chapter 14 Article 3 Division 1 (i.e., Environmentally Sensitive Lands) of the City of San Diego Municipal Code, and other potential special-status biological resources.

1.1 Project Location

The approximate 11.1-acre property is located in the Torrey Highlands subarea of San Diego, California (Figure 1). The site is located approximately 0.4 mile south of California Highway 56 (CA-56), approximately 0.4-miles north of Eclipse Road, and approximately 5 miles east of California Interstate Highway 5 (CA-I-5). The approximate centroid of the site is 32°57'13.34"North, 117°09'13.99"West and lies within the U.S. Geological Survey (USGS) 7.5-minute map, Del Mar Quadrangle: Township 14 South, Range 3 West, Section 13 (Figure 2).

The property is designated within the "Northern Area" of City's MSCP Subarea Plan and specifically is within Torrey Highlands Subarea IV (San Diego 1997; San Diego 1996, respectively). The project is not within the City Coastal Zone Map No. C-908 as shown in Chapter 13, Article 2, Division 4 (San Diego 2012a). The project site is not located within lands designated as MSCP Multi-Habitat Planning Area (MHPA) by the City's Subarea Plan; however, MHPA is directly adjacent to the site on the north, west, and south boundaries.

1.1.1 Topography and Land Uses

Topography across the property is diverse with level to gently sloping terrain in the southern and western portions; two steep canyons with north-trending drainages are in the central and northeastern portions of the property. Elevations of the site range from approximately 325 feet above mean sea level (AMSL) in the drainages in the north and northeastern portions of the site to approximately 410 feet AMSL in the southwest corner of the site.

The entire property is undeveloped and is surrounded by undeveloped land. The property and surrounding areas currently support native vegetation communities. The City's MHPA is located directly north, west, and south of the site (Figure 2). Additionally, a U.S. Fish and Wildlife Service (USFWS) National Wildlife Refuge, which is also part of the MHPA, is located directly south of the property. The future Camino Del Sur Extension project is located directly east of the project site on the same parcel (considered Not a Part) and undeveloped land occurs farther east.

1.1.2 Soils

According to the U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) soil data (NRCS 2015), the following two soil types occur within the Project site:

- Redding gravelly loam (RdC), 2%–9% slopes
- Terrace escarpments (TeF)

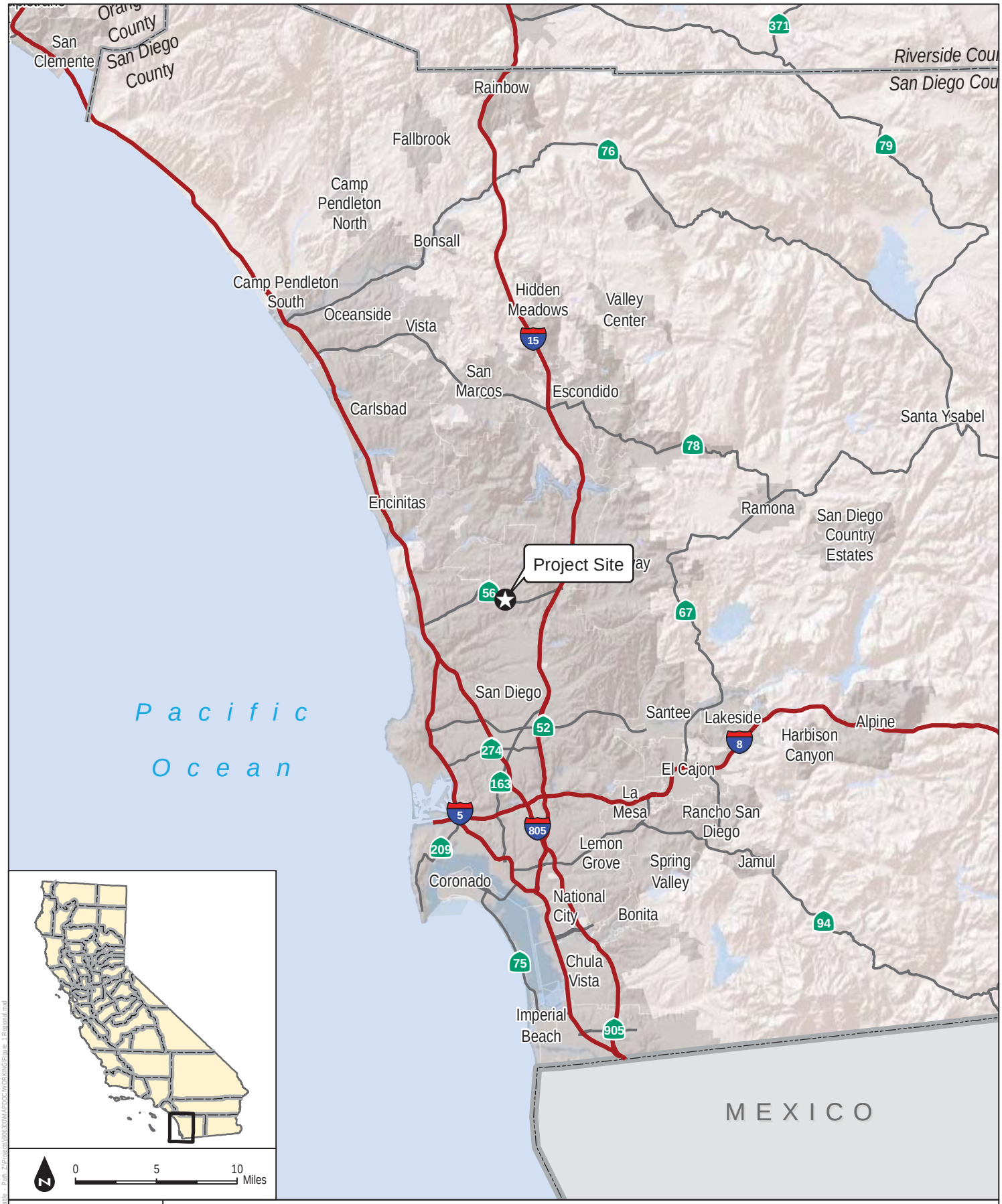

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FIGURE 1

Regional Map

Bioloigical Resources Technical Report for the Preserve at Torrey Highlands Project

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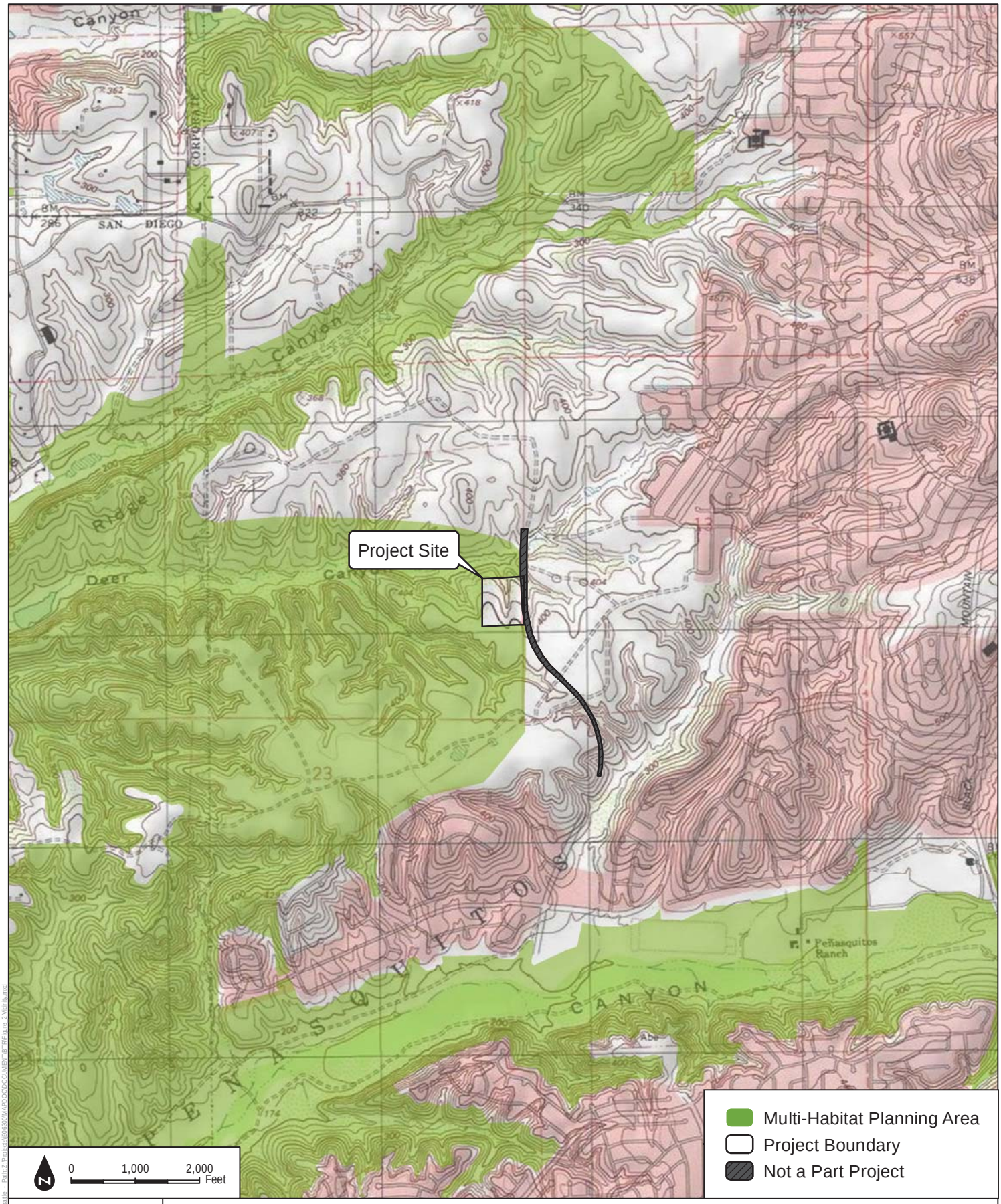

SOURCE: USGS 7.5-Minute Series Del Mar Quadrangle.

FIGURE 2

Vicinity Map

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Biological Resources Technical Report for the Preserve at Torrey Highlands Project

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Soils within the Redding gravelly loam series consists of gravelly clay subsoil formed in cobbly/gravely alluvium. This soil typically occurs on relatively flat areas or gentle rolling hills (i.e., less than 10% slope) and are often associated with mima-mound complex areas. Terrace escarpments soils are found along slopes near drainage areas, floodplains, or alluvial fans. These soils are typically loamy to gravelly soil over a variety of types of sediments (Bowman 1973).

1.2 Regional Resource Planning Context

The San Diego MSCP is a long-term regional conservation plan established to protect sensitive species and habitats in San Diego County. The MSCP is divided into subarea plans that are implemented separately from one another. The entire project site is within the City of San Diego subarea plan. This subarea encompasses 206,124 acres and is generally characterized by urban land use. The City of San Diego MHPA is a "hard line" preserve developed by the City in cooperation with the wildlife agencies, property owners, developers, and environmental groups. The MHPA identifies biological core resource areas (BRCAs) and corridors targeted for conservation, in which only limited development may occur (City of San Diego 1997).The project site lies within the northern area of the City of San Diego's MSCP boundary; however, the property does not contain any lands designated as part of the City's MHPA. Furthermore, the property is located within Subarea IV of what was previously described as the Northern Future Urbanizing Area of the City, as identified in the City's MSCP Subarea Plan. Per the Environmental Impact Report (EIR) for Subarea IV, the subject property is located outside of the MHPA and is designated for "industrial/institutional" use (City of San Diego 1996). See Figure 2 of this biological technical report for the location of MHPA in relation to the proposed project.

Environmentally Sensitive Lands (ESL) regulations are supplemental development regulations that are part of the City's Municipal Code, Article 3, Division 1. These regulations are intended to assure that development occurs in a manner that protects the overall quality of resources (SDMC 143.0101). The City of San Diego's Biology Guidelines were developed to aid in the interpretation and implementation of the ESL regulations and to be used as part of the environmental review process to meet the requirements of CEQA and the MSCP. The project site contains ESL due to the presence of sensitive biological resources according to the ESL definition. Environmentally Sensitive Lands include lands within the MHPA as well as lands that contain wetlands, vegetation communities classified as Tier I, II, IIIA, or IIIB, habitat for rare, endangered or threatened species, or narrow endemic species (City of San Diego 2012). The Biology Guidelines provide guidance on permits required for projects that encroach on Environmentally Sensitive Lands. The guidelines also address requirements for project impacts analysis pertaining to wetlands and buffer limits within and outside the Coastal Overlay Zone, siting requirements to avoid the most sensitive portion of a site, and requirements for development outside of the MHPA (City of San Diego 2012).

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2 METHODS

Data regarding biological and jurisdictional resources present within project study area were obtained through review of pertinent literature and field reconnaissance; both are described in detail in this section. It should be noted that previous biological surveys were conducted for the subject property by Dudek between 1998 and 2003 for a different proposed project (i.e., Our Lady of Mt. Carmel Catholic Church); a draft of that Biological Technical Report and associated chaparral discussion memo are attached to this report (Appendices H and I). For purposes of the proposed Preserve at Torrey Highlands Project, new biological studies were conducted under the current survey guidelines to reflect the current site conditions. Being that the previous studies were conducted over 10 years ago, they are considered outdated and the results were not used in preparation of this biological report.

2.1 Literature Review

Prior to conducting the field surveys, the following data sources were reviewed to assist with the biological and jurisdictional efforts:

- Natural Resource Conservation Service (NRCS) Web Soil Survey (U.S. Department of Agriculture (USDA 2015))
- CDFW California Natural Diversity Database (CDFW 2015a)
- California Native Plant Society Inventory of Rare and Endangered Plants (CNPS 2015)
- MSCP Subarea Plan (City of San Diego 1997)
- U.S. Fish and Wildlife Service (USFWS) Species Occurrence Data (USFWS 2015)

2.2 Field Reconnaissance

All biological surveys for the proposed project were conducted by Dudek in accordance with the City's Guidelines for Conducting Biological Surveys (Appendix II, City of San Diego 2012a). Dudek Biologists conducted field surveys of the project study area in 2015 and 2016 to document the site conditions, assess the biological resources on site, and evaluate any potential project impacts in accordance with the City's Biology Guidelines (San Diego 2012a). The field surveys were conducted on foot to visually cover 100% of the project survey area and digital orthographic maps (Google Maps 2015) with an overlay of the project boundary were used to map the vegetation communities or land covers present and record any special-status biological resources directly in the field. Note that the project study area is defined as the entire 11.1-acre property as well as a 100-foot-wide surrounding buffer; however, throughout this report the project site is defined as the approximate 11.1-acre property only.

Table 1 lists the date, conditions, and focus of the surveys conducted. Recently on May 8, 2017 Dudek and City Development Services Department staff (i.e., Environmental and MSCP) walked throughout the site together to discuss the project, the outstanding City comments, and agree on resolutions, which have all been incorporated in this Biological Technical Report.

Table 1
Survey Conditions

Date	Time	Personnel	Survey Type	Survey Conditions
07/13/15	0800–1120	Thomas Liddicoat	Jurisdictional Delineation and Vegetation Mapping	0% cloud cover, 0–3 miles per hour wind, 71–81° Fahrenheit
07/15/15	0744–1030	Thomas Liddicoat	Protocol California Gnatcatcher (CAGN) Survey	66–73 Degrees Fahrenheit (F); 0% cloud cover (cc), sunny; 1–5 miles per hour (mph) wind
07/22/15	0910–1115	Thomas Liddicoat	Protocol (CAGN) Survey	74–78°F; 100%-50%cc, sunny; 0–3 mph winds
07/29/15	0808–1030	Thomas Liddicoat	Protocol (CAGN) Survey	70–75°F; 100%-0%cc, overcast-sunny, 0–3 mph winds
08/07/15	0850–1600	Andy Thomson and Jake Marcon	Special-Status Plant Survey	72–88°F; 10%cc, sunny, 0–4 mph winds
04/14/16	0800–1100	Andy Thomson	Special-Status Plant Survey	61–73°F; 60%cc, sunny, 0–6 mph winds
05/08/17	0845-1030	Thomas Liddicoat, Anita Hayworth, Asha Bleier, Katie Laybourn, Holly Smit-Kicklighter, Anita Eng, Liz Shearer-Nguyen	Site walk and review of outstanding City MSCP comments.	Not recorded.

2.2.1 Resource Mapping

The vegetation community and land cover mapping follows the classifications described by Holland (1986), as adopted in the City of San Diego Land Development Code, Biology Guidelines (San Diego 2012a). In some cases, Oberbauer (2008) is also utilized as a reference, especially with regards to land cover types. Vegetation community and land cover mapping was conducted for the entire project study area.

Observable biological resources including perennial plants and conspicuous wildlife (i.e., birds and some reptiles) commonly accepted as regionally sensitive by the California Native Plant Society (CNPS), CDFW, and USFWS were recorded on the field map, where applicable. Additionally, an assessment and determination of potential for locally recognized special-status

species (i.e., Narrow Endemic and Covered Species listed in the City Subarea Plan) to occur on site was conducted. Following completion of the fieldwork, Dudek GIS Technician Curtis Battle digitized the mapped findings using ArcGIS and calculated coverage acreages using ArcCAD.

2.2.2 Flora

The plant species encountered during the field surveys were identified and recorded directly into a field notebook. Those species that could not be identified immediately were brought into the laboratory for further investigation. Latin and common names for plant species with a California Rare Plant Rank (CRPR) (formerly CNPS List) follow the CNPS Online Inventory of Rare, Threatened, and Endangered Plants of California (CNPS 2015). For plant species without a CRPR, Latin names follow the Jepson Interchange List of Currently Accepted Names of Native and Naturalized Plants of California (Jepson Flora Project 2015), and common names follow the USDA Natural Resource Conservation Service Plants Database (USDA 2015). A compiled list of plant species observed in the project study area is presented in Appendix A.

2.2.3 Fauna

Wildlife species detected during the field surveys by sight, calls, tracks, scat, or other signs were recorded directly onto a field notebook. Binoculars (8.5 x 42 and 10 x 40 magnifications) were used to aid in the identification of wildlife. In addition to species actually detected during the surveys, expected wildlife use of the site was determined by known habitat preferences of local species and knowledge of their relative distributions in the area. A list of wildlife species observed on the project site is presented in Appendix B. Latin and common names of animals follow Crother (2012) for reptiles and amphibians, American Ornithologists' Union (AOU 2015) for birds, and Wilson and Reeder (2005) for mammals.

2.2.4 Special Status Biological Resources

Special status biological resources are defined as follows: (1) species that have been given special recognition by federal, state, or local conservation agencies and organizations due to limited, declining, or threatened population sizes (CDFW 2015b-c); (2) species and habitat types recognized by local and regional resource agencies as special status (CDFW 2015d; CNPS 2015); (3) habitat areas or vegetation communities that are unique, are of relatively limited distribution, or are of particular value to wildlife; (4) wildlife corridors and habitat linkages; or (5) biological resources that may or may not be considered special status, but are regulated under local, state, and/or federal laws.

Surveys to document special status biological resources in the study area included a focused rare plant survey, a focused survey for California gnatcatcher (*Polioptila californica californica*), and jurisdictional delineation survey as described below.

A site visit was conducted in November 2015 to determine location and presence of potential vernal pool features on site. A global positioning system (GPS) was used to record potential features depending on the interpretation of field conditions. No basins were holding water at the time of the visit; however, features that indicate potential for holding water were recorded.

2.2.4.1 Focused Plant Surveys

Focused survey for rare plants occurred during August 2015 and April 2016 by Dudek botanists Andy Thomson and Jake Marcon. All areas of the study area were visited on-foot during the surveys to provide 100% visual coverage of the area. Field survey methods conformed to CNPS Botanical Survey Guidelines (CNPS 2001); Guidelines for Assessing the Effects of Proposed Projects on Rare, Threatened, and Endangered Plants and Natural Communities (CDFG 2000); and Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed, and Candidate Plants (USFWS 1996). All plant species encountered during the field surveys were identified to subspecies or variety, if applicable, to determine sensitivity status.

2.2.4.2 Focused California Gnatcatcher Surveys

A UFSWS protocol-level focused survey for California gnatcatcher was conducted within the project study area by Dudek biologist Thomas Liddicoat Permit No. TE139634). In accordance with USFWS survey protocol (USFWS 1997), three surveys were conducted. Weather conditions, time of day, and season were appropriate for the detection of gnatcatchers (Table 1). Subsequent to the survey and in accordance with the survey protocol a report was submitted to the USFWS (see Appendix C).

2.2.4.3 Jurisdictional Wetlands Delineation

A jurisdictional delineation of "waters of the United States," including wetlands, under the jurisdiction of the ACOE, CDFW, and RWQCB was conducted in accordance with the 1987 U.S. Army Corps of Engineers Wetland Delineation Manual (TR Y-87-1) and the Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (ACOE 2008). The delineation focused on the identification of jurisdictional wetlands, including waters of the U.S., using the three parameters described in the ACOE manual: hydric soils, hydrology, and hydrophytic vegetation. Areas where all three parameters were met were considered jurisdictional under the joint regulation of ACOE, RWQCB, and CDFW. The limits of areas under the jurisdiction of the RWQCB and CDFW generally match those areas delineated

as ACOE-jurisdictional wetlands. However, stream channels with evidence of an OHWM that lack connectivity to waters of the United States may be considered to be under the jurisdiction of RWQCB and CDFW, but not under the jurisdiction of ACOE. Areas with predominance of hydrophytic vegetation, where associated with a stream channel, are considered CDFW-regulated areas.

The City's Municipal Code defines wetland communities as a sensitive biological resource that provides high function and value habitats for rare, endangered, or threatened species and defines wetlands as: All areas persistently or periodically containing naturally occurring wetland vegetation communities characteristically dominated by hydrophytic vegetation, including but not limited to salt marsh, brackish marsh, freshwater marsh, riparian forest, oak riparian forest, riparian woodlands, riparian scrub, and vernal pool (see Table 2A of the City's Biology Guidelines); areas that have hydric soils or wetland hydrology and lack naturally occurring wetland vegetation communities because human activities have removed the historic wetland vegetation or catastrophic or recurring natural events or processes have acted to preclude the establishment of wetland vegetation as in the case of salt pannes and mudflats; areas lacking wetland vegetation communities, hydric soils and wetland hydrology due to non-permitted filling of previously existing wetlands; and areas mapped as wetlands on Map No. C-713 as shown in Chapter 13, Article 2, Division 6 (Sensitive Coastal Overlay Zone).

Throughout the delineation, the entire property was evaluated for evidence of an ordinary high-water mark (OHWM), surface water, hydric soils, and hydrophytic vegetation. Furthermore, soil pits were hand dug to analyze the subsurface conditions and complete the ACOE wetland delineation data forms. The location of sampling points and the extents of any jurisdictional areas identified were collected in the field using the 100-scale field map and Global Positioning System (GPS) equipment with sub-meter accuracy.

2.2.5 Survey Limitations

The surveys discussed in this report were conducted on site and did not incorporate areas outside of the subject property (i.e., within the "Study Area" buffer). The surveys were performed during appropriate seasonal timing to detect any sensitive biological resources present on site, including special-status plants, special-status wildlife, and jurisdictional wetlands and/or waters of the U.S. Although more rainfall is likely recorded in the vicinity of the site in 2017 than in 2016 or 2015, the rare plant surveys conducted in summer of 2015 and spring of 2016 were performed to detect the target (based on potential to occur evaluations; Appendix D) rare plant species. According to U.S. Climate Data website, the total rainfall for San Diego in 2015 was 0.42 inches and in 2016 was 3.01 inches, which is above the 1.97-inch average for San Diego (2017). The lower rainfall in 2015 would not have affected the ability to identify the perennial plant species that were the focus

of the fall survey. The higher rainfall in 2016 was adequate to germinate the target annual species and thus, the species would have been detected if present on site. Therefore, the rainfall increase during 2017 does not invalidate the findings of the 2015 and 2016 surveys.

In terms of the vernal pool features (i.e., road ruts), the increased rainfall in 2017 may have resulted in deeper or slightly larger pooled areas. However, the rainfall does not change the site topography, the associated watersheds of the vernal pool features, or the ability to detect the vernal pool characteristics. Thus, the vernal pool watershed mapping conducted and discussed herein are accurate.

3 RESULTS

The documentation of biological resources described herein pertains to the project site only (approximately 11.1 acres) and no off-site areas are anticipated or included in the proposed project. Features recorded outside of the property, within the study area survey buffer, are included on the report figures for context only.

3.1 Vegetation Communities and Land Cover Types

Based on species composition and general physiognomy, three native vegetation communities were identified within the project site: scrub oak chaparral (SOC), southern mixed chaparral (SMX), and chamise chaparral (CC). The vegetation community acreages mapped within the property are provided in Table 2, are spatially presented on Figure 3, and are described below. It should be noted that while potential vernal pool features are known to be located adjacent to the property along the southern boundary, two of the potential features are located at the property line; however, no vernal pool features are located within the property (Figure 3). A potential watershed limit also was determined during the site visit. These features are discussed in Section 3.3.4, Jurisdictional Wetlands Delineation.

Table 2
Vegetation Communities and Land Cover Types on the Project Site

Vegetation Community or Land Cover Type	Subarea Plan Tier	Acreage
Scrub Oak Chaparral	I	0.63
Southern Mixed Chaparral	IIIA	2.38
Chamise Chaparral	IIIA	8.09
	Total	**11.10**

3.1.1 Scrub Oak Chaparral; Tier I

Scrub oak chaparral is described by Holland (1986) as a vegetation community that covers areas with dense vegetation stands up to 20 feet in height and are dominated by scrub oak (*Quercus dumosa*) and mountain mahogany (*Cercocarpus betuloides*). Scrub oak chaparral occurs in elevations up to 5,000 feet and is known to be a quick successor in post-fire environments. This community often occurs on mesic, steep, and north-facing slopes.

Within the project site, scrub oak chaparral is located in the northern portions of the site towards the lower portions of the slopes on site, approximately 6.6 miles east of the Pacific Ocean. According to NRCS data, the soils present within the areas mapped as scrub oak chaparral are primarily (more than 60%) terrace escarpments, but a small portion of the mapping lies within the Redding gravelly

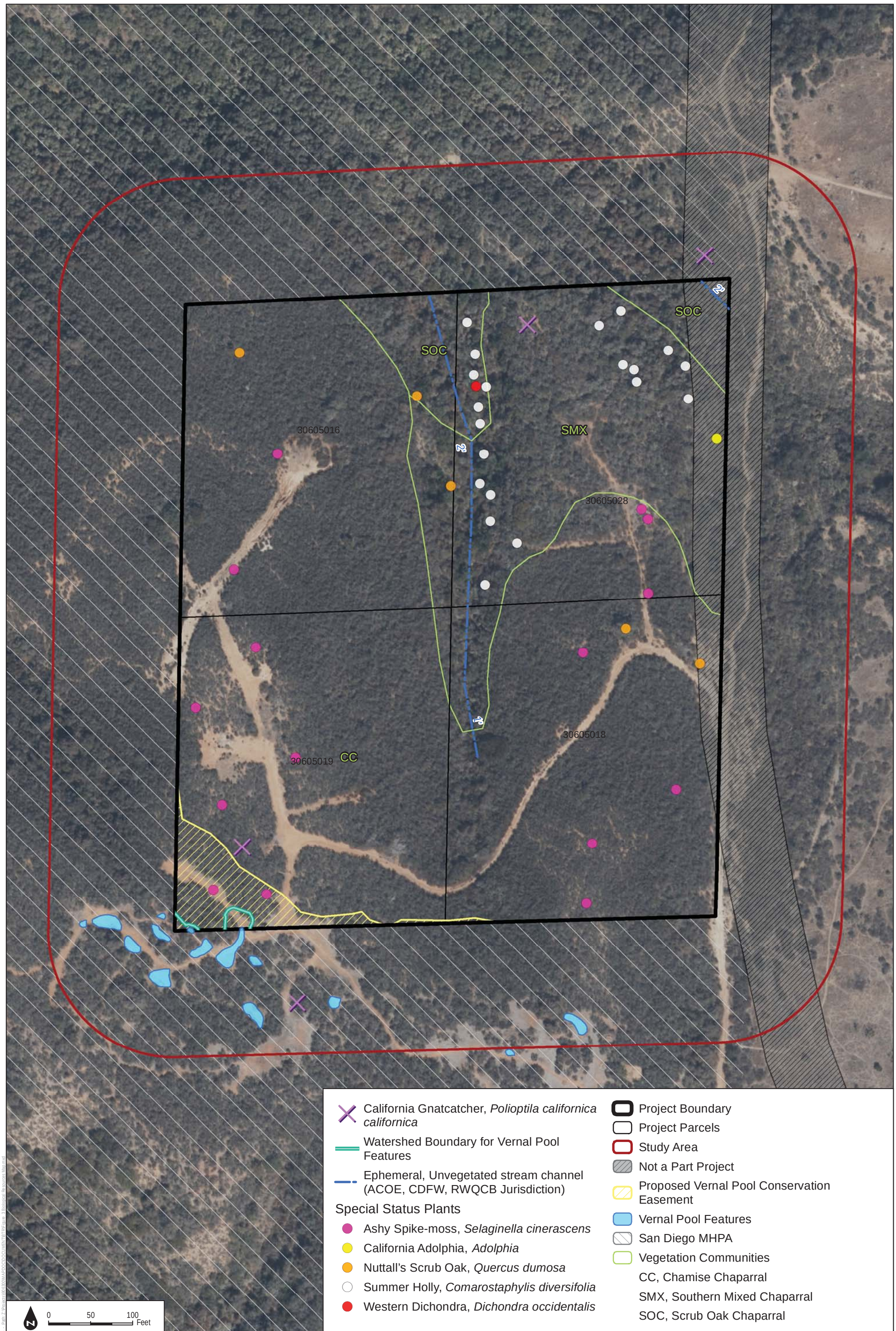
loam soil. Nuttall's scrub oak dominates this community on site and occupies nearly 100% coverage of the canopy, with very few to no native understory species present. The extent of this community on site was mapped according to the Nuttall's scrub oak contiguous canopy structure. Scrub oak chaparral is a Tier I "rare uplands" vegetation community defined by the City and is considered sensitive. Plant species observed on site that are associated with this vegetation community are provided in Appendix A of this report.

3.1.2 Southern Mixed Chaparral; Tier IIIA

Southern mixed chaparral is described by Holland (1986) as a drought and fire adapted community of woody shrubs, 1.5 to 3.0 m tall, frequently forming dense, impenetrable stands. It primarily develops on north-facing slopes and in canyons, and is characterized by crown or stump sprouting species that regenerate following burns or other ecological catastrophes.

Within the site, this vegetation community is mapped within both Redding gravelly loam and terrace escarpments soils (nearly equal), is present within the northeastern and central portions of the site, and is located approximately 6.5 miles east of the Pacific Ocean. Southern mixed chaparral on site is diverse in species composition and is dominated by black sage (*Salvia mellifera*), lemonadeberry (*Rhus integrifolia*), and sticky monkey-flower (*Mimulus aurantiacus*). Plant species observed on site that are associated with this vegetation community are provided in Appendix A of this report.

Southern mixed chaparral is considered a sensitive vegetation community by the City (i.e., Tier IIIA "common uplands"). This community was concluded to be southern mixed chaparral rather than southern maritime chaparral due to its distance from the coast (i.e., greater than 6 miles east of the Pacific Ocean coastline), the presence of clay soils rather than marine sandstone soils, and the lack of typical maritime dominant species.



DUDEK

SOURCE: SANDAG, 2014

FIGURE 3

Biological and Jurisdictional Resources

Biological Resources Technical Report for the Preserve at Torrey Highlands Project

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Although the City's Biology Guidelines state that a particular vegetation species needs only to be present and not dominant for mapping as southern maritime chaparral, there are other contributing factors that classify a vegetation community as southern maritime chaparral. Oberbauer et al. (2008) states that dominant species of southern maritime chaparral vegetation include wart-stemmed ceanothus (*Ceanothus verrucosus*) and Del Mar manzanita (*Arctostaphylos glandulosa* ssp. *crassifolia*), neither of which were detected on site. Furthermore, southern maritime chaparral in San Diego County has a distinct species composition and distribution per Hogan (1996). The species composition indicative of southern maritime chaparral includes Del Mar manzanita, chamise (*Adenostoma fasciculatum*), wart-stemmed ceanothus (noted as coast white ceanothus in Hogan (1996)), Torrey pine (*Pinus torreyana*), chachalagua (*Centaurium venustum*), Indian pink (*Silene lacinata*), rein orchid (*Piperia unalscensis*), short-leaved dudleya (*Dudleya blochmaniae* ssp. *brevifolia*), Encinitas baccharis (*Baccharis vanessae*), Nuttall's scrub oak, Orcutt's spineflower (*Chorizanthe orcuttiana*), lemonadeberry, summer holly (*Comarostaphylis diversifolia* ssp. *diversifolia*), Mojave yucca (*Yucca schidigera*), and spiny redberry (*Rhamnus crocea*) (Hogan 1996).

Hogan (1996) states that there are two forms of southern maritime chaparral in San Diego; one form found on coastal/ocean bluffs and the second form found inland within 4 miles of the coast (but may be located up to 5 miles inland). Beyond five miles inland are other kinds of chaparral that replace southern maritime chaparral (Hogan 1996). Ultimately, since the project site is greater than 6 miles from the coast, does not support weathered sandstone soils, and the species composition is generally limited to common mixed chaparral species, the vegetation on site is considered southern mixed chaparral rather than southern maritime chaparral.

3.1.3 Chamise Chaparral; Tier IIIA

Chamise chaparral is described by Holland (1986) and Oberbauer (2008) as a vegetation community that exists in stands ranging from approximately 3 to 9 feet in height and is overwhelmingly dominated by chamise. The community has adapted to repeated fires of moderate frequency through resprouting. Chamise chaparral occurs on all slopes in shallow soils that form over colluvium and many types of bedrock (Sawyer et al. 2009).

Chamise chaparral is largest vegetation community on site occupying nearly 73% property. Within the site, chamise chaparral vegetation occurs on both Redding gravelly loam and terrace escarpment soils and is chiefly dominated by chamise, with scattered mission manzanita (*Xylococcus bicolor*) shrubs. Chamise chaparral is considered a sensitive vegetation community by the City (i.e., Tier IIIA "common uplands"). This community was not classified as southern mixed chaparral due to the lack of species composition characteristic of southern mixed chaparral (i.e., the vegetation within the area mapped as chamise chaparral has low plant species

diversity and is not composed of the typical southern mixed chaparral species discussed in Section 3.1.2, Southern Mixed Chaparral; Tier IIIA). Although a few Nuttall's scrub oaks were observed, they were not mapped as a separate community due to the overwhelming dominance of chamise within the community and the presence of few Nuttall's scrub oaks. Plant species observed on site that are associated with this vegetation community are provided in Appendix A of this report.

Note that within the chamise chaparral mapped on site there are existing dirt access roads and old geotechnical investigation spur roads that continue into offsite areas. One of these old spur-roads, located in the east portion of the site, is entirely overgrown with black sage that has recruited into this disturbed space between the dense chamise stands. After evaluation of the surrounding landscape/vegetation and for purposes of site mapping, this area was included within the chamise chaparral vegetation because the species can be a component of chamise chaparral.

3.2 Botany and Zoology

3.2.1 Flora

A total of 45 species of vascular plants were detected during the surveys, including 31 native species (69%) and 14 non-native species (31%). The floral diversity is relatively low and mostly consists of native shrub species such as, chamise, lemonadeberry, and Nuttall's scrub oak. A list of plant species identified on the project site, including habitat associations, is presented in Appendix A.

3.2.2 Fauna

A total of 31 wildlife species were detected during the surveys. The majority of wildlife species observed are common disturbance-adapted species typically found in urban and suburban settings such as, California towhee (*Melozone crissalis)*, house finch (*Carpodacus mexicanus*), California scrub-jay (*Aphelocoma californica*) and common raven (*Corvus corax*). A cumulative list of all wildlife species observed or detected within the project site during the survey is presented in Appendix B.

3.3 Special-Status Biological Resources

The following resources are discussed in this section: (1) plant and animal species present in the project vicinity that are given special recognition by federal or state, conservation agencies and organizations owing to declining, limited, or threatened populations, that are the result, in most cases, of habitat reduction; and (2) species adopted by the City Council as narrow endemic species

which are listed in the City's MSCP and Land Development Code Biology Guidelines (2012a). Sources used for determination of special-status biological resources are as follows: USFWS 2015; CDFW 2015a, b, c, d; and the City of San Diego 2012a.

Potential vernal pool features were detected during the field surveys and the extents of these features were mapped (using GPS) in November 2015, including their associated watersheds, to determine their location in proximity to the subject property and proposed project. These potential vernal pool features are located within existing dirt access roads and would be considered road-ruts; however, no focused surveys for listed large vernal pool branchiopods (i.e., fairy shrimp) were conducted to verify this road-rut-determination or presence of fairy shrimp. The GPS mapping, when overlaid onto the property boundary and project footprint, concluded that all potential vernal pool features are located off-site outside the property boundary; hence, no focused fairy shrimp surveys were conducted. The GPS mapping concluded that two watersheds associated with potential vernal pool features located immediately beyond/at the property boundary are mapped within the subject property. The potential vernal pool features and their associated watersheds are spatially presented on Figure 3.

3.3.1 Special Status Plant Species

A total of five special status plant species were observed on site during the August 2015 and April 2016 surveys, including: 30 individuals of summer holly (CNPS CRPR 1B.2), 13 individuals of Nuttall's scrub oak (CNPS CRPR 1B.1), one occurrence of California adolphia (*Adophia californica*) (CNPS CRPR 2B.1), several areas of ashy spike-moss (*Selaginella cinerascens*) (CNPS CRPR 4.1), and one occurrence of western dichondra (*Dichondra occidentalis*) (CNPS CRPR 4.2) (Figure 3). No narrow endemic species as identified in the City's MSCP Subarea Plan were observed on site. The 2015 and 2016 surveys did not incorporate areas outside of the subject property and as a result, no special status plants were detected within the "Study Area" buffer presented on Figure 3.

A search of CNPS and CNDDB records was used to develop a matrix of special status plant species that may have potential to occur on site due to the presence of suitable habitat (taking into consideration vegetation communities, soils, elevation, and geographic range, life form/blooming period, etc.). The matrix of special status plant species, their favorable habitat conditions, and their potential to occur on site based on the findings of the field investigations is presented in Appendix D. Species considered special status under the City Subarea Plan, including Narrow Endemic Species, are included in Appendix D. There is no federally designated critical habitat for plant species mapped within or adjacent to the project site (USFWS 2015). No narrow endemic species as identified in the City's MSCP Subarea Plan have potential to occur on site.

3.3.2 Special Status Wildlife Species

One special-status wildlife species was observed on the project site during the 2015 field surveys, the federally listed as threatened California gnatcatcher. No other special status species were detected on site or within the "Study Area" buffer presented on Figure 3. Note that although vernal pool features (i.e., road ruts) were detected beyond the property boundary within the Study Area buffer, focused surveys for listed vernal pool branchiopods (i.e., fairy shrimp) were not conducted as part of this biological analysis because the features are outside of the property ownership; therefore, the presence of special-status fairy shrimp in any of these off-site features is unknown.

A search of CNPS and CNDDB records was used to develop a matrix of special status wildlife species that may have potential to occur on site due to the presence of suitable habitat (taking into consideration vegetation communities, soils, elevation, and geographic range, life form/blooming period, etc.). This matrix of special status wildlife species, their favorable habitat conditions, and their potential to occur on site based on the findings of the field investigations are presented in Appendix E. Species considered special status under the City Subarea Plan, including Narrow Endemic Species, are included in Appendix E.

According to the analysis provided in Appendix E, a total of nine wildlife species have potential (i.e., moderate potential or higher) to occur on site, including: coast patch-nosed snake (*Salvadora hexalepis virgultea*), orange-throated whiptail (*Aspidoscelis hyperythra*), Coronado skink (*Plestiodon skiltonianus interparietalis*), Blainville's horned lizard (*Phrynosoma blainvillii*), red diamond rattlesnake (*Crotalus ruber*), Bell's sparrow (*Artemisiospiza belli belli*), San Diego desert woodrat (*Neotoma lepida intermedia*), Dulzura pocket mouse (*Chaetodipus californicus femoralis*), and northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*). Coastal California gnatcatcher was observed on site during a focused survey, but is not expected to nest on site due to lack of suitable habitat (i.e., coastal sage scrub).

Coastal California Gnatcatcher

Coastal California gnatcatcher is federally listed as threatened, a CDFW-designated Species of Special Concern (SSC), and is covered under the MSCP. It nests and forages in various sage scrub communities, often dominated by California sagebrush (*Artemisia californica*) and California buckwheat (*Eriogonum fasciculatum*). Coastal California gnatcatcher generally avoids nesting in areas with a slope of greater than 40% and generally nests at less than 1,000 feet in elevation. Coastal California gnatcatcher was observed on site during a focused survey, but is not expected to nest on site due to lack of suitable nesting habitat (i.e., coastal sage scrub).

Coast patch-nosed snake

Coast patch-nosed snake (*Salvadora hexalepis virgultea*) is a CDFW-designated SSC that occurs in brushy or shrubby vegetation. This species requires small mammal burrows for refuge and overwintering sites. Coast patch-nosed snake has a moderate potential to occur within the chaparral habitat on site and has been recorded in the project vicinity.

Orange-throated whiptail

Orange-throated whiptail (*Aspidoscelis hyperythra*) is a CDFW-designated Watch List species and is covered under the MSCP. This species occurs in low-elevation coastal scrub, chaparral, and valley–foothill hardwood habitats. It has a moderate potential to occur within the chaparral habitat on site and has been recorded in the project vicinity.

Coronado skink

Coronado skink (*Plestiodon skiltonianus interparietalis*) is a CDFW-designated Watch List species that occurs in rocky areas near water within woodlands, grasslands, pine forests, and chaparral. This species has a moderate potential to occur within chaparral habitat on site. It has been recorded in the project vicinity.

Blainville's horned lizard

Blainville's horned lizard (*Phrynosoma blainvillii*) is a CDFW-designated SSC species and is covered under the MSCP. This species occurs in open areas of sandy soil in valleys, foothills, and semi-arid mountains. It occurs in coastal scrub, chaparral, valley–foothill hardwood, conifer, riparian, pine–cypress, juniper, and annual grassland habitats. Blainville's horned lizard has a moderate potential to occur on site and has been recorded in the project vicinity.

Red diamond rattlesnake

Red diamond rattlesnake (*Crotalus ruber*) is a CDFW-designated SSC species that occurs in coastal scrub, chaparral, oak and pine woodlands, rocky grasslands, cultivated areas, and desert flats. This species has a moderate potential to occur on site and has been recorded in the project vicinity.

Bell's sparrow

Bell's sparrow (*Artemisiospiza belli belli*) is a USFWS-designated Bird of Conservation Concern (BCC) and a CDFW-designated Watch List species. Bell's sparrows nest and forage in coastal scrub and dry chaparral. They generally occur in large, unfragmented patches dominated by

chamise. They typically nest in more dense patches, but use more open habitat in winter. Bell's sparrow has a moderate potential to occur on site and has been recorded in the project vicinity.

San Diego desert woodrat

San Diego desert woodrat (*Neotoma lepida intermedia*) is a CDFW-designated SSC species that occurs in rocky areas in coastal scrub, desert scrub, and chaparral. This species has a moderate potential to occur on site and has been recorded in the project vicinity.

Dulzura pocket mouse

Dulzura pocket mouse (*Chaetodipus californicus femoralis*) is a CDFW-designated SSC species that occurs in open habitat, coastal scrub, chaparral, oak woodland, chamise chaparral, and mixed conifer habitats. Dulzura pocket mouse is a disturbance specialist. It occurs below 3,000 feet in elevation. This species has a moderate potential to occur within the chaparral habitat on site and has been recorded in the project vicinity.

Northwestern San Diego pocket mouse

Northernwestern San Diego pocket mouse (*Chaetodipus fallax fallax*) is a CDFW-designated SSC species. This species occurs in coastal scrub, mixed chaparral, sagebrush, desert wash, desert scrub, pinyon–juniper, and annual grassland habitats. It has a moderate potential to occur within the chaparral habitat on site and has been recorded in the project vicinity.

3.3.3 Wildlife Corridors and Habitat Linkages

Wildlife corridors are linear features that connect large patches of natural open space and provide avenues for the migration of animals. Wildlife corridors contribute to population viability by assuring continual exchange of genes between populations, providing access to adjacent habitat areas for foraging and mating, and providing routes for recolonization of habitat after local extirpation or ecological catastrophes (e.g., fires).

Habitat linkages are small patches that join larger blocks of habitat and help reduce the adverse effects of habitat fragmentation. Habitat linkages provide a potential route for gene flow and long-term dispersal of plants and animals and may also serve as primary habitat for smaller animals, such as reptiles and amphibians. Habitat linkages may be continuous habitat or discrete habitat islands that function as stepping stones for dispersal.

The project site is likely used for general movement by several terrestrial animals (i.e., birds, mammals, reptiles and amphibians, etc.) because the current conditions are vegetated without

restrictions to movement other than due to the vegetation itself. The existing vegetation onsite is dense chaparral but has existing dirt roads, which wildlife species will use periodically. Thus, wildlife movement is currently constrained in all directions in vegetated portions of the site but the site certainly is occupied by various native wildlife species. Additionally, the site may be used by at least three relatively large mammals such as: coyote (*Canis latrans*), mule deer (*Odocoileus hemionus*), and bobcat (*Lynx rufus*), and possibly mountain lion (*Puma concolor*). However, the proposed project site is unlikely to serve as an important wildlife corridor or habitat linkage in the area. The site is relatively small and located on the eastern edge of the Del Mar Mesa Preserve. It is bordered on the east by the Merge 56 proposed development project, thus potential east to west wildlife movement is limited. Although the project site is bounded on three sides by the City's Multi-Habitat Planning Area (MHPA) (City of San Diego 1997), including the USFWS National Wildlife Refuge to the south, north-south wildlife movement in the area is generally constrained by residential development farther to the north and south.

In the project vicinity, other key wildlife corridors and habitat linkages exist that would be more likely to support regional wildlife movement. Peñasquitos Canyon located to the south of the project site and McGonigle Canyon located to the north are both wildlife corridors/habitat linkages identified in the City's Multiple Species Conservation Program (MSCP) Subarea Plan (City of San Diego 1997). Deer Canyon is also located immediately north of the project site and is more likely to convey wildlife to adjacent upland areas, though it may also be limited by development at its eastern terminus (Figure 2).

3.3.4 Jurisdictional Wetlands Delineation

All potential wetland areas or non-wetland waters of the U.S. (WOUS) were identified in accordance with the ACOE delineation manual. Evidence of hydrology and hydrophytic vegetation was examined throughout the approximate 11.1-acre property and data station pits were established at two locations. Vernal pools features (i.e., road ruts) were identified at the edge of the property boundary and off site to the south of the property; however, these features were not analyzed as part of the jurisdictional wetlands delineation discussed herein.

Results of the delineation concluded that two unvegetated ephemeral channels exist on the project site. One channel, approximately 1 foot in width, extends along the center of the project site; the second channel, approximately 2 feet in width, spans the northeast corner of the site (Figure 3).

Two data station pits were established near the channel in the central portion of the site to record the feature characteristics as applicable to the ACOE manual. The actual data station forms are attached to this report (Appendix F).

The data station pit results indicate that the ephemeral channels on site do not support hydrophytic vegetation or hydric soils, but do have a defined bed and bank to indicate seasonal, ephemeral hydrology; however, seasonal, ephemeral hydrology would not be considered hydrology suitable for sustaining a wetland. Thus, both channels were determined to be non-wetland WOUS under the joint regulation of the ACOE and RWQCB pursuant to Sections 401 and 404 of the federal Clean Water Act, and CDFW (pursuant to Sections 1600–1605 of the California Fish and Game Code). In total, the two ephemeral channels on the project site occupy approximately 0.03-acres and approximately 610 linear feet (Figure 3).

The ephemeral drainages do not currently support hydric soils, wetland hydrology, or wetland vegetation, nor has wetland vegetation been removed by human disturbance. These drainages have resulted from seasonal ephemeral flows that have etched the landscape over time. Therefore, according to the City's Biology Guidelines (City of San Diego 2012), neither feature is considered City of San Diego wetlands.

4 RELATIONSHIP TO MSCP

The entire project is located outside of the City's MHPA. However, the project site is bounded by the MHPA in the north, west, and south boundaries. Based on the impacts analysis provided in Section 5, Project Impacts, all development areas including Brush Management Zones (i.e., BMZs) are located on site and not located within the MHPA.

4.1 Land Use Adjacency Guidelines

The City's LUAGs contained in Section 1.4.3 of the MSCP Subarea Plan provide a list of issues to be addressed for projects within or adjacent to the MHPA. These include drainage, toxics, lighting, noise, barriers, invasive exotics and brush management. The following project design features discussed below shall be implemented to conform with the MSCP; thus, resulting in no potential impacts to adjacent MHPA areas. These project features are also presented on the MHPA Adjacency Exhibit attached in this report as Appendix G. Project-specific compliance with LUAGs is implemented and enforced by conditions of approval. Specifically, project conformance with the LUAGs would be made conditions of the Site Development Permit (SDP).

Developed and paved areas should not drain directly into the MHPA. Developed and paved areas within the project will not drain directly into the MHPA, rather those areas will drain directly to the biofiltration basins, which prevent the release of toxins, chemicals, petroleum products, and exotic plant materials before draining into the MHPA. The biofiltration basins collect runoff from all hardscape and rooftops via a system of pipes and drains in order to capture all drainage on site. The biofiltration basins are connected by pipelines and connect via pipeline to the discharge point at the northern edge of the site. Thus, all discharge into the MHPA will have passed through the biofiltration basins prior to discharge.

Toxic chemicals should not be used during project implementation. No toxic chemicals are proposed to be used for project components including the development. Furthermore, no toxic chemicals will be used in the long term on the site.

All lighting should be faced away from the MHPA. Any nighttime lighting, such as but not limited to security lighting, will be shielded and directed away from the MHPA per the City's Outdoor Lighting Ordinance so there is no spill of light into the MHPA.

Uses in or adjacent to the MHPA should be designed to minimize noise impacts. Currently the project is located within an area subject to existing noise from traffic on Highway 56. Additional noise may be generated during implementation of required brush management practices. See the following discussion for how noise is addressed with respect to coastal California gnatcatcher. If construction must occur during the breeding season for the California gnatcatcher, the following measures shall be implemented.

- Prior to any construction-related activity, the biologist shall survey the MHPA up to 500 feet from the proposed construction area in accordance with the U.S. Fish and Wildlife Service protocol.
- If no California gnatcatchers are found to be present within the MHPA up to 500 feet of the proposed construction area, then the project construction may proceed without restrictions.
- If California gnatcatchers are found off site within the MHPA, construction within 500 feet shall not commence until temporary noise barrier(s) are place between the construction area and occupied gnatcatcher habitat. The location of the noise barrier(s) shall be determined by the biologist and acoustician. Construction noise levels shall be monitored at the edge of occupied habitat with the noise barrier(s) in place. Other measures shall be implemented, as necessary, to reduce noise levels to below 60 dB(A), or to the ambient noise level if it already exceeds 60 dB(A) at the edge of the occupied habitat.

  Construction noise shall be monitored once weekly to verify that noise at the edge of occupied habitat in the MHPA is maintained below 60 dB(A), or to the ambient noise level if it already exceeds 60 dB(A). If this requirement cannot be met, other measures shall be implemented as necessary, to reduce noise levels to below 60 dB(A) or to the ambient noise level if it already exceeds 60 dB(A). Such measures may include, but are not limited to, placement of construction equipment, and limitations on the simultaneous use of equipment.

New development adjacent to the MHPA may be required to provide barriers along the MHPA boundaries to direct public access to appropriate locations and reduce domestic animal predation. A combination of six-foot tall barrier fencing around the perimeter of the project site, wire guardrail, walls, signage, the parking garage and natural rock/boulder barriers, will function as buffers for the MHPA as illustrated in Appendix G. These features are provided to prevent intrusion into the MHPA area. No public trails have been designated on site.

No invasive non-native plant species shall be introduced into areas adjacent to the MHPA. Dudek reviewed the current landscape planting plan prepared by GroundLevel. All plantings or seed palettes adjacent to the MHPA will be composed of native species.

New development located adjacent to and topographically above the MHPA must be set back from slope edges to incorporate Zone 1 brush management areas on the development pad and outside of the MHPA. All manufactured slopes are contained within the site plan and development footprint. No manufactured slopes are proposed off site or within the MHPA. Brush management (BMZ) Zone 1 is located within the limits of grading of the project and is analyzed with the direct impacts of the project. BMZ 1 is located adjacent to buildings and is not adjacent to the MHPA. No invasive plants will be used. New planting occurs within the grading areas. BMZ 2 will include only native plant species and no non-native invasive plant species will be used. No brush management is proposed in the MHPA.

4.2 Area Specific Management Directives

Orange-throated whiptail and Blainville's horned lizard are "covered" species under the MSCP. Thus, impacts to these species are not considered significant outside of the MHPA provided that the conditions of coverage for each species are addressed by the project. The specific conditions of coverage prescribed in the MSCP for each of these species are discussed below.

Orange-throated whiptail: Area specific management directives for orange-throated whiptail solely include analyzing and addressing potential edge effects on the species from project impacts. The proposed project complies with the MHPA LUAGs as described in Section 4.1, Land Use Adjacency Guidelines, will address potential edge effects that could affect orange-throated whiptail, including drainage, lighting, noise, barriers, invasives, brush management, and grading/land development. A combination of six-foot tall barrier fencing around the perimeter of the project site, walls, wire guardrail, signage, the parking garage, and natural rock/boulder barriers are provided to prevent intrusion into the MHPA.

Blainville's horned lizard: Area specific management directives for Blainville's horned lizard (horned lizard) will include measures to maintain native ant species, discourage Argentine ant presence, and address potential edge effects on horned lizard from project impacts (City of San Diego 1997). Specifically, immediately prior to installation of common landscape improvements, container plants shall be inspected by the project biologist for the presence of disease, weeds, and pests, including Argentine ants. Plants with pests, weeds, or diseases will be rejected. This directive is identified on the project landscape plan. Additionally, these directives discussed herein, including plant inspection, would be made conditions of approval for the project. Moreover, because Argentine ants are associated with increased soil moisture, compliance with the MHPA LUAGs relating to drainage will minimize the risk of an invasion of Argentine ants that could impact Blainville's horned lizard. Specifically, all new and proposed parking lots and developed areas in and adjacent to the preserve will not drain directly into the MHPA (see Section 4.1, Land Use Adjacency Guidelines). Lastly, consistent with the MHPA LUAGs and the project's landscape plan,

non-native and invasive plants would not be planted adjacent to the MHPA areas surrounding the site (see Section 5.1.5.2). Compliance with both the area specific management directives and MHPA LUAGs related to indirect impacts to Blainville's horned lizard would be made conditions of approval of the project.

5 PROJECT IMPACTS

This section addresses direct and indirect impacts that will result from implementation of the proposed project.

Direct impacts include both the permanent loss of any on-site habitat and the plant and wildlife species that it contains and the temporary loss of on-site habitat. Direct impacts were quantified by overlaying the project impact area footprint onto the biological resources map (Figure 4). All biological resources within the project footprint area, including grading, the required Zone 1 Fuel Modification Zone (FMZ), and landscaping are considered a direct impact and 100% lost.

There are no direct temporary impacts proposed as part of this project.

Indirect Impacts result primarily from adverse "edge effects," and may be short-term in nature, related to construction, or long-term in nature, associated with development in proximity to biological resources within natural open space. For the proposed project, it is assumed that the potential indirect impacts resulting from construction activities include dust, noise, and general human presence that may temporarily disrupt species and habitat vitality and construction-related soil erosion and runoff.

In accordance with the City's Storm Water Standards Manual (SWSM, San Diego 2012b), all development projects located within the City are required to implement site design, source control, and treatment control best management practices (BMPs). All development projects will be required to meet National Pollutant Discharge Elimination System (NPDES) program controls by incorporating BMPs (e.g., preparation/implementation of a Stormwater Pollution Prevention Plan (SWPPP)) during construction and permanent BMP's as defined by the City's SWSM as part of the project development.

Long-term indirect impacts are primarily limited to increased human presence due to the construction of homes and associated roads and infrastructure.

5.1 Direct Impacts

5.1.1 Vegetation Communities

Implementation of the proposed project would result in direct impacts to approximately 9.75 acres of native vegetation, including 0.47 acres of scrub oak chaparral (Tier I), 1.97 acres of southern mixed chaparral (Tier IIIA), and 7.31 acres of chamise chaparral (Tier IIIA) (Table 3). The location of project impacts within the property are presented on Figure 4.

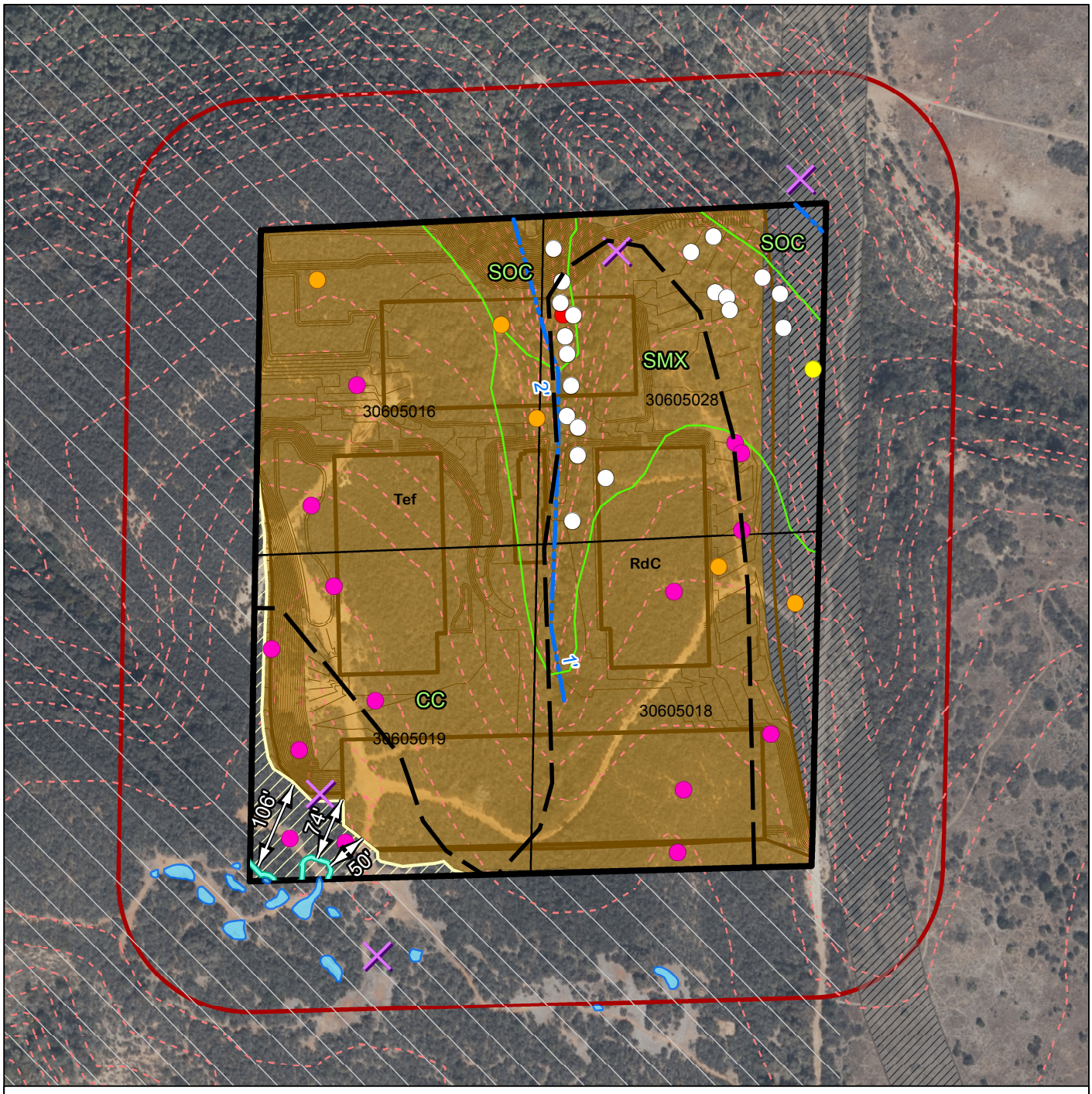
Table 3
Project Impacts to Vegetation Communities

Vegetation Community	Subarea Plan Tier	Total On Site Acreage	Direct Impact Acreage
Scrub Oak Chaparral	I	0.63	0.47
Southern Mixed Chaparral	IIIA	2.38	1.97
Chamise Chaparral	IIIA	8.09	7.31
	Total	**11.10**	**9.75**

* Total On Site Acreage includes 0.92 acres that are considered Not a Part (NAP), including 0.16 acres of scrub oak chaparral, 0.41 acres of southern mixed chaparral, and 0.35 acres of chamise chaparral. The NAP is associated with the extension of Camino del Sur associated with the proposed Merge 56 project located along the eastern edge of the site that would not be impacted by the proposed Preserve at Torrey Highlands Project. Other acreage not impacted includes the Covenant of Easement discussed in Section 5.6.3.3, Mitigation, Monitoring, and Reporting.

5.1.2 Special-Status Plants

Implementation of the project would result in direct impacts to the on-site populations of four special-status plant species: summer holly, Nuttall's scrub oak, ashy spike-moss, and western dichondra (Figure 4). None of the four directly impacted species are "covered" under the MCSP. Therefore, direct impacts to these species was not considered during the assemblage of the MHPA and project impacts to these species both inside and outside the MHPA must be evaluated on a project-by-project basis. Additionally, no narrow endemics, as identified in the City's MSCP Subarea Plan, were observed on the project site, have potential to occur (Appendix D), or would be affected by the project.



Project Boundary
Project Parcels
Study Area
Site Plan
California Gnatcatcher, *Polioptila californica californica*
Watershed Boundary for Potential Vernal Pool Features
Ephemeral, Unvegetated stream channel (ACOE, CDFW, RWQCB Jurisdiction)
Topography
0 50 100 Feet

Special Status Plants
Ashy Spike-moss, *Selaginella cinerascens*
California Adolphia, *Adolphia californica*
Nuttall's Scrub Oak, *Quercus dumosa*
Summer Holly, *Comarostaphylis diversifolia*
Western Dichondra, *Dichondra occidentalis*
Soils
RdC = Redding gravelly loam, 2 to 9 percent slopes
TeF = Terrace escarpments

Impacts
Not a Part Project
Covenant of Easement
Potential Vernal Pool Features
San Diego MHPA
Vegetation Communities
CC, Chamise Chaparral
SMC, Southern Mixed Chaparral
SOC, Scrub Oak Chaparral

SOURCE: SANDAG, 2014

The Preserve at Torrey Highlands

Biological Resources Impacts

Environmental Analysis Section Project No. 442880

CITY OF SAN DIEGO - DEVELOPMENT SERVICES

FIGURE 4

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Although western dichondra (CRPR 4.2) and ashy spike-moss (CRPR 4.1) are considered special status, CRPR 4 species are considered "watch list" species. The proposed project would impact one occurrence of western dichondra and several locations of ashy spike-moss. Both of these species are perennial rhizomatous herbs, making it difficult to quantify the number of individuals in an occurrence. Impacts to these species would be less than significant because the impacted occurrences are not type localities for these species. In addition, since western dichondra occurs from the southern border to San Clemente and inland past El Cajon in San Diego County and ashy spike-moss occurs from the southern border to north of Oceanside and inland past Fernbrook (SDNHM 2018), the impacted individuals of each species are not at the periphery of the species' ranges. In addition, there are records for both species along SR-56 so the impacted individuals are not located in an area where the species are especially uncommon. Given the adjacent MHPA with suitable habitat for these species, they are not expected to sustain heavy losses in the area either. The occurrences on site did not exhibit unusual morphology or occur on unusual substrates. Thus, project impacts to these two species are not expected to appreciably reduce their populations in the region and would be considered less than significant.

However, the project would also result in impacts to 27 individuals (90%) of summer holly (CRPR 1B.2) and 10 individuals (77%) of Nuttall's scrub oak (CRPR 1B.1). Because CRPR 1B plants are considered rare, threatened, or endangered in California and elsewhere (CNPS 2018) and given that the project would impact 90% of the on-site individuals of summer holly and 77% of the on-site individuals of Nuttall's scrub oak, impacts to these species would be considered significant.

5.1.3 Special-Status Wildlife

As previously mentioned, one special-status wildlife species was detected on site (i.e., California gnatcatcher). Although California gnatcatcher has been observed foraging on site, it is highly unlikely that this species would nest on site due to lack of suitable nesting habitat (i.e., coastal sage scrub typically associated with this species); thus, direct impacts to California gnatcatcher are not expected. Focused surveys for California gnatcatcher detected the presence of the species off site within the study area (Figure 3). Potential indirect impacts to California gnatcatcher are addressed in Section 5.2.3, Special-Status Wildlife.

Direct project impacts are anticipated to coast patch-nosed snake, orange-throated whiptail, Coronado skink, Blainville's horned lizard, red diamond rattlesnake, Bell's sparrow, San Diego desert woodrat, Dulzura pocket mouse, and northwestern San Diego pocket mouse. None of these species have been detected on the project site, but all have a moderate potential to occur. For purposes of this impact analysis, these species are assumed present on site. All of these species primarily occur in chaparral or scrub vegetation and direct impacts could occur to these species. Generally, the project is expected to impact a small amount of habitat relative to the

adjacent areas of conserved open space. Given the mobile nature of these species (i.e., they are likely to move away from the project area to utilize adjacent areas of equally suitable habitat), it is anticipated that project impacts would not result in direct impacts to these species resulting in a reduction of the population. In addition, orange-throated whiptail and Blainville's horned lizard are considered MSCP covered species; therefore, it is anticipated that these species are adequately conserved regionally through the conservation of similar appropriate habitats within the MHPA.

Potential direct impacts to nesting Bell's sparrow, a USFWS-designated Bird of Conservation Concern, CDFW Watch List species, on site may occur if construction occurs during the breeding season. This direct impact would be considered significant and require mitigation.

One raptor species red-tailed hawk (*Buteo jamaicensis*) was observed flying over the project site during one of the focused surveys for California gnatcatcher. No other raptor species were observed during any of the 2015 surveys. No large mature trees exist on site that would provide suitable nesting habitat for raptor species. Therefore, direct impacts to nesting raptors are not anticipated.

Bird Strikes

Direct impacts to special-status birds from building strikes could occur with project implementation. The factors involved in potentially fatal bird strikes with buildings include: migrants striking a lighted building at night at the elevation at which they are migrating; daytime migrants striking windows of a tall structure most likely due to the reflection of the sky or nearby vegetation in the windows; and migrants or residents striking windows at lower elevations that reflect the surrounding vegetation which they interpret to be vegetation in front of them.

Studies on the vulnerability of various species to building collisions indicates that several species show a disproportionately high risk of building collisions (Loss et al. 2014). While the studies were conducted in the eastern areas of the United States, the conclusion is that the vast majority of highly vulnerable species were long-distance migrants. Birds migrating over terrestrial locations appear to migrate at higher altitudes, but do not frequently exceed 1,500 feet (Cooper and Ritchie 1995).

Daytime collisions or "strikes" occur at both tall buildings and low structures. The daytime strikes at tall buildings can occur from daytime migrants or local residents striking reflective glass because birds cannot interpret that the images observed in glass are reflections and thus fly into windows that they think are trees or sky. Collisions with lower height buildings appears to be associated with birds using feeders or resident and migrant birds colliding with windows that reflect the

surrounding landscape (Klem 1990). These collisions are greatest at ground level and at heights above 10 feet (Klem 1989).

Reflection of vegetation within windows provides a cue to birds that they can pass through the area. As the distance of the vegetation exceeds 30 feet from the windows, birds are able to obtain enough speed in flight to result in a fatal strike if they hit the window (Klem 1990). For glass on a structure positioned above the height of or remote from vegetation, there is no evidence of significant bird collision issues (Klem 1989). The primary condition of concern with daytime collisions is caused by landscaping or other bird attractants that are located 30 feet or more from reflective glass surfaces (Klem et al. 2004). Birds strikes to windows on buildings increase with increasing amounts of vegetation and glass, especially reflective glass, opposite the vegetation (Gelb and Delacrataz 2006). Where reflective glass faces forested patches, there is a significant increase in bird strikes that can lead to several hundred collisions per year even for buildings that are not within an especially well-documented migration corridor (O'Connell 2001). Such bird strikes include migrants as well as resident bird species and occur during both day- and nighttime periods.

The height of the buildings for the proposed project vary from 73 to 99 feet and thus are lower than the elevation that could be problematic for migrant birds flying over terrestrial locations. The project proposes to use glass treated with Viracon silk screen 5065 which provides a dotted pattern as a film on the glass. This reduces the transmission of light and heat and is designed according to the 2 x 4 rule which defines the pattern spacing to deter bird collisions (Sheppard and Phillips 2015). Patterns such as the proposed Viracon 5065 which is on the outside surface of glass, deter collisions most effectively because they are always visible, even with strong reflections (Sheppard and Phillips 2015). In addition, per the proposed project's landscaping plan (see Figure 3-X in Section 3, Project Description), vegetation, including trees, is proposed immediately adjacent to all buildings, which would limit the speed at which birds would strike the building and reduce the number of resultant fatalities per Klem et al. (2004). Jurisdictional Waters of the U.S./State

The proposed project would directly impact 0.02 acres (i.e., 561 linear feet) of non-wetland waters of the U.S., mapped as an unvegetated ephemeral channel in the central portion of the site (Figure 4). This channel feature is subject to the jurisdiction of all three wetland resource agencies (i.e., ACOE, RWQCB, and CDFW), but is not considered a wetland per the City of San Diego.

Vernal pool features are located adjacent to the property along the southern boundary, two of which are located at the property line; however, no vernal pool features are located within the property. Therefore, no direct impacts to vernal pool features are expected with implementation of the proposed project. See Section 5.2.4, Jurisdictional Waters of the U.S./State, for a discussion of indirect impacts to these vernal pool features.

5.1.4 Wildlife Corridors and Habitat Linkages

As stated previously in Section 3.3.3, Wildlife Corridors and Habitat Linkages, the project area does not serve as a regional habitat linkage, movement corridor, or or nursery site for wildlife species. It also does not interfere with the movement of native wildlife through identified wildlife corridors/habitat linkages to the north and south, including Deer Canyon, McGonigle Canyon, and Peñasquitos Canyon. Thus, no direct impacts to wildlife corridors or habitat linkages are anticipated.

5.2 Indirect Impacts

5.2.1 Vegetation Communities

Indirect impacts to vegetation communities primarily result from adverse "edge effects." During vegetation removal and grading activities, short-term edge effects could include dust, soil erosion, and runoff from dust control that could disrupt plant vitality in non-impacted areas. However, all grading activities would be subject to the proposed project's best management practices (BMPs) and typical restrictions and requirements that address dust control, erosion, and runoff. Additionally, the project complies with the MSCP (see Section 4, Relationship to the MSCP); thus, indirect impacts to vegetation communities are not anticipated as a result of the project.

5.2.2 Special-Status Plants

Indirect impacts to special status plants result primarily from adverse "edge effects" as described above. During construction activities, edge effects may include dust, which could disrupt plant vitality in the short-term or construction-related soil erosion and water runoff. Standard construction BMPs and construction-related minimization measures to control dust, erosion, and runoff would minimize these effects. Thus, short-term indirect impacts to special-status plants are not anticipated as a result of the project.

Potential long-term indirect impacts on special-status plant species could include trampling by humans traveling off-trail, invasion by exotic plants and animals, exposure to urban pollutants (fertilizers, pesticides, herbicides, and other hazardous materials), increase or decrease in natural fire regime, soil erosion, and hydrologic changes (e.g., surface and groundwater level and quality). Project conformance with the MHPA LUAGs shall result in avoiding and reducing potential long-term indirect impacts to special-status plants; thus, no long-term indirect impacts are expected as a result of the project.

5.2.3 Special-Status Wildlife

Wildlife may be indirectly affected in the short-term and long-term by noise and lighting that can disrupt normal activities and subject wildlife to higher predation risks.

Indirect impacts to nesting California gnatcatchers off site would be avoided or minimized through project conformance with the MSCP Land Use Adjacency Guidelines.

Indirect impacts to Blainville's horned lizard from the introduction of Argentine ants would be avoided through compliance with area-specific management directives, including measures to maintain native ant species, discourage Argentine ant presence, and address potential edge effects on horned lizard from project impacts (City of San Diego 1997). Specifically, immediately prior to installation of common landscape improvements, container plants will be inspected for the presence of disease, weeds, and pests, including Argentine ants. Plants with pests, weeds, or diseases will be rejected. This directive is identified on the project landscape plan. Additionally, these directives discussed herein, including plant inspection, would be made conditions of approval of the project. Moreover, because Argentine ants are associated with increased soil moisture, compliance with the MHPA LUAGs relating to drainage will minimize the risk of an invasion of Argentine ants that could impact Blainville's horned lizard. Specifically, all new and proposed parking lots and developed areas in and adjacent to the preserve will not drain directly into the MHPA. Lastly, consistent with the MHPA LUAGs and the project's landscape plan, non-native and invasive plants would not be planted adjacent to the MHPA areas surrounding the site (see Section 5.1.5.2). Compliance with both the area specific management directives and MHPA LUAGs related to indirect impacts to Blainville's horned lizard would be made conditions of approval of the project.

5.2.4 Jurisdictional Waters of the U.S./State

The 0.43-acre COE will be established to provide on-site mitigation located in the southwest corner of the property and provides a permanent buffer between the potential vernal pool watersheds and the proposed project footprint. The buffer distance from the edge of the project footprint to the nearest watershed ranges from approximately 50 linear feet to 106 linear feet. Upon recordation of the COE, indirect impacts to the vernal pool watershed would be avoided.

Standard construction best management practices and recommended design configuration have been incorporated into the proposed project to eliminate potential indirect impacts to off-site jurisdictional waters. Compliance with the MSCP LUAGs (see Section 4.1, Land Use Adjacency Guidelines) would also ensure that indirect impacts to the vernal pool watershed would be avoided.

5.2.5 Wildlife Corridors/ Habitat Linkages

As stated previously in Sections 3.3.3 and 5.1.5, Wildlife Corridors and Habitat Linkages, the project area does not serve as a regional habitat linkage, movement corridor, or nursery site for wildlife species. No indirect impacts to wildlife corridors or habitat linkages are anticipated for

this project. It also does not interfere with the movement of native wildlife through identified wildlife corridors/habitat linkages to the north and south, including Deer Canyon, McGonigle Canyon, and Peñasquitos Canyon.

5.3 Cumulative Impacts

In an effort to eliminate cumulative impacts to sensitive biological resources throughout San Diego, the City is participating in a regional conservation planning effort, San Diego MSCP. This planning effort provides a regional plan for preservation and mitigation of sensitive biological resources within a portion of the City of San Diego. The ultimate goal of this plan is the establishment of biological reserve areas in conformance with the State of California NCCP Act.

The MHPA is a "hard line" preserve developed by the City in cooperation with the wildlife agencies, property owners, developers, and environmental groups. The MHPA identifies BRCAs and corridors targeted for conservation, in which only limited development may occur (City of San Diego 1997). Preservation of habitat, planning in accordance with the biological resource conservation goals of the MSCP, and limitation of impacts in accordance with the MSCP is intended to mitigate cumulative biological resource impacts.

The project site is located within the northern area of the City of San Diego's MSCP boundary, specifically, within Torrey Highlands Subarea IV. A number of other development projects have been implemented or are planned within Subarea IV over the next several years. Implementation of the proposed project in conjunction with these other planned projects would result in cumulative loss of biological resources in the Subarea IV area; however, these cumulative losses were already anticipated and addressed in the certification of the EIR for Subarea IV and preparation of the City's MSCP.

The parcel is not located in designated MHPA, however is adjacent to the MHPA. Mitigation for project impacts would comply with the City's Biology Guidelines (City of San Diego 2012). Implementation of project features and avoidance measures described in Section 4, Relationship to MSCP, ensure project compliance with the City's MSCP Land Use Adjacency Guidelines. Therefore, the proposed project is consistent with the MSCP and cumulative impacts to uplands, sensitive plants, and sensitive wildlife will be mitigated through implementation of the plan.

It should be noted that impacts to non-wetland waters of the U.S. will occur as a result of the project. Such impacts are not addressed under the MSCP. The adjacent Merge 56 project (construction of Camino Del Sur) will also result in impacts to non-wetland waters of the U.S. and would potentially be considered a cumulative impact. Due to the biofiltration proposed on site, all discharge of runoff will be filtered and treated prior to release into the MHPA. No

cumulative impacts to the Deer Canyon drainage will occur because the discharge water from the filtered and dissipated storm water flow will still be directed into the drainage area within the MHPA.

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6 ANALYSIS OF SIGNIFICANCE

6.1 Explanation of Findings of Significance

Impacts to sensitive vegetation communities, special status plants, and special status wildlife species must be quantified and analyzed to determine whether such impacts are significant under CEQA. CEQA Guidelines Section 15064(b) states that an ironclad definition of "significant" effect is not possible because the significance of an activity may vary with the setting. Appendix G of the CEQA Guidelines, however, does provide examples of consequences that may be "deemed to be a significant effect on the environment" (CEQA Guidelines, Section 15064(e)). These effects include substantial effects on rare or endangered species of animals or plants, or the habitat of the species. Guidelines Section 15065(a) is also helpful in defining whether a project may have "a significant effect on the environment." Under that section, a proposed project may have a significant effect on the environment if the project has the potential to (1) substantially degrade the quality of the environment, (2) substantially reduce the habitat of a fish or wildlife species, (3) cause a fish or wildlife population to drop below self-sustaining levels, (4) threaten to eliminate a plant or animal community, (5) reduce the number or restrict the range of a rare or endangered plant or animal, or (6) eliminate important examples of a major period of California history or prehistory.

The evaluation of whether an impact to a particular biological resource is significant must consider both the resource itself and the role of that resource in a regional context. Substantial impacts are those that contribute to or result in permanent loss of an important resource, such as a population of a rare plant or animal. Impacts may be important locally because they result in an adverse alteration of existing site conditions, but considered not significant because they do not contribute substantially to the permanent loss of that resource regionally. The severity of an impact is the primary determinant of whether that impact can be mitigated to a level below significant.

The following significance determinations were made based on the impacts from the proposed project.

6.2 Vegetation Communities

Direct impacts to approximately 9.75 acres of native scrub oak chaparral, southern mixed chaparral, and chamise chaparral would be considered significant and mitigation would be required.

The project conforms with the MHPA Land Use Adjacency Guidelines; thus indirect impacts to sensitive vegetation communities are expected to be less than significant.

6.3 Special-Status Plants

Direct impacts to summer holly (CRPR 1B.2) and Nuttall's scrub oak (CRPR 1B.1) are considered significant. Direct impacts to western dichondra (CRPR 4.2) and ashy spike-moss (CRPR 4.1) are less than significant.

As stated previously, the project conforms with the MHPA Land Use Adjacency Guidelines; thus, no indirect impacts to special-status plants are expected.

6.4 Special-Status Wildlife

In determining significance, the significance threshold applied to wildlife is whether the project would have a substantial adverse effect on the special-status species.

Direct Impacts

Direct impacts to special-status wildlife species (coast patch-nosed snake, orange-throated whiptail, Coronado skink, Blainville's horned lizard, red diamond rattlesnake, San Diego desert woodrat, Dulzura pocket mouse, and northwestern San Diego pocket mouse) would be less than significant. Direct impacts to these species would be less than significant due to the relatively small amount of habitat that would be impacted, the mobile nature of the species, and the high quality habitat available in the immediate vicinity (i.e., adjacent MHPA).

Direct impacts to nesting Bell's sparrow during construction would be considered significant and require mitigation.

Bird Strikes

Direct impacts to special status birds due to bird strikes (collisions with buildings) are not anticipated to occur based on the project description. Because the proposed project will use patterned glass to deter collisions (Viracon silk screen 5065), there is vegetation proposed around each building, and the buildings are lower than most birds migrate over terrestrial locations, impacts to special-status birds would be limited.

Indirect Impacts

The project conforms with the MSCP and would implement Area Specific Management Directives and the City's LUAGs; thus, indirect impacts to special-status wildlife, including MSCP covered species, would be less than significant.

6.5 Jurisdictional Waters of the U.S./State

Impacts to non-wetland waters would be potentially significant. The resource agencies would require the proposed project to obtain necessary permits for the impacts to this ephemeral channel feature. The project would not result in direct impacts to City defined wetlands.

Indirect impacts to vernal pool watersheds would be less than significant.

6.6 Wildlife Corridors and Habitat Linkages

No direct or indirect impacts to wildlife movement or nursery sites are anticipated as a result of the proposed project.

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7 MITIGATION

The following mitigation measures will reduce significant effects to vegetation communities and sensitive species identified in Section 5, Project Impacts, of this report to a level less than significant. These mitigation measures are set forth in the Biology Guidelines (City of San Diego 2012a).

In accordance with Public Resources Code Section 21081.1 the City, as the lead Agency, will provide the project with a Mitigation Monitoring and Reporting Program (MMRP) to implement with the project to ensure any mitigation measures needed for the project are enforced. The City has standard MMRP mitigation measures that include, but are not limited to, the following: pre-construction meetings, contractor environmental awareness training, pre-construction biological surveys, avian protection, biological resource demarcation, biological construction monitoring, implementation of the MHPA LUAGs, and project reporting.

7.1 Vegetation Communities

Mitigation for impacts to scrub oak and chamise will be accomplished by on-site preservation and off-site purchase of Tier I and Tier IIIA habitat (see Table 4).

Table 4 summarizes the project impacts to vegetation communities shown on Figure 4 and the required mitigation per the City's Biology Guidelines (City of San Diego 2012a).

Table 4
Mitigation Requirement for Impacts to Vegetation Communities

Vegetation Community	Subarea Plan Tier	Total On Site Acreage	Not a Part[1]	Project Impact Acreage	Mitigation Ratio[2]	Covenant of Easement (on site)[3]	Off-site Mitigation Acreage Required
Scrub Oak Chaparral	Tier I	0.63	0.16	0.47	1:1[2]	—	0.47
Southern Mixed Chaparral	Tier IIIA	2.38	0.41	1.97	0.5:1[2]	—	0.98
Chamise Chaparral	Tier IIIA	8.09	0.35	7.31	0.5:1[2]	—	3.44
					1:1[3]	0.43	—
	Total	**11.10**	**0.92**	**9.75**	**—**	**0.43**	**4.89[4]**

Notes:

1 Total On Site Acreage includes 0.92 acres that are considered Not a Part (NAP), including 0.16 acres of scrub oak chaparral, 0.41 acres of southern mixed chaparral, and 0.35 acres of chamise chaparral. The NAP is associated with the extension of Camino del Sur associated with the proposed Merge 56 project located along the eastern edge of the site that would not be impacted by the proposed Preserve at Torrey Highlands Project.

2 Mitigation ratios are from Table 3 of the City Biology Guidelines. Off-site mitigation for impacts will occur inside the MHPA.

3 Mitigation for impacts to 0.43 acre will be provided at a 1:1 ratio outside the MHPA within the 0.43-acre COE (Figure 4).

4 Of the total 4.89 acres of off-site mitigation required, 0.47 acres are for Tier I habitat and 4.42 acres are for Tier III habitat.

The on-site covenant of easement (COE) provides protection for the off-site vernal pool features and the watershed, and also provides mitigation at a 1:1 ratio for 0.43 acres of impacts to chamise chaparral (Figure 4). There are some naturally bare areas within the COE where the native Torrey sandstone soil conditions preclude development of chamise.

Prior to a Notice to Proceed or the first grading permit, owner/permittee shall mitigate upland impacts in accordance with the City of San Diego Biology Guidelines. The owner/permittee shall convey a Covenant of Easement (COE), to be recorded against the title. The on-site preservation within the COE shall preserve 0.43 acres of chamise chaparral (Tier IIIA) at a 1:1 ratio. This COE also provides protection for the off-site vernal pool features and the watershed.

Mitigation for impacts to 0.47 acres of Tier I scrub oak chaparral shall be provided at a 1:1 ratio through the off-site conservation of 0.47 acre of Tier I habitat at the Deer Canyon Mitigation Bank. Mitigation for impacts to 8.85 acres of Tier III habitat, including 1.97 acres of southern mixed chaparral and 6.88 acres of chamise chaparral (6.88 acres is the result of 7.31 acres of impact minus 0.43 acres mitigated on site) shall be accomplished at a 0.5:1 ratio through the conservation of 4.42 acres also within the Deer Canyon Mitigation Bank. While the Deer Canyon Mitigation Bank credits include only 4.39 acres of Tier III habitat credits, the excess 0.03 acres of Tier I habitat credits (0.5 acres available minus 0.47 acres used for mitigation for impacts to scrub oak chaparral) shall be applied to the less sensitive Tier III impacts to satisfy those mitigation requirements.

Mitigation measures to provide protection of biological resources during construction are outlined as follows:

I. Prior to Construction

A. Biologist Verification: The owner/permittee shall provide a letter to the City's Mitigation Monitoring Coordination (MMC) section stating that a Project Biologist (Qualified Biologist) as defined in the City of San Diego's Biology Guidelines (2012), has been retained to implement the project's biological monitoring program. The letter shall include the names and contact information of all persons involved in the biological monitoring of the project.

B. Preconstruction Meeting: The Qualified Biologist shall attend the preconstruction meeting, discuss the project's biological monitoring program, and arrange to perform any follow up mitigation measures and reporting including site-specific monitoring, restoration or revegetation, and additional fauna/flora surveys/salvage.

C. Biological Documents: The Qualified Biologist shall submit all required documentation to MMC verifying that any special mitigation reports including but not limited to, maps, plans, surveys, survey timelines, or buffers are completed or

scheduled per City Biology Guidelines, Multiple Species Conservation Program (MSCP), Environmentally Sensitive Lands Ordinance (ESL), project permit conditions; California Environmental Quality Act (CEQA); endangered species acts (ESAs); and/or other local, state or federal requirements.

D. BCME: The Qualified Biologist shall present a Biological Construction Mitigation/Monitoring Exhibit (BCME) which includes the biological documents in C above. In addition, include: avian or other wildlife surveys/survey schedules (including nesting surveys for Bell's sparrow), timing of surveys, wetland buffers, avian construction avoidance areas/noise buffers/ barriers, other impact avoidance areas, and any subsequent requirements determined by the Qualified Biologist and the City ADD/MMC. The BCME shall include a site plan, written and graphic depiction of the project's biological mitigation/monitoring program, and a schedule. The BCME shall be approved by MMC and referenced in the construction documents.

E. Avian Protection Requirements: To avoid any direct impacts to Bell's sparrow, removal of habitat that supports active nests in the proposed area of disturbance should occur outside of the breeding season for these species (February 1 to September 15). If removal of habitat in the proposed area of disturbance must occur during the breeding season, the Qualified Biologist shall conduct a pre-construction survey to determine the presence or absence of nesting Bell's sparrow on the proposed area of disturbance. The pre-construction survey shall be conducted within 10 calendar days prior to the start of construction activities (including removal of vegetation). The owner shall submit the results of the pre-construction survey to City DSD for review and approval prior to initiating any construction activities. If nesting Bell's sparrow are detected, a letter report or mitigation plan in conformance with the City's Biology Guidelines and applicable State and Federal Law (i.e., appropriate follow up surveys, monitoring schedules, construction and noise barriers/buffers, etc.) shall be prepared and include proposed measures to be implemented to ensure that take of birds or eggs or disturbance of breeding activities is avoided. The report or mitigation plan shall be submitted to the City for review and approval and implemented to the satisfaction of the City. The City's MMC Section and Biologist shall verify and approve that all measures identified in the report or mitigation plan are in place prior to and/or during construction.

F. Resource Delineation: Prior to construction activities, the Qualified Biologist shall supervise the placement of orange construction fencing or equivalent along the limits of disturbance adjacent to sensitive biological habitats and verify compliance with any other project conditions as shown on the BCME. This phase shall include flagging plant specimens and delimiting buffers to protect sensitive biological resources (e.g., habitats/flora & fauna species, including nesting Bell's sparrow) during construction.

Appropriate steps/care should be taken to minimize attraction of nest predators to the site.

G. Education: Prior to commencement of construction activities, the Qualified Biologist shall meet with the owner/permittee or designee and the construction crew and conduct an on-site educational session regarding the need to avoid impacts outside of the approved construction area and to protect sensitive flora and fauna (e.g., explain the avian and wetland buffers, flag system for removal of invasive species or retention of sensitive plants, and clarify acceptable access routes/methods and staging areas, etc.).

II. During Construction

A. Monitoring: All construction (including access/staging areas) shall be restricted to areas previously identified, proposed for development/staging, or previously disturbed as shown on "Exhibit A" and/or the BCME. The Qualified Biologist shall monitor construction activities as needed to ensure that construction activities do not encroach into biologically sensitive areas, or cause other similar damage, and that the work plan has been amended to accommodate any sensitive species located during the pre-construction surveys. In addition, the Qualified Biologist shall document field activity via the Consultant Site Visit Record (CSVR). The CSVR shall be e-mailed to MMC on the 1st day of monitoring, the 1st week of each month, the last day of monitoring, and immediately in the case of any undocumented condition or discovery.

B. Subsequent Resource Identification: The Qualified Biologist shall note/act to prevent any new disturbances to habitat, flora, and/or fauna onsite (e.g., flag plant specimens for avoidance during access, etc.). If active nests or other previously unknown sensitive resources are detected, all project activities that directly impact the resource shall be delayed until species specific local, state or federal regulations have been determined and applied by the Qualified Biologist.

III. Post Construction Measures

A. In the event that impacts exceed previously allowed amounts, additional impacts shall be mitigated in accordance with City Biology Guidelines, ESL and MSCP, State CEQA, and other applicable local, state and federal law. The Qualified Biologist shall submit a final BCME/report to the satisfaction of the City ADD.

7.2 Special-Status Plants

Mitigation for significant impacts to special-status plants on site (i.e., summer holly and Nuttall's scrub oak) will be achieved through habitat-based mitigation as described above in Section 7.1,

Vegetation Communities. The Deer Canyon Mitigation Bank contains these special-status plant species and includes coastal sage scrub, southern maritime chaparral, and other chaparral types.

7.3 Special-Status Wildlife

See Item E, Avian Protection Requirements, in Section 7.1, Vegetation Communities.

7.4 Jurisdictional Waters of the U.S./State

Prior to a Notice to Proceed or the first grading permit, the owner/permittee shall provide evidence of required permits: a 404 permit from U.S. Army Corps of Engineers, 401 certification from Regional Water Quality Control Board, and a 1602 streambed alteration agreement from the California Department of Fish and Wildlife. Evidence shall include copies of permit(s) issued, letter of resolution(s) by the responsible agency documenting compliance, or other evidence documenting compliance deemed acceptable by the Environmental Designee of the City of San Diego's Development Services Department.

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8 ACKNOWLEDGMENTS

This report was prepared by Dudek biologists Anita Hayworth, PhD., Andy Thomson, Marshall Paymard, and Thomas Liddicoat. Graphics were provided by Curtis Battle and Lesley Terry; Devin Brookhart and Amy Steele provided formatting.

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9 LITERATURE CITED

ACOE (U.S. Army Corps of Engineers). 1987. U.S. Army Corps of Engineers Wetland Delineation Manual (TR Y-87-1) and the Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region. Vicksburg, Mississippi.

ACOE. 2008. Regional Supplement to the Corps of Engineers Wetland Delineation manual: Arid West Region (Version 2.0). TR-08-28. 135 pp.

AOU. 2015. Check-List of North American Birds: List of the 2,078 Bird Species Known From the AOU Check-list Area. Accessed from http://www.aou.org/checklist/north/full.php.

American Bird Conservancy, The Plains, Virginia.U.S. Climate Data. 2017. San Diego Climate and Weather Averages. Accessed May 17, 2017. http://www.usclimatedata.com/climate/san-diego/california/united-states/usca0982/2016/1

Bowman, R.H. 1973. Soil Survey, San Diego Area, California, Part 1. United States Department of Agriculture.

California Department of Fish and Wildlife (CDFW). 2015. RareFind, Version 5.0. California Natural Diversity Database (CNDDB). Accessed October2015. http://www.dfg.ca.gov/ biogeodata/cnddb/rarefind.asp.

CDFG (California Department of Fish and Game). 2000. Guidelines for Assessing the Effects of Proposed Projects on Rare, Threatened, and Endangered Plants and Natural Communities. Revision of the 1983 guidelines. Sacramento, California.

CDFW. 2015b. “State and Federally Listed Endangered and Threatened Animals of California.” California Natural Diversity Database. CDFW, Biogeographic Data Branch. October 2015. http://www.dfg.ca.gov/biogeodata/cnddb/plants_and_animals.asp.

CDFW. 2015c. “State and Federally Listed Endangered, Threatened, and Rare Plants of California.” California Natural Diversity Database. CDFW, Biogeographic Data Branch. October 2015. http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/TEPlants.pdf.

CDFW. 2015d. California Natural Diversity Database. 2015. Special Vascular Plants, Bryophytes, and Lichens List. California Natural Diversity Database. October 2015. http://www.dfg.ca.gov/biogeodata/cnddb/plants_and_animals.asp.

CDFW. California Natural Diversity Data Base. 2015a. "Special Animals List." California Natural Diversity Database. CDFW, Biogeographic Data Branch. January 2015. http://www.dfg.ca.gov/biogeodata/cnddb/plants_and_animals.asp.

City of San Diego (San Diego). Multiple Species Conservation Program (MSCP) Subarea Plan. August 1997.

City of San Diego. 1996. Final Environmental Impact Report for the Torrey Highlands Subarea IV. DEP No 93-0152. SCH No 93071041. June.

City of San Diego. 2012a. San Diego Municipal Code – Land Development Manual/Land Development Code – Biology Guidelines. (revised 2012).

City of San Diego. 2012b. Storm Water Standards Manual. January.

CNPS (California Native Plant Society). 2001. Botanical Survey Guidelines. California Native Plant Society's Inventory of Rare and Endangered Vascular Plants of California, ed. D.P. Tibor. Sixth edition. Special Publication No. 1. Sacramento, California.

CNPS. 2015. Inventory of Rare and Endangered Plants. Online ed. Version 8-01a. Sacramento, California: CNPS. Accessed October 2015. http://cnps.site.aplus.net/cgi-bin/inv/ inventory.cgi.

Crother, B.I. 2012. Scientific and Standard English Names of Amphibians and Reptiles of North America North of Mexico, with Comments Regarding Confidence in our Understanding, edited by J.J. Moriarty. 7th ed. Society for the Study of Amphibians and Reptiles (SSAR); Herpetological Circular, no. 39. August 2012. http://home.gwu.edu/

Cooper, B.A., and R.J. Ritchie. 1995. "The Altitude of Bird Migration in East-Central Alaska: A Radar and Visual Study." *Journal of Field Ornithology* 66(4): 590–607.

Dudek. 2003. Biological Resources Technical Report for the Our Lady of Mount Carmel Catholic Church. Prepared for the Catholic Diocese of San Diego. August.

Gelb, Y., and N. Delacretaz. 2006. *The Role of Windows and Vegetation in Manhattan Bird Collisions*. New York, New York: New York City Audubon. http://www.nycaudubon.org/home/.

Google Maps. 2015. Accessed July 2015.

Hogan, C. David, et.al. *Southern Maritime Chaparral*. Fremontia Volume 24, No. 4 (1996). 1-7.

Holland, R. F. 1986. *Preliminary Descriptions of the Terrestrial Natural Communities of California*. Nongame-Heritage Program, California Department of Fish and Game. October 1986.

Jepson Flora Project. 2015. Jepson eFlora. Berkeley, California: University of California. Accessed October 2015. http://ucjeps.berkeley.edu/cgi-bin/get_JM_name_data.pl.

Klem, D. Jr. 1989. "Bird–Window Collisions." *Wilson Bulletin* 101(4): 606–620.

Klem, D. Jr. 1990. "Collisions between Birds and Windows: Mortality and Prevention." *Journal of Field Ornithology* 61:120–128.

Klem, D. Jr. 2004. "Glass: An Unintended but Catastrophic Hazard for Birds." *Animal Welfare Institute Quarterly*. Fall.

Loss, S. R., T. Will, S. S. Loss, and P. P. Marra. 2014. Bird-building collisions in the United States: Estimates of annual mortality and species vulnerability. Accessed at: http://www.audubon.org/sites/default/files/documents/loss_et_al_bird-building_collisons_condor_2014.pdf. The Condor: Ornithological Applications 116: 8-23. Natural Resources Conservation Service,

O'Connell, T.J. 2001. "Avian Window Strike Mortality at a Suburban Office Park." *Raven* 72:141–149.

Oberbauer, T., M. Kelly, and J. Buegge. 2008. Draft Vegetation Communities of San Diego County. March 2008. Accessed September 12, 2012. http://www.sdcanyonlands.org/

Sheppard, C., and G. Phillips. 2015. Bird-friendly building Design, 2nd Ed., Accessed at: https://abcbirds.org/wp-content/uploads/2015/05/Bird-friendly-Building-Guide_2015.pdf.

United States Department of Agriculture. Web Soil Survey. 2015. Available online at http://websoilsurvey.nrcs.usda.gov/. Accessed July 2015.

USDA (U.S. Department of Agriculture). 2015. "California." State PLANTS Checklist. Accessed October 2015. http://plants.usda.gov/dl_state.html.

USFWS (U.S. Fish and Wildlife Service). 1996. Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed, and Candidate Plants. Sacramento, California: U.S. Fish and Wildlife Service.

USFWS. 1997. Coastal California Gnatcatcher (*Polioptila californica californica*) Presence/Absence Survey Guidelines. July.

USFWS. 2015. "Critical Habitat and Occurrence Data" [map]. Accessed October 2015. http://www.fws.gov/data.

Wilson, D.E., and D.M. Reeder, eds. 2005. Mammal Species of the World: A Taxonomic and Geographic Reference. 3rd ed. Baltimore, Maryland: Johns Hopkins University Press.

APPENDIX A

Cumulative List of Plant Species Detected On Site

APPENDIX A
Cumulative List of Plant Species Detected On Site

Vascular Species	Habitat Type
Ferns and Fern Allies	
Selaginellaceae—Spike-Moss Family	
Selaginella cinerascens—ashy spike-moss	Chamise Chaparral
Monocots	
Poaceae—Grass Family	
* *Avena barbata*—slender oat	Scrub Oak Chaparral, Chamise Chaparral, Southern Mixed Chaparral
Stipa lepida—foothill needlegrass	Scrub Oak Chaparral, Chamise Chaparral, Southern Mixed Chaparral
* *Brachypodium distachyon*—purple false brome	Scrub Oak Chaparral, Chamise Chaparral, Southern Mixed Chaparral
* *Bromus diandrus*—ripgut brome	Scrub Oak Chaparral, Chamise Chaparral, Southern Mixed Chaparral
* *Bromus hordeaceus*—soft brome	Scrub Oak Chaparral, Chamise Chaparral, Southern Mixed Chaparral
* *Bromus madritensis*—compact brome	Scrub Oak Chaparral, Chamise Chaparral, Southern Mixed Chaparral
* *Bromus madritensis* ssp. *rubens*—red brome	Scrub Oak Chaparral, Chamise Chaparral, Southern Mixed Chaparral
* *Festuca myuros*—rat-tail fescue	Scrub Oak Chaparral, Chamise Chaparral, Southern Mixed Chaparral
* *Gastridium phleoides*—nit grass	Scrub Oak Chaparral, Chamise Chaparral, Southern Mixed Chaparral
* *Schismus barbatus*—common Mediterranean grass	Scrub Oak Chaparral, Chamise Chaparral, Southern Mixed Chaparral
Eudicots	
Anacardiaceae—Sumac Or Cashew Family	
Malosma laurina—laurel sumac	Southern Mixed Chaparral, Chamise Chaparral
Rhus integrifolia—lemonade sumac	Southern Mixed Chaparral
Asteraceae—Sunflower Family	
Acourtia microcephala—sacapellote	Southern Mixed Chaparral
Artemisia californica—coastal sagebrush	Southern Mixed Chaparral
Baccharis pilularis—coyotebrush	Southern Mixed Chaparral
Deinandra fasciculata—clustered tarweed	Southern Mixed Chaparral
Hazardia squarrosa—sawtooth goldenbush	Southern Mixed Chaparral
Logfia filaginoides—California cottonrose	Southern Mixed Chaparral
Stephanomeria exigua—small wirelettuce	Southern Mixed Chaparral
* *Ageratina adenophora*—sticky snakeroot	Southern Mixed Chaparral
* *Centaurea melitensis*—Maltese star-thistle	Southern Mixed Chaparral
* *Hypochaeris glabra*—smooth cat's ear	Southern Mixed Chaparral
* *Logfia gallica*—narrowleaf cottonrose	Southern Mixed Chaparral
Boraginaceae—Borage Family	
Emmenanthe penduliflora—whisperingbells	Southern Mixed Chaparral
Brassicaceae—Mustard Family	
* *Brassica nigra*—black mustard	Southern Mixed Chaparral
Cactaceae—Cactus Family	
Opuntia littoralis—coastal pricklypear	Southern Mixed Chaparral
Caprifoliaceae—Honeysuckle Family	
Lonicera subspicata—southern honeysuckle	Southern Mixed Chaparral, Scrub Oak Chaparral
Cistaceae—Rock-Rose Family	
Crocanthemum scoparium—no common name	Southern Mixed Chaparral

Vascular Species	Habitat Type
Convolvulaceae—Morning-Glory Family	
Dichondra occidentalis—western dichondra	Scrub Oak Chaparral
Crassulaceae—Stonecrop Family	
Crassula connata—sand pygmyweed	Southern Mixed Chaparral
Cucurbitaceae—Gourd Family	
Marah macrocarpa—Cucamonga manroot	Southern Mixed Chaparral
Ericaceae—Heath Family	
Comarostaphylis diversifolia—summer holly	Southern Mixed Chaparral, Scrub Oak Chaparral
Xylococcus bicolor—mission manzanita	Chamise Chaparral, Southern Mixed Chaparral
Fabaceae—Legume Family	
Acmispon glaber—common deerweed	Southern Mixed Chaparral, Chamise Chaparral
Fagaceae—Oak Family	
Quercus dumosa—Nuttall's scrub oak	Scrub Oak Chaparral, Chamise Chaparral, Southern Mixed Chaparral
Grossulariaceae—Gooseberry Family	
Ribes californicum—hillside gooseberry	Southern Mixed Chaparral
Lamiaceae—Mint Family	
Salvia mellifera—black sage	Southern Mixed Chaparral, Chamise Chaparral
Phrymaceae—Lopseed Family	
Mimulus aurantiacus—orange bush monkeyflower	Southern Mixed Chaparral
Plantaginaceae—Plantain Family	
Nuttallanthus texanus—Texas toadflax	Southern Mixed Chaparral
Polygonaceae—Buckwheat Family	
Eriogonum fasciculatum—Eastern Mojave buckwheat	Southern Mixed Chaparral, Chamise Chaparral
Rhamnaceae—Buckthorn Family	
Rhamnus crocea—redberry buckthorn	Southern Mixed Chaparral, Scrub Oak Chaparral
Adolphia californica—California adolphia	Southern Mixed Chaparral
Rosaceae—Rose Family	
Adenostoma fasciculatum—chamise	Chamise Chaparral, Southern Mixed Chaparral
Rubiaceae—Madder Family	
Galium angustifolium—narrowleaf bedstraw	Scrub Oak Chaparral
Rutaceae—Rue Family	
Cneoridium dumosum—bush rue	Southern Mixed Chaparral

Note: * signifies introduced (non-native) species

APPENDIX B

Cumulative List of Wildlife Species Detected On Site

APPENDIX B
Cumulative List of Wildlife Species Detected On Site

BIRD

ACCIPITRIDAE—HAWKS, KITES, EAGLES, AND ALLIES

Buteo jamaicensis—red-tailed hawk

AEGITHALIDAE—LONG-TAILED TITS AND BUSHTITS

Psaltriparus minimus—bushtit

APODIDAE—SWIFTS

Aeronautes saxatalis—white-throated swift

CAPRIMULGIDAE—GOATSUCKERS

Chordeiles acutipennis—lesser nighthawk

COLUMBIDAE—PIGEONS AND DOVES

Zenaida macroura—mourning dove

CORVIDAE—CROWS AND JAYS

Aphelocoma californica—western scrub-jay
Corvus brachyrhynchos—American crow
Corvus corax—common raven

CUCULIDAE—CUCKOOS, ROADRUNNERS, AND ANIS

Geococcyx californianus—greater roadrunner

EMBERIZIDAE—EMBERIZIDS

Melospiza melodia—song sparrow
Melozone crissalis—California towhee
Pipilo maculatus—spotted towhee

FRINGILLIDAE—FRINGILLINE AND CARDUELINE FINCHES AND ALLIES

Spinus psaltria—lesser goldfinch
Haemorhous mexicanus—house finch

HIRUNDINIDAE—SWALLOWS

Petrochelidon pyrrhonota—cliff swallow
Stelgidopteryx serripennis—northern rough-winged swallow

MIMIDAE—MOCKINGBIRDS AND THRASHERS

Toxostoma redivivum—California thrasher

ODONTOPHORIDAE—NEW WORLD QUAIL

Callipepla californica—California quail

PICIDAE—WOODPECKERS AND ALLIES

Picoides nuttallii—Nuttall's woodpecker

Colaptes auratus—northern flicker

SYLVIIDAE—SYLVIID WARBLERS

Polioptila caerulea—blue-gray gnatcatcher

Polioptila californica californica—coastal California gnatcatcher

TIMALIIDAE—BABBLERS

Chamaea fasciata—wrentit

TROCHILIDAE—HUMMINGBIRDS

Calypte anna—Anna's hummingbird

Selasphorus sasin—Allen's hummingbird

TROGLODYTIDAE—WRENS

Thryomanes bewickii—Bewick's wren

MAMMAL

CANIDAE—WOLVES AND FOXES

Canis latrans—coyote

CERVIDAE—DEERS

Odocoileus hemionus—mule deer

LEPORIDAE—HARES AND RABBITS

Sylvilagus bachmani—brush rabbit

MURIDAE—RATS AND MICE

Neotoma sp.—woodrat species

SCIURIDAE—SQUIRRELS

Spermophilus (Otospermophilus) beecheyi—California ground squirrel

APPENDIX C

California Gnatcatcher Survey Report

DUDEK

MAIN OFFICE
605 THIRD STREET
ENCINITAS, CALIFORNIA 92024
T 760.942.5147 T 800.450.1818 F 760.632.0164

August 28, 2015 9063

U.S. Fish and Wildlife Service
Attention: Recovery Permit Coordinator
2177 Salk Avenue, Suite 250
Carlsbad, California 92008

Subject: California Gnatcatcher Survey Report for the Torrey Highlands Office Project, San Diego, California

Dear Recovery Permit Coordinator:

This report documents the results of a protocol-level presence/absence survey for coastal California gnatcatcher (*Polioptila californica californica*). The focused survey was conducted throughout all areas of potential suitable habitat on site (i.e., southern mixed chaparral and chamise chaparral) for the Torrey Highlands Office Project (proposed project) (Figures 1 and 2). The proposed project consists of developing the approximately 11-acre site by constructing professional office buildings, parking spaces, and infrastructure connections. According to the survey protocol, a complete focused survey for this site (i.e., NCCP enrolled area) requires a minimum of three survey visits each no less than seven days apart.

California gnatcatcher is federally listed as threatened and is a California Department of Fish and Wildlife Species of Special Concern. It is closely associated with coastal sage scrub habitat, and typically occurs at lower than 950 feet elevation and on slopes less than 40% (Atwood 1990), but has been observed at elevations greater than 2,000 feet. The species is threatened primarily by loss, degradation, and fragmentation of coastal sage scrub habitat, and is also impacted by brown-headed cowbird (*Molothrus ater*) nest parasitism.

LOCATION AND EXISTING CONDITIONS

The proposed project site is located on undeveloped land located south of the Camino Del Sur terminus, within the community of Torrey Highlands in the City of San Diego (City), California (Figure 1). The site is located approximately 0.4 mile south of California Highway 56 (CA-56), approximately 0.4-miles north of Eclipse Road, and approximately 5 miles east of California Highway 5 (CA-5). The approximate centroid of the site is 32°57’13.34”North, 117°09’13.99”West and lies within the U.S. Geological Survey (USGS) 7.5-minute map, Del Mar Quadrangle: Township 14 South, Range 3 West, Section 13 (Figure 2).

The proposed project site is entirely bounded by undeveloped open-space lands; however, a few existing dirt trails traverse the site. The project survey area was determined by subject property boundary (approximately 11 acres), and a surrounding 150-foot buffer. thus, the survey area discussed herein totals approximately 22 acres.

The project site has diverse topography with level to gently sloping terrain in the southern and western portions of the site and two steep canyons with north-trending drainages in the central and northeastern portions of the site. Elevations of the site range from approximately 325 feet above mean sea level (AMSL) in the drainages in the north and northeastern portions of the site to approximately 410 feet AMSL in the southwest corner of the site. The entire project site is undeveloped and surrounded by undeveloped land.

Vegetation Communities

Vegetation types that potentially support gnatcatchers within the focused survey area included chamise chaparral and southern mixed chaparral. All portions of potentially suitable habitat within the project survey area (i.e., 11 acres on site and surrounding 150-foot buffer, totaling approximately 22-acres) were surveyed for California gnatcatchers and those habitats are described below.

Chamise Chaparral

According to Holland (1986), chamise chaparral is a drought- and fire-adapted vegetation community of 1-3 meter tall woody shrubs that are dominated by mature stands of chamise (*Adenostoma fasiculatum*), with very little understory. Additionally, this community typically supports other chaparral species such as: manzanita (*Arctostaphylos* spp.), ceanothus (*Ceanothus* spp.), yucca (*Yucca* spp.), sages (*Salvia* spp.), and laurel sumac (*Malosma laurina*).

Within the survey area, this vegetation community is undisturbed and nearly a monotypic stand of chamise with a few other scattered species present including sage, lemonade berry, and bush monkey flower (*Mimulus aurantiacus*).

Southern Mixed Chaparral

Southern mixed chaparral is a drought- and fire-adapted community of woody shrubs 1.5 to 3 meters tall, frequently forming dense, impenetrable stands. It is found on mesic north-facing slopes and in canyons, and is characterized by crown- or stump-sprouting species that regenerate following burns or other ecological catastrophes. This vegetation community typically contains a mixture of chamise, mission manzanita (*Xylococcus bicolor*), ceanothus, scrub oak (*Quercus dumosa and Q. berberidifolia*), laurel sumac, and sage species.

The southern mixed chaparral in the survey area contains a fairly even mixture of the species listed above. Additionally, the survey area also supported redberry (*Rhamnus crocea*), deerweed (*Lotus scoparius*), toyon (*Heteromeles arbutifolia*), and summer-holly (*Comarostaphylis diversifolia*).

METHODS

The City is part of regional conservation efforts (Multiple Species Conservation Program; MSCP 1997); thus, in accordance with U.S. Fish and Wildlife Service (USFWS) (USFWS 1997) survey protocol, three surveys were conducted. All suitable habitat was surveyed by Dudek wildlife biologist Thomas Liddicoat (Permit No. TE139634). No more than 100 acres of suitable habitat was surveyed during each visit. Weather conditions, time of day, and season were appropriate for the detection of gnatcatchers. Details and conditions for each survey visit are summarized in Table 1.

Table 1
Survey Details and Conditions

Date	Biologist	Time	Survey Conditions
07/15/15	T. Liddicoat	0744-1030	66-73 Degrees Fahrenheit (F); 0% cloud cover (cc), sunny; 1-5 miles per hour (mph) wind
07/22/15	T. Liddicoat	0910-1115	74-78°F; 100%-50%cc, sunny; 0-3 mph winds
07/29/15	T. Liddicoat	0808-1030	70-75°F; 100%-0%cc, overcast-sunny, 0–3 mph winds

The entire project area was covered on-foot during each survey visit to provide for 100% visual and audible coverage of the site; routes of the survey are illustrated on Figure 3. Survey visits were conducted at one-week intervals (i.e., 7-day) and were performed in conformance with the currently accepted protocol of the USFWS *Coastal California Gnatcatcher* (*Polioptila californica californica*) *Presence/Absence Survey Protocol* (USFWS 1997).

A topographic map of the study area (scale 1 inch = 100 feet) overlain with vegetation polygons was used for the survey. Binoculars (8.5x42 magnifications) were used to aid in detecting and identifying bird species. Taped gnatcatcher vocalizations were played approximately every 100 to 150 feet within suitable habitat to induce responses from potentially present gnatcatchers. Tape-playback was terminated immediately upon detection of any gnatcatchers to minimize the potential for harassment.

RESULTS

Overall, the suitable gnatcatcher habitat within the site is undisturbed and seems likely to support gnatcatchers. Although the habitat may support gnatcatchers, the site does not contain any

mapped coastal sage scrub vegetation, which is the typical nesting habitat for California gnatcatchers. Throughout the survey, California gnatcatcher was detected both on site and off site in the surrounding survey buffer (Figure 3).

A single, non-capped, California gnatcatcher was detected during the first survey in the southwest corner of the site. The individual was observed for approximately 10 minutes, calling, and moving vigorously through the habitat; no nesting or active nests were observed during the survey and no other California gnatcatchers were detected in the area during the survey. During the third survey visit a single, non-capped, California gnatcatcher was detected in the northern central portion of the site, foraging through the habitat; no nesting or active nests were observed during the survey and no other California gnatcatchers were detected in the area during the survey visit. During the first and second survey visits, California gnatcatchers were detected off site within the 150-foot surrounding site buffer. A family group was observed to the east of the site and a single individual was detected to the north.

A total of 23 species of wildlife were detected during the survey, which is provided in Appendix A. Please feel free to contact me at 760.479.4286 with questions or if you require additional information.

I certify that the information in this survey report and attached exhibits fully and accurately represents my work.

Sincerely,

Thomas S. Liddicoat
Biologist
Permit # TE-139634

Att: Figure 1 – Regional Map
Figure 2 – Vicinity Map
Figure 3 – California Gnatcatcher Locations and Survey Routes
Attachment A – Compendium of Wildlife Species Observed or Detected

REFERENCES

Atwood, J.L. 1990. Status Review of the California Gnatcatcher (*Polioptila californica*). Unpublished technical report, Manomet Bird Observatory, Manomet, Massachusetts. 79 pp.

City of San Diego. 1997. City of San Diego Final MSCP Subarea Plan. Prepared by the City of San Diego Community and Economic Development Department. March 1997.

Holland, R. F. 1986. Preliminary descriptions of the terrestrial natural communities of California. Nongame-Heritage Program, California Department of Fish and Game. http://www.fws.gov/data.

USFWS (U.S. Fish and Wildlife Service). 1997. Coastal California Gnatcatcher (*Polioptila californica californica*) Presence/Absence Survey Guidelines, July 28, 1997.

ATTACHMENT A

Compendium of Wildlife Species Observed or Detected

ATTACHMENT A
Compendium of Wildlife Species Observed or Detected

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ATTACHMENT A – COMPENDIUM OF WILDLIFE SPECIES OBSERVED OR DETECTED

BIRD

- **EMBERIZINES**
  - EMBERIZIDAE—EMBERIZIDS
    - Melospiza melodia—song sparrow
    - Melozone crissalis—California towhee
    - Pipilo maculatus—spotted towhee
- **FINCHES**
  - FRINGILLIDAE—FRINGILLINE & CARDUELINE FINCHES & ALLIES
    - Carpodacus mexicanus—house finch
- **HAWKS**
  - ACCIPITRIDAE—HAWKS, KITES, EAGLES, & ALLIES
    - Buteo jamaicensis—red-tailed hawk
- **HUMMINGBIRDS**
  - TROCHILIDAE—HUMMINGBIRDS
    - Calypte anna—Anna's hummingbird
- **JAYS, MAGPIES & CROWS**
  - CORVIDAE—CROWS & JAYS
    - Aphelocoma californica—western scrub-jay
    - Corvus corax—common raven
- **MOCKINGBIRDS & THRASHERS**
  - MIMIDAE—MOCKINGBIRDS & THRASHERS
    - Toxostoma redivivum—California thrasher
- **NEW WORLD QUAIL**
  - ODONTOPHORIDAE—NEW WORLD QUAIL
    - Callipepla californica—California quail
- **OLD WORLD WARBLERS & GNATCATCHERS**
  - SYLVIIDAE—SYLVIID WARBLERS
    - Polioptila caerulea—blue-gray gnatcatcher
    - Polioptila californica californica—coastal California gnatcatcher
- **PIGEONS & DOVES**
  - COLUMBIDAE—PIGEONS & DOVES
    - Zenaida macroura—mourning dove
- **ROADRUNNERS & CUCKOOS**
  - CUCULIDAE—CUCKOOS, ROADRUNNERS, & ANIS
    - Geococcyx californianus—greater roadrunner
- **SWALLOWS**
  - HIRUNDINIDAE—SWALLOWS
    - Petrochelidon pyrrhonota—cliff swallow

Stelgidopteryx serripennis—northern rough-winged swallow

SWIFTS

APODIDAE—SWIFTS

Aeronautes saxatalis—white-throated swift

WOODPECKERS

PICIDAE—WOODPECKERS & ALLIES

Picoides nuttallii—Nuttall's woodpecker

Colaptes auratus—northern flicker

WRENS

TROGLODYTIDAE—WRENS

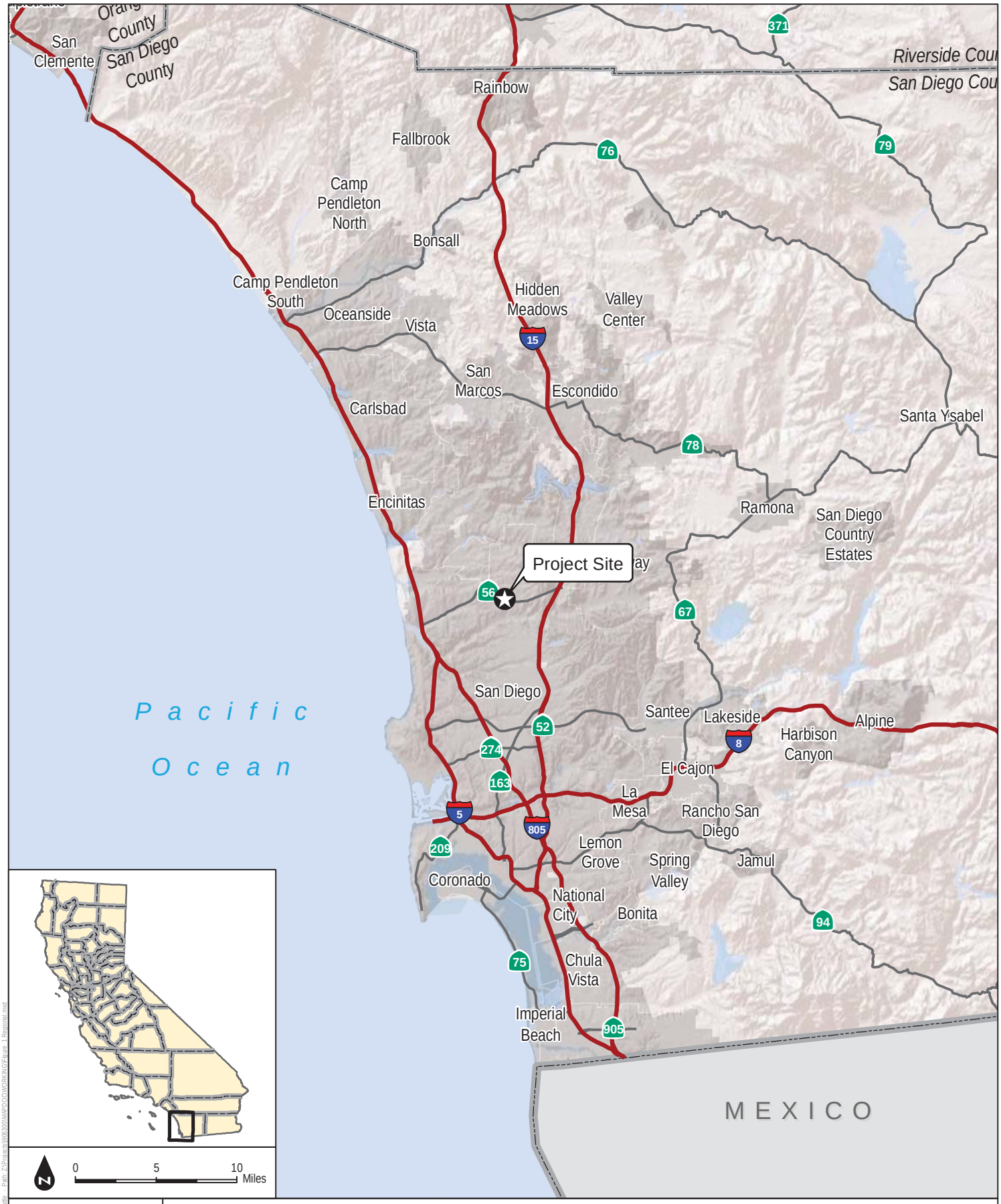
Thryomanes bewickii—Bewick's wren

WRENTITS

TIMALIIDAE—BABBLERS

Chamaea fasciata—wrentit

* identifies a non-native species



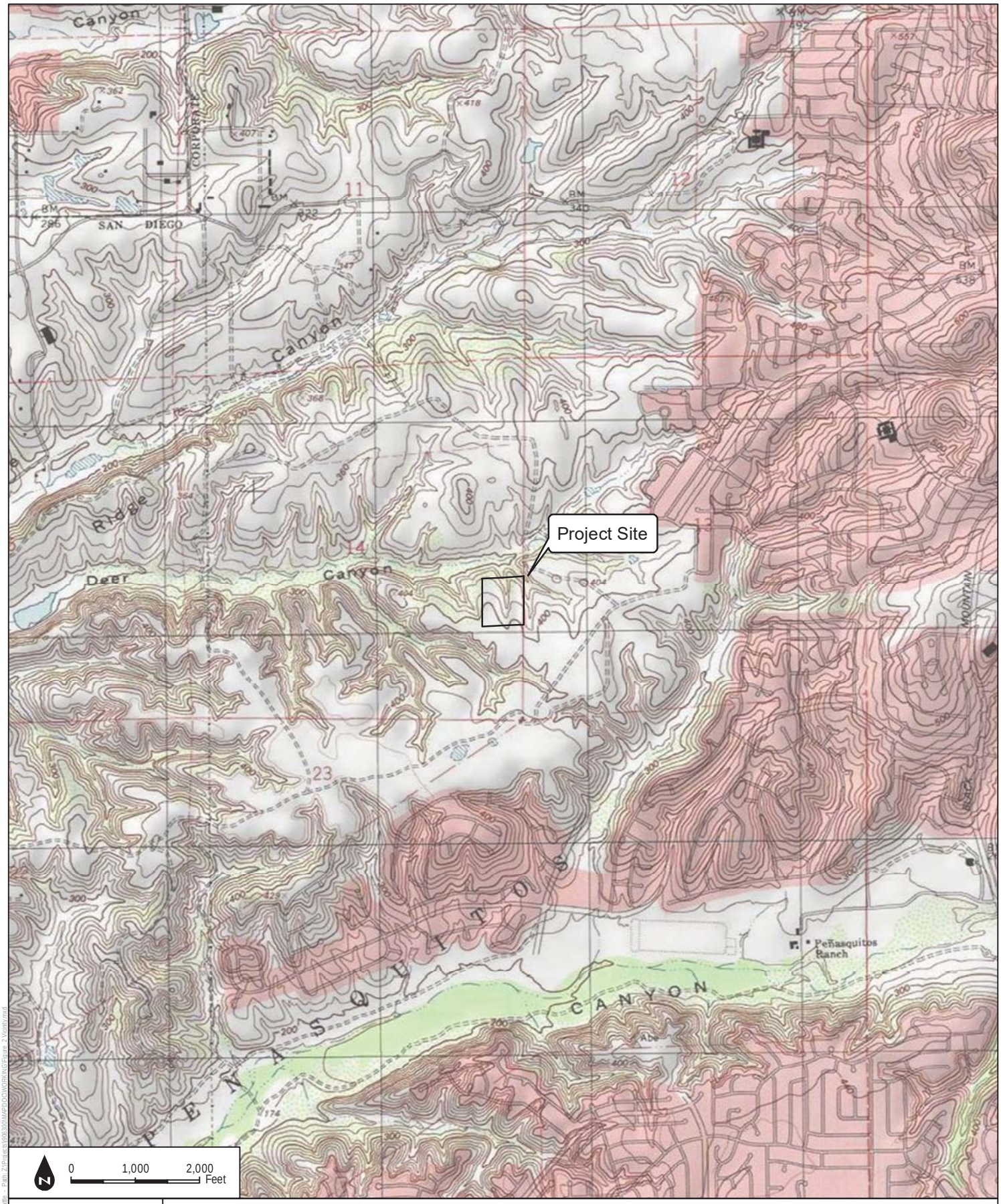
DUDEK

California Gnatcatcher Survey Report

FIGURE 1

Regional Map

Torrey Highlands Office Project



SOURCE: USGS 7.5-Minute Series Del Mar Quadrangle.

DUDEK

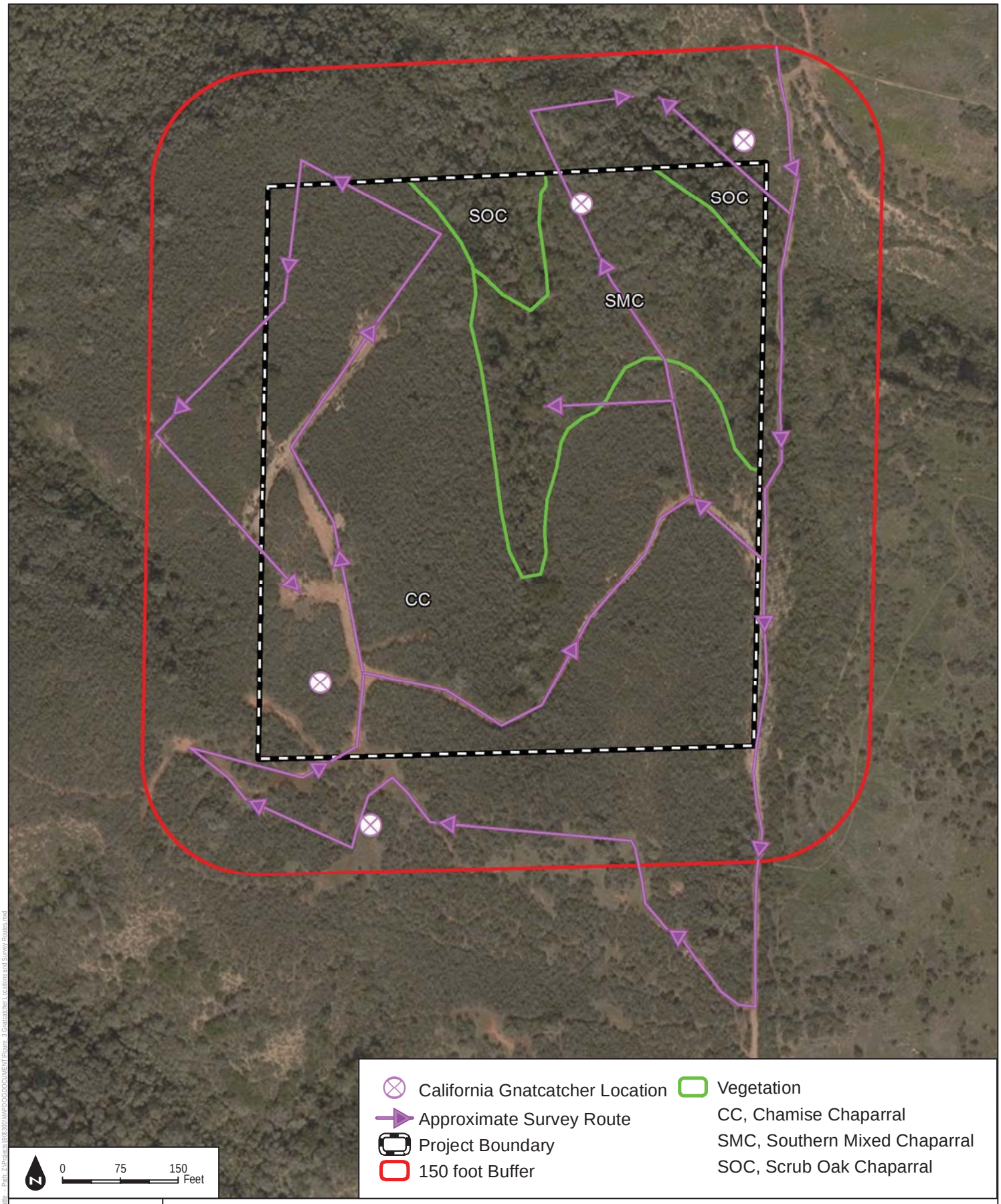
California Gnatcatcher Survey Report

FIGURE 2

Vicinity Map

Torrey Highlands Office Project

Date: 7/10/2015 - Last saved by: cbattle - Path: Z:\Projects\906300\MAPDOC\WORKING\Figure 2 Vicinity.mxd



SOURCE: Bing Maps 2015

California Gnatcatcher Survey Report

FIGURE 3

Gnatcatcher Locations and Survey Routes

DUDEK

Torrey Highlands Office Project

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APPENDIX D

Special-Status Plant Species Potential to Occur on the Project Site

APPENDIX D
Special-Status Plant Species Potential to Occur on the Project Site

Scientific Name	Common Name	Status Federal/State/ Local	CDFW Rare Plant Rank	Primary Habitat Associations/ Life Form/ Blooming Period/Elevation (feet)	Status On Site or Potential to Occur
Abronia maritima	red sand-verbena	None/ None/ None	4.2	Coastal dunes/ perennial herb/ Feb-Nov/ 0-328	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable habitat present.
Acanthomintha ilicifolia	San Diego thorn-mint	FT/ SE/ Covered NE	1B.1	Chaparral, Coastal scrub, Valley and foothill grassland, Vernal pools/Clay, openings/ annual herb/ Apr-Jun/ 33-3150	Low potential of occurrence; not observed. Habitat and soils are sub-optimal for this species.
Acmispon prostratus	Nuttall's acmispon	None/ None/ Covered	1B.1	Coastal dunes, Coastal scrub(sandy)/ annual herb/ Mar-Jun(Jul)/ 0-33	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable habitat present.
Adolphia californica	California adolphia	None/ None/ None	2B.1	Chaparral, Coastal scrub, Valley and foothill grassland/clay/ perennial deciduous shrub/ Dec-May/ 148-2428	Observed in one location within the project area.
Agave shawii var. *shawii*	Shaw's agave	None/ None/ Covered NE	2B.1	Coastal bluff scrub, Coastal scrub/ perennial leaf succulent/ Sep-May/ 33-394	Not expected to occur. There is no suitable habitat present.
Ambrosia monogyra	singlewhorl burrobrush	None/ None/ None	2B.2	Chaparral, Sonoran desert scrub/sandy/ perennial shrub/ Aug-Nov/ 33-1640	Low potential of occurrence; would have been observed. Habitat and soils are sub-optimal.
Ambrosia pumila	San Diego ambrosia	FE/ None/ Covered NE	1B.1	Chaparral, Coastal scrub, Valley and foothill grassland, Vernal pools/sandy loam or clay, often in disturbed areas, sometimes alkaline/ perennial rhizomatous herb/ Apr-Oct/ 66-1362	Low potential of occurrence; would have been observed. Habitat and soils are sub-optimal.
Aphanisma blitoides	aphanisma	None/ None/ Covered NE	1B.2	Coastal bluff scrub, Coastal dunes, Coastal scrub/sandy/ annual herb/ Mar-Jun/ 3-1001	No habitat present. Low likelihood of occurrence; would have been observed.

Scientific Name	Common Name	Status Federal/State/ Local	CDFW Rare Plant Rank	Primary Habitat Associations/ Life Form/ Blooming Period/Elevation (feet)	Status On Site or Potential to Occur
Arctostaphylos glandulosa ssp. *crassifolia*	Del Mar manzanita	FE/ None/ Covered	1B.1	Chaparral(maritime, sandy)/ perennial evergreen shrub/ Dec-Jun/ 0-1198	Low potential of occurrence; would have been observed.
Artemisia palmeri	San Diego sagewort	None/ None/ None	4.2	Chaparral, Coastal scrub, Riparian forest, Riparian scrub, Riparian woodland/sandy, mesic/ perennial deciduous shrub/ (Feb),May-Sep/ 49-3002	Low potential of occurrence; would have been observed. Habitat and soils are sub-optimal.
Asplenium vespertinum	western spleenwort	None/ None/ None	4.2	Chaparral, Cismontane woodland, Coastal scrub/rocky/ perennial rhizomatous herb/ Feb-Jun/ 591-3281	Low potential of occurrence; would have been observed. Habitat and soils are sub-optimal.
Astragalus tener var. *titi*	coastal dunes milk-vetch	FE/ SE/ Covered NE	1B.1	Coastal bluff scrub(sandy), Coastal dunes, Coastal prairie(mesic)/often vernally mesic areas/ annual herb/ Mar-May/ 3-164	Low potential of occurrence; would have been observed. Habitat and soils are sub-optimal.
Atriplex coulteri	Coulter's saltbush	None/ None/ None	1B.2	Coastal bluff scrub, Coastal dunes, Coastal scrub, Valley and foothill grassland/alkaline or clay/ perennial herb/ Mar-Oct/ 10-1509	Low potential of occurrence; would have been observed.
Atriplex pacifica	South Coast saltscale	None/ None/ None	1B.2	Coastal bluff scrub, Coastal dunes, Coastal scrub, Playas/ annual herb/ Mar-Oct/ 0-459	Low potential of occurrence; would have been observed.
Atriplex parishii	Parish's brittlescale	None/ None/ None	1B.1	Chenopod scrub, Playas, Vernal pools/alkaline/ annual herb/ Jun-Oct/ 82-6234	Low potential of occurrence; would have been observed.
Baccharis vanessae	Encinitas baccharis	FT/ SE/ Covered	1B.1	Chaparral(maritime), Cismontane woodland/sandstone/ perennial deciduous shrub/ Aug-Nov/ 197-2362	Low potential of occurrence; would have been observed. Habitat and soils are sub-optimal.

Scientific Name	Common Name	Status Federal/State/ Local	CDFW Rare Plant Rank	Primary Habitat Associations/ Life Form/ Blooming Period/Elevation (feet)	Status On Site or Potential to Occur
Bergerocactus emoryi	golden-spined cereus	None/ None/ None	2B.2	Closed-cone coniferous forest, Chaparral, Coastal scrub/sandy/ perennial stem succulent/ May-Jun/ 10-1296	Low potential of occurrence; would have been observed. Habitat and soils are sub-optimal.
Bloomeria clevelandii	San Diego goldenstar	None/ None/ Covered	1B.1	Chaparral, Coastal scrub, Valley and foothill grassland, Vernal pools/clay/ perennial bulbiferous herb/ Apr-May/ 164-1526	Low potential of occurrence. Habitat and soils are sub-optimal.
Brodiaea filifolia	thread-leaved brodiaea	FT/ SE/ Covered	1B.1	Chaparral(openings), Cismontane woodland, Coastal scrub, Playas, Valley and foothill grassland, Vernal pools/often clay/ perennial bulbiferous herb/ Mar-Jun/ 82-3675	Low potential of occurrence. Habitat and soils are sub-optimal.
Brodiaea orcuttii	Orcutt's brodiaea	None/ None/ Covered	1B.1	Closed-cone coniferous forest, Chaparral, Cismontane woodland, Meadows and seeps, Valley and foothill grassland, Vernal pools/mesic, clay, sometimes serpentinite/ perennial bulbiferous herb/ May-Jul/ 98-5551	Low potential of occurrence. Habitat and soils are sub-optimal.
Calandrinia breweri	Brewer's calandrinia	None/ None/ None	4.2	Chaparral, Coastal scrub/sandy or loamy, disturbed sites and burns/ annual herb/ Mar-Jun/ 33-4003	Low potential of occurrence. Habitat and soils are sub-optimal.
Calochortus dunnii	Dunn's mariposa lily	None/ SR/ Covered	1B.2	Closed-cone coniferous forest, Chaparral, Valley and foothill grassland/gabbroic or metavolcanic, rocky/ perennial bulbiferous herb/ (Feb),Apr-Jun/ 607-6004	Low potential of occurrence. Not observed during survey.

Scientific Name	Common Name	Status Federal/State/ Local	CDFW Rare Plant Rank	Primary Habitat Associations/ Life Form/ Blooming Period/Elevation (feet)	Status On Site or Potential to Occur
Camissoniopsis lewisii	Lewis' evening-primrose	None/ None/ None	3	Coastal bluff scrub, Cismontane woodland, Coastal dunes, Coastal scrub, Valley and foothill grassland/sandy or clay/ annual herb/ Mar-May(Jun)/ 0-984	Not expected to occur. No suitable habitat present.
Ceanothus cyaneus	Lakeside ceanothus	None/ None/ Covered	1B.2	Closed-cone coniferous forest, Chaparral/ perennial evergreen shrub/ Apr-Jun/ 771-2477	Not expected to occur. The site is outside of the species' known elevation range.
Ceanothus verrucosus	wart-stemmed ceanothus	None/ None/ Covered	2B.2	Chaparral/ perennial evergreen shrub/ Dec-May/ 3-1247	Low potential of occurrence; would have been observed.
Centromadia parryi ssp. *australis*	southern tarplant	None/ None/ None	1B.1	Marshes and swamps(margins), Valley and foothill grassland(vernally mesic), Vernal pools/ annual herb/ May-Nov/ 0-1575	Not expected to occur. No suitable habitat present.
Centromadia pungens ssp. *laevis*	smooth tarplant	None/ None/ None	1B.1	Chenopod scrub, Meadows and seeps, Playas, Riparian woodland, Valley and foothill grassland/alkaline/ annual herb/ Apr-Sep/ 0-2100	Not expected to occur. No suitable vegetation present.
Chaenactis glabriuscula var. *orcuttiana*	Orcutt's pincushion	None/ None/ None	1B.1	Coastal bluff scrub(sandy), Coastal dunes/ annual herb/ Jan-Aug/ 0-328	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present.
Chamaebatia australis	southern mountain misery	None/ None/ None	4.2	Chaparral(gabbroic or metavolcanic)/ perennial evergreen shrub/ Nov-May/ 984-3346	Not expected to occur. The site is outside of the species' known elevation range; would have been observed
Chloropyron maritimum ssp. *maritimum*	salt marsh bird's-beak	FE/ SE/ Covered	1B.2	Coastal dunes, Marshes and swamps(coastal salt)/ annual herb (hemiparasitic)/ May-Oct/ 0-98	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable habitat present; would have been observed.

Scientific Name	Common Name	Status Federal/State/ Local	CDFW Rare Plant Rank	Primary Habitat Associations/ Life Form/ Blooming Period/Elevation (feet)	Status On Site or Potential to Occur
Chorizanthe orcuttiana	Orcutt's spineflower	FE/ SE/ None	1B.1	Closed-cone coniferous forest, Chaparral(maritime), Coastal scrub/sandy openings/ annual herb/ Mar-May/ 10-410	Low potential of occurrence. Habitat and soils are sub-optimal.
Chorizanthe polygonoides var. *longispina*	long-spined spineflower	None/ None/ None	1B.2	Chaparral, Coastal scrub, Meadows and seeps, Valley and foothill grassland, Vernal pools/often clay/ annual herb/ Apr-Jul/ 98-5020	Low potential of occurrence. Not observed during survey.
Cistanthe maritima	seaside cistanthe	None/ None/ None	4.2	Coastal bluff scrub, Coastal scrub, Valley and foothill grassland/sandy/ annual herb/ (Feb),Mar-Jun(Aug)/ 16-984	Low potential of occurrence. Not observed during survey.
Clarkia delicata	delicate clarkia	None/ None/ None	1B.2	Chaparral, Cismontane woodland/often gabbroic/ annual herb/ Apr-Jun/ 771-3281	Not expected to occur. The site is outside of the species' known elevation range; would have been observed.
Comarostaphylis diversifolia ssp. *diversifolia*	summer holly	None/ None/ None	1B.2	Chaparral, Cismontane woodland/ perennial evergreen shrub/ Apr-Jun/ 98-2592	Observed on site.
Convolvulus simulans	small-flowered morning-glory	None/ None/ None	4.2	Chaparral(openings), Coastal scrub, Valley and foothill grassland/clay, serpentinite seeps/ annual herb/ Mar-Jul/ 98-2297	Low potential of occurrence. Habitat and soils are sub-optimal.
Corethrogyne filaginifolia var. *incana*	San Diego sand aster	None/ None/ None	1B.1	Coastal bluff scrub, Chaparral, Coastal scrub/ perennial herb/ Jun-Sep/ 10-377	Low potential of occurrence; would have been observed.
Corethrogyne filaginifolia var. *linifolia*	Del Mar Mesa sand aster	None/ None/ Covered	1B.1	Coastal bluff scrub, Chaparral(maritime, openings), Coastal scrub/sandy/ perennial herb/ May-Sep/ 49-492	Low potential of occurrence; would have been observed.

Scientific Name	Common Name	Status Federal/State/ Local	CDFW Rare Plant Rank	Primary Habitat Associations/ Life Form/ Blooming Period/Elevation (feet)	Status On Site or Potential to Occur
Cryptantha wigginsii	Wiggins' cryptantha	None/ None/ None	1B.2	Coastal scrub/often clay/ annual herb/ Feb-Jun/ 66-902	Not expected to occur. Not observed during survey.
Cylindropuntia californica var. *californica*	snake cholla	None/ None/ Covered NE	1B.1	Chaparral, Coastal scrub/ perennial stem succulent/ Apr-May/ 98-492	Low potential of occurrence; would have been observed.
Dichondra occidentalis	western dichondra	None/ None/ None	4.2	Chaparral, Cismontane woodland, Coastal scrub, Valley and foothill grassland/ perennial rhizomatous herb/ (Jan),Mar-Jul/ 164-1640	Observed on site.
Dudleya blochmaniae ssp. *blochmaniae*	Blochman's dudleya	None/ None/ None	1B.1	Coastal bluff scrub, Chaparral, Coastal scrub, Valley and foothill grassland/rocky, often clay or serpentinite/ perennial herb/ Apr-Jun/ 16-1476	Low low potential of occurrence. Not observed during survey.
Dudleya brevifolia	short-leaved dudleya	None/ SE/ Covered NE	1B.1	Chaparral(maritime, openings), Coastal scrub/Torrey sandstone/ perennial herb/ Apr-May/ 98-820	Low potential of occurrence; would have been observed. Site lacks maritime openings.
Dudleya variegata	variegated dudleya	None/ None/ Covered NE	1B.2	Chaparral, Cismontane woodland, Coastal scrub, Valley and foothill grassland, Vernal pools/clay/ perennial herb/ Apr-Jun/ 10-1903	Low potential of occurrence; not observed during survey.
Dudleya viscida	sticky dudleya	None/ None/ Covered	1B.2	Coastal bluff scrub, Chaparral, Cismontane woodland, Coastal scrub/rocky/ perennial herb/ May-Jun/ 33-1804	Low potential of occurrence; would have been observed.
Ericameria palmeri var. *palmeri*	Palmer's goldenbush	None/ None/ Covered	1B.1	Chaparral, Coastal scrub/mesic/ perennial evergreen shrub/ (Jul),Sep-Nov/ 98-1969	Low potential of occurrence; would have been observed.

Scientific Name	Common Name	Status Federal/State/ Local	CDFW Rare Plant Rank	Primary Habitat Associations/ Life Form/ Blooming Period/Elevation (feet)	Status On Site or Potential to Occur
Eryngium aristulatum var. *parishii*	San Diego button-celery	FE/ SE/ Covered	1B.1	Coastal scrub, Valley and foothill grassland, Vernal pools/mesic/ annual / perennial herb/ Apr-Jun/ 66-2034	Not expected to occur. No suitable habitat present.
Euphorbia misera	cliff spurge	None/ None/ None	2B.2	Coastal bluff scrub, Coastal scrub, Mojavean desert scrub/rocky/ perennial shrub/ Dec-Aug(Oct)/ 33-1640	Not expected to occur. No suitable habitat present. Would have been observed.
Ferocactus viridescens	San Diego barrel cactus	None/ None/ Covered	2B.1	Chaparral, Coastal scrub, Valley and foothill grassland, Vernal pools/ perennial stem succulent/ May-Jun/ 10-1476	Low potential of occurrence; would have been observed.
Frankenia palmeri	Palmer's frankenia	None/ None/ None	2B.1	Coastal dunes, Marshes and swamps(coastal salt), Playas/ perennial herb/ May-Jul/ 0-33	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable habitat present.
Geothallus tuberosus	Campbell's liverwort	None/ None/ None	1B.1	Coastal scrub(mesic), Vernal pools/soil/ ephemeral liverwort/ N.A./ 33-1969	Not expected to occur. No suitable habitat present.
Githopsis diffusa ssp. *filicaulis*	Mission Canyon bluecup	None/ None/ None	3.1	Chaparral(mesic, disturbed areas)/ annual herb/ Apr-Jun/ 1476-2297	Not expected to occur. The site is outside of the species' known elevation range.
Grindelia hallii	San Diego gumplant	None/ None/ None	1B.2	Chaparral, Lower montane coniferous forest, Meadows and seeps, Valley and foothill grassland/ perennial herb/ May-Oct/ 607-5725	Not expected to occur. The site is outside of the species' known elevation range.
Harpagonella palmeri	Palmer's grapplinghook	None/ None/ None	4.2	Chaparral, Coastal scrub, Valley and foothill grassland/clay/ annual herb/ Mar-May/ 66-3133	Low potential of occurrence on site. Not observed during survey.
Hazardia orcuttii	Orcutt's hazardia	FC/ ST/ None	1B.1	Chaparral(maritime), Coastal scrub/often clay/ perennial evergreen shrub/ Aug-Oct/ 262-279	Not expected to occur. The site is outside of the species' known elevation range.

Scientific Name	Common Name	Status Federal/State/ Local	CDFW Rare Plant Rank	Primary Habitat Associations/ Life Form/ Blooming Period/Elevation (feet)	Status On Site or Potential to Occur
Heterotheca sessiliflora ssp. *sessiliflora*	beach goldenaster	None/ None/ None	1B.1	Chaparral(coastal), Coastal dunes, Coastal scrub/ perennial herb/ Mar-Dec/ 0-4019	Low potential of occurrence; would have been observed.
Holocarpha virgata ssp. *elongata*	graceful tarplant	None/ None/ None	4.2	Chaparral, Cismontane woodland, Coastal scrub, Valley and foothill grassland/ annual herb/ May-Nov/ 197-3609	Low potential of occurrence. Not observed during survey.
Hordeum intercedens	vernal barley	None/ None/ None	3.2	Coastal dunes, Coastal scrub, Valley and foothill grassland(saline flats and depressions), Vernal pools/ annual herb/ Mar-Jun/ 16-3281	Not expected to occur. No suitable habitat present.
Isocoma menziesii var. *decumbens*	decumbent goldenbush	None/ None/ None	1B.2	Chaparral, Coastal scrub(sandy, often in disturbed areas)/ perennial shrub/ Apr-Nov/ 33-443	Low potential of occurrence; would have been observed. Habitat and soils are sub-optimal.
Iva hayesiana	San Diego marsh-elder	None/ None/ None	2B.2	Marshes and swamps, Playas/ perennial herb/ Apr-Oct/ 33-1640	Not expected to occur. No suitable habitat present.
Juncus acutus ssp. *leopoldii*	southwestern spiny rush	None/ None/ None	4.2	Coastal dunes(mesic), Meadows and seeps(alkaline seeps), Marshes and swamps(coastal salt)/ perennial rhizomatous herb/ (Mar),May-Jun/ 10-2953	Not expected to occur. No suitable habitat present.
Lasthenia glabrata ssp. *coulteri*	Coulter's goldfields	None/ None/ None	1B.1	Marshes and swamps(coastal salt), Playas, Vernal pools/ annual herb/ Feb-Jun/ 3-4003	Not expected to occur. No suitable habitat present.
Lepidium virginicum var. *robinsonii*	Robinson's pepper-grass	None/ None/ None	4.3	Chaparral, Coastal scrub/ annual herb/ Jan-Jul/ 3-2904	Low potential of occurrence. Not observed during survey.
Leptosyne maritima	sea dahlia	None/ None/ None	2B.2	Coastal bluff scrub, Coastal scrub/ perennial herb/ Mar-May/ 16-492	Not expected to occur. Not observed during survey.

Scientific Name	Common Name	Status Federal/State/ Local	CDFW Rare Plant Rank	Primary Habitat Associations/ Life Form/ Blooming Period/Elevation (feet)	Status On Site or Potential to Occur
Lycium californicum	California box-thorn	None/ None/ None	4.2	Coastal bluff scrub, Coastal scrub/ perennial shrub/ (Dec),Mar-Aug/ 16-492	Not expected to occur. Would have been observed.
Microseris douglasii ssp. *platycarpha*	small-flowered microseris	None/ None/ None	4.2	Cismontane woodland, Coastal scrub, Valley and foothill grassland, Vernal pools/clay/ annual herb/ Mar-May/ 49-3510	Not expected to occur. No suitable habitat present.
Mimulus aurantiacus var. *aridus*	low bush monkeyflower	None/ None/ None	4.3	Chaparral(rocky), Sonoran desert scrub/ perennial evergreen shrub/ Apr-Jul/ 2461-3937	Not expected to occur. The site is outside of the species' known elevation range.
Mimulus diffusus	Palomar monkeyflower	None/ None/ None	4.3	Chaparral, Lower montane coniferous forest/sandy or gravelly/ annual herb/ Apr-Jun/ 4003-6004	Not expected to occur. The site is outside of the species' known elevation range.
Mobergia calculiformis	light gray lichen	None/None/ None	3	Coastal scrub(?)/On rocks/ crustose lichen (saxicolous)/ N.A./ 33-33	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable habitat present.
Monardella hypoleuca ssp. *lanata*	felt-leaved monardella	None/ None/ Covered	1B.2	Chaparral, Cismontane woodland/ perennial rhizomatous herb/ Jun-Aug/ 984-5167	Not expected to occur. The site is outside of the species' known elevation range.
Monardella viminea	willowy monardella	FE/ SE / Covered	1B.1	Chaparral, Coastal scrub, Riparian forest, Riparian scrub, Riparian woodland/alluvial ephemeral washes/ perennial herb/ Jun-Aug/ 164-738	Low potential of occurrence; would have been observed. Habitat and soils are sub-optimal.
Myosurus minimus ssp. *apus*	little mousetail	None/ None/ None	3.1	Valley and foothill grassland, Vernal pools(alkaline)/ annual herb/ Mar-Jun/ 66-2100	Not expected to occur. No suitable habitat present.

Scientific Name	Common Name	Status Federal/State/ Local	CDFW Rare Plant Rank	Primary Habitat Associations/ Life Form/ Blooming Period/Elevation (feet)	Status On Site or Potential to Occur
Navarretia fossalis	spreading navarretia	FT/ None/ Covered NE	1B.1	Chenopod scrub, Marshes and swamps(assorted shallow freshwater), Playas, Vernal pools/ annual herb/ Apr-Jun/ 98-2149	Not expected to occur. No suitable habitat present.
Navarretia prostrata	prostrate vernal pool navarretia	None/ None/ None	1B.1	Coastal scrub, Meadows and seeps, Valley and foothill grassland(alkaline), Vernal pools/Mesic/ annual herb/ Apr-Jul/ 49-3970	Not expected to occur. No suitable habitat present.
Nemacaulis denudata var. *denudata*	coast woolly-heads	None/ None/ None	1B.2	Coastal dunes/ annual herb/ Apr-Sep/ 0-328	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable habitat present.
Ophioglossum californicum	California adder's-tongue	None/ None/ None	4.2	Chaparral, Valley and foothill grassland, Vernal pools(margins)/mesic/ perennial rhizomatous herb/ (Dec),Jan-Jun/ 197-1722	Low potential of occurrence. Habitat and soils are sub-optimal.
Orcuttia californica	California Orcutt grass	FE/ SE / Covered NE	1B.1	Vernal pools/ annual herb/ Apr-Aug/ 49-2165	Not expected to occur. No suitable habitat present.
Orobanche parishii ssp. *brachyloba*	short-lobed broomrape	None/ None/ None	4.2	Coastal bluff scrub, Coastal dunes, Coastal scrub/sandy/ perennial herb (parasitic)/ Apr-Oct/ 10-1001	Not expected to occur. No suitable habitat present.
Pentachaeta aurea ssp. *aurea*	golden-rayed pentachaeta	None/ None/ None	4.2	Chaparral, Cismontane woodland, Coastal scrub, Lower montane coniferous forest, Riparian woodland, Valley and foothill grassland/ annual herb/ Mar-Jul/ 262-6070	Low potential of occurrence. Habitat and soils are sub-optimal.

Scientific Name	Common Name	Status Federal/State/ Local	CDFW Rare Plant Rank	Primary Habitat Associations/ Life Form/ Blooming Period/Elevation (feet)	Status On Site or Potential to Occur
Phacelia ramosissima var. *austrolitoralis*	south coast branching phacelia	None/ None/ None	3.2	Chaparral, Coastal dunes, Coastal scrub, Marshes and swamps(coastal salt)/sandy, sometimes rocky/ perennial herb/ Mar-Aug/ 16-984	Low potential of occurrence; would have been observed. Habitat and soils are sub-optimal.
Phacelia stellaris	Brand's star phacelia	FC/ None/ None	1B.1	Coastal dunes, Coastal scrub/ annual herb/ Mar-Jun/ 3-1312	Not expected to occur. No suitable habitat present.
Pinus torreyana ssp. *torreyana*	Torrey pine	None/ None/ Covered	1B.2	Closed-cone coniferous forest, Chaparral/Sandstone/ perennial evergreen tree/ N.A./ 246-525	Not expected to occur. Would have been observed.
Piperia cooperi	chaparral rein orchid	None/ None/ None	4.2	Chaparral, Cismontane woodland, Valley and foothill grassland/ perennial herb/ Mar-Jun/ 49-5200	Low low potential of occurrence; would have been observed. Habitat and soils are sub-optimal.
Pogogyne abramsii	San Diego mesa mint	FE/ SE / Covered NE	1B.1	Vernal pools/ annual herb/ Mar-Jul/ 295-656	Not expected to occur. No suitable habitat present.
Pogogyne nudiuscula	Otay Mesa mint	FE/ SE/ Covered NE	1B.1	Vernal pools/ annual herb/ May-Jul/ 295-820	Not expected to occur. No suitable habitat present.
Quercus dumosa	Nuttall's scrub oak	None/ None/ None	1B.1	Closed-cone coniferous forest, Chaparral, Coastal scrub/sandy, clay loam/ perennial evergreen shrub/ Feb-Apr(Aug)/ 49-1312	Observed on site.
Quercus engelmannii	Engelmann oak	None/ None/ None	4.2	Chaparral, Cismontane woodland, Riparian woodland, Valley and foothill grassland/ perennial deciduous tree/ Mar-Jun/ 164-4265	Not expected to occur. Would have been observed.
Salvia munzii	Munz's sage	None/ None/ None	2B.2	Chaparral, Coastal scrub/ perennial evergreen shrub/ Feb-Apr/ 377-3494	Not expected to occur. The site is outside of the species' known elevation range.

Scientific Name	Common Name	Status Federal/State/ Local	CDFW Rare Plant Rank	Primary Habitat Associations/ Life Form/ Blooming Period/Elevation (feet)	Status On Site or Potential to Occur
Selaginella cinerascens	ashy spike-moss	None/ None/ None	4.1	Chaparral, Coastal scrub/ perennial rhizomatous herb/ N.A./ 66-2100	Multiple populations observed on site.
Senecio aphanactis	chaparral ragwort	None/ None/ None	2B.2	Chaparral, Cismontane woodland, Coastal scrub/sometimes alkaline/ annual herb/ Jan-Apr/ 49-2625	Low potential of occurrence. Habitat and soils are sub-optimal.
Sphaerocarpos drewei	bottle liverwort	None/ None/ None	1B.1	Chaparral, Coastal scrub/openings, soil/ ephemeral liverwort/ N.A./ 295-1969	Low potential of occurrence. Habitat and soils are sub-optimal.
Stemodia durantifolia	purple stemodia	None/ None/ None	2B.1	Sonoran desert scrub(often mesic, sandy)/ perennial herb/ Jan-Dec/ 591-984	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present.
Stipa diegoensis	San Diego County needle grass	None/ None/ None	4.2	Chaparral, Coastal scrub/rocky, often mesic/ perennial herb/ Feb-Jun/ 33-2625	Not expected to occur. Would have been observed.
Stylocline citroleum	oil neststraw	None/ None/ None	1B.1	Chenopod scrub, Coastal scrub, Valley and foothill grassland/clay/ annual herb/ Mar-Apr/ 164-1312	Not expected to occur. No suitable habitat present.
Suaeda esteroa	estuary seablite	None/ None/ None	1B.2	Marshes and swamps(coastal salt)/ perennial herb/ May-Oct(Jan)/ 0-16	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable habitat present.
Suaeda taxifolia	woolly seablite	None/ None/ None	4.2	Coastal bluff scrub, Coastal dunes, Marshes and swamps(margins of coastal salt)/ perennial evergreen shrub/ Jan-Dec/ 0-164	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable habitat present.

Scientific Name	Common Name	Status Federal/State/ Local	CDFW Rare Plant Rank	Primary Habitat Associations/ Life Form/ Blooming Period/Elevation (feet)	Status On Site or Potential to Occur
Texosporium sancti-jacobi	woven-spored lichen	None/ None/ None	3	Chaparral(openings)/On soil, small mammal pellets, dead twigs, and on Selaginella spp/ crustose lichen (terricolous)/ N.A./ 197~~951~~-1,969~~2165~~	Not expected to occur. The site is outside of the species' known elevation range.
Viguiera laciniata	San Diego County viguiera	None/ None/ None	4.2	Chaparral, Coastal scrub/ perennial shrub/ Feb-Jun(Aug)/ 197-2461	Low potential of occurrence; would have been observed.
Xanthisma junceum	rush-like bristleweed	None/ None/ None	4.3	Chaparral, Coastal scrub/ perennial herb/ Jun-Jan/ 787-3281	Not expected to occur. The site is outside of the species' known elevation range.

Note: This table includes all CDFW Rare Plant Rank 1-2 species reported by CNPS (2015) or CDFW (2015) in the Encinitas, Del Mar, Rancho Santa Fe, Escondido, La Mesa, La Jolla, and Poway 7.5 minute topographic quadrangles that occur at the elevation of the project site.

Legend:

FE: Federally listed as endangered
FT: Federally listed as threatened
FC: Federal Candidate
FSC: Federal species of concern
SE: State-listed as endangered
SCE: State candidate as endangered
SR: STATE RARE

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APPENDIX E

Special-Status Wildlife Species Potential to Occur On Site

APPENDIX E
Special-Status Wildlife Species Potential to Occur On Site

Common Name	Scientific Name	Status Federal/State/ Local[1]	Primary Habitat Associations	Status On Site or Potential to Occur[2]
Amphibians				
Western spadefoot	*Spea hammondii*	None/ SSC/covered	Primarily grassland and vernal pools, but also in ephemeral wetlands that persist at least 3 weeks in chaparral, coastal scrub, valley-foothill woodlands, pastures, and other agriculture	Not expected to occur. Site lacks suitable habitat.
Reptiles				
coast patch-nosed snake	*Salvadora hexalepis virgultea*	None/ SSC/None	Brushy or shrubby vegetation; requires small mammal burrows for refuge and overwintering sites	Moderate potential to occur within chaparral habitat. Has been recorded in the project vicinity.
orange-throated whiptail	*Aspidoscelis hyperythra*	None/ WL/covered	Low-elevation coastal scrub, chaparral, and valley-foothill hardwood	Moderate potential to occur within chaparral habitat. Has been recorded in the project vicinity.
Coronado skink	*Plestiodon skiltonianus interparietalis*	None/ WL/None	Woodlands, grasslands, pine forests, chaparral; rocky areas near water	Moderate potential to occur within chaparral habitat. Has been recorded in the project vicinity.
San Diego ringneck snake	*Diadophis punctatus similis*	None/ None/None	Moist habitats including wet meadows, rocky hillsides, gardens, farmland grassland, chaparral, mixed conifer forest, and woodland habitats	Low potential to occur. Site lacks appropriate moist habitats.
Blainville's horned lizard	*Phrynosoma blainvillii*	None/ SSC/covered	Open areas of sandy soil in valleys, foothills and semi-arid mountains including coastal scrub, chaparral, valley-foothill hardwood, conifer, riparian, pine-cypress, juniper and annual grassland	Moderate potential to occur on site. Has been recorded in the project vicinity.
red diamond rattlesnake	*Crotalus ruber*	None/ SSC/None	Coastal scrub, chaparral, oak and pine woodlands, rocky grasslands, cultivated areas, and desert flats	Moderate potential to occur on site. Has been recorded in the project vicinity.
San Diegan tiger whiptail	*Aspidoscelis tigris stejnegeri*	None/ SSC/None	Open areas in semiarid grasslands, scrublands, and woodlands	Not expected to occur. No suitable habitat present on site.

Common Name	Scientific Name	Status Federal/State/ Local[1]	Primary Habitat Associations	Status On Site or Potential to Occur[2]
two-striped gartersnake	*Thamnophis hammondii*	None/ SSC/None	Streams, creeks, pools, streams with rocky beds, ponds, lakes, vernal pools	Not expected to occur. No suitable habitat present on site.
Birds				
burrowing owl *(burrow sites & some wintering sites)*	*Athene cunicularia*	BCC/ SSC/covered	Nests and forages in grassland, open scrub, and agriculture, particularly with ground squirrel burrows.	Low potential to occur. Site lacks suitable fossorial mammal burrows, grasslands or open vegetation, and adequate foraging habitat.
California black rail	*Laterallus jamaicensis coturniculus*	BCC/ ST, FP/None	Tidal marshes, shallow freshwater margins, wet meadows and flooded grassy vegetation; suitable habitats are often supplied by canal leakage in Sierra foothill populations	Not expected to occur. No suitable habitat present on site.
Swainson's hawk *(nesting)*	*Buteo swainsoni*	BCC/ ST/covered	Nests in open woodland and savanna, riparian and in isolated large trees; forages in nearby grasslands and agriculturals areas such as wheat and alfalfa fields and pasture	Not expected to occur. Site lacks suitable nesting and foraging habitat.
tricolored blackbird *(nesting colony)*	*Agelaius tricolor*	BCC/ PSE, SSC/covered	Nests near fresh water, emergent wetland with cattails or tules, but also in Himalayan blackberry; forages in grasslands, woodland, and agriculture	Not expected to occur. Site lacks suitable nesting and foraging habitat.
yellow warbler *(nesting)*	*Setophaga petechia*	BCC/ SSC/None	Nests and forages in riparian and oak woodlands, montane chaparral, open ponderosa pine and mixed conifer habitats	Not expected. Site lacks suitable nesting and foraging habitat.
Cooper's hawk *(nesting)*	*Accipiter cooperii*	None/ WL/covered	Nests and forages in dense stands of live oak, riparian woodlands, or other woodland habitats often near water	Low potential to nest. Marginal suitable nesting and foraging habitat.
coastal cactus wren	*Campylorhynchus brunneicapillus sandiegensis (*	BCC/ SSC/covered	Southern cactus scrub patches	Not expected to occur. Site lacks suitable nesting and foraging habitat.

Common Name	Scientific Name	Status Federal/State/ Local[1]	Primary Habitat Associations	Status On Site or Potential to Occur[2]
coastal California gnatcatcher	*Polioptila californica californica*	FT/ SSC/covered	Nests and forages in various sage scrub communities, often dominated by California sagebrush and buckwheat; generally avoids nesting in areas with a slope of greater than 40%; majority of nesting at less than 1,000 ft in elevation	Observed on site during focused survey. Not expected to nest on site due to lack of suitable nesting habitat (i.e., coastal sage scrub).
least Bell's vireo *(nesting)*	*Vireo bellii pusillus*	FE/ SE/covered	Nests and forages in low, dense riparian thickets along water or along dry parts of intermittent streams; forages in riparian and adjacent shrubland late in nesting season	Not expected to occur. Site lacks suitable nesting and foraging habitat.
southwestern willow flycatcher *(nesting)*	*Empidonax traillii extimus*	FE/ SE/covered	Nests in dense riparian habitats along streams, reservoirs, or wetlands; uses variety of riparian and shrubland habitats during migration	Not expected to occur on site. Site lacks suitable nesting and foraging habitat.
white-tailed kite *(nesting)*	*Elanus leucurus*	None/ FP/None	Nests in woodland, riparian, and individual trees near open lands; forages opportunistically in grassland, meadows, scrubs, agriculture, emergent wetland, savanna, and disturbed lands	Not expected occur. This species may forage over the site, but the site lacks suitable nesting habitat.
yellow-breasted chat *(nesting)*	*Icteria virens*	None/ SSC/covered	Nests and forages in dense, relatively wide riparian woodlands and thickets of willows, vine tangles and dense brush	Not expected to occur. Site lacks suitable nesting and foraging habitat.
prairie falcon *(nesting)*	*Falco mexicanus*	BCC/ WL/None	Forages in grassland, savanna, rangeland, agriculture, desert scrub, alpine meadows; nest on cliffs or bluffs	Not expected occur on site. Site lacks suitable nesting and foraging habitat.

Common Name	Scientific Name	Status Federal/State/ Local[1]	Primary Habitat Associations	Status On Site or Potential to Occur[2]
southern California rufous-crowned sparrow	*Aimophila ruficeps canescens*	None/ WL/covered	Nests and forages open coastal scrub and chaparral with low cover of scattered scrub interspersed with rocky and grassy patches	Low potential to occur on site. The site vegetation is very dense and does not provide the typical open suitable habitat for this species. This species has been recorded in the project vicinity.
Belding's savannah sparrow	*Passerculus sandwichensis beldingi*	None/ SE/covered	Nests and forages in coastal saltmarsh dominated by pickleweed	Not expected to occur. No suitable habitat present on site.
Bell's sparrow	*Artemisiospiza belli belli*	BCC/ WL/covered	Nests and forages in coastal scrub and dry chaparral; typically in large, unfragmented patches dominated by chamise; nests in more dense patches but uses more open habitat in winter	Moderate potential to occur on site. This species has been recorded in the project vicinity.
California horned lark	*Eremophila alpestris actia*	None/ WL/None	Nests and forages in grasslands disturbed lands, agriculture, and beaches; nests in alpine fell fields of the high Sierra	Not expected to occur on site. Site lacks suitable foraging habitat.
California least tern *(nesting colony)*	*Sternula antillarum browni*	FE/ SE, FP/covered	Forages in shallow estuaries and lagoons; nests on sandy beaches or exposed tidal flat	Not expected to occur on site. No suitable habitat present.
least bittern *(nesting)*	*Ixobrychus exilis*	BCC/ SSC/covered	Nests in freshwater and brackish marshes with dense, tall growths of aquatic and semi-aquatic vegetation	Not expected to occur on site. No suitable habitat present.
western snowy plover (nesting)	Charadrius alexandrinus nivosus	FT, BCC/ SSC/covered	On coasts nests on sandy marine and estuarine shores; in the interior nests on sandy, barren or sparsely vegetated flats near saline or alkaline lakes, reservoirs, and ponds	Not expected to occur on site. No suitable habitat present.
western yellow-billed cuckoo (nesting)	*Coccyzus americanus occidentalis*	FT, BCC/ SE/None	Nests dense, wide riparian woodlands and forest with well-developed understories	Not expected to occur on site. No suitable habitat present.

Common Name	Scientific Name	Status Federal/State/ Local[1]	Primary Habitat Associations	Status On Site or Potential to Occur[2]
white-faced ibis *(nesting colony)*	*Plegadis chihi*	None/ WL/covered	Nests in shallow marshes with areas of emergent vegetation; winter foraging in shallow lacustrine waters, flooded agricultural fields, muddy ground of wet meadows, marshes, ponds, lakes, rivers, flooded fields and estuaries	Not expected to occur on site. Site lacks suitable habitat.
Mammals				
Pacific pocket mouse	*Perognathus longimembris pacificus*	FE/ SSC/None	Fine-grain sandy substrates in open coastal strand, coastal dunes and river alluvium	Not expected to occur. Site lacks suitable habitat.
San Diego desert woodrat	*Neotoma lepida intermedia*	None/ SSC/None	Coastal scrub, desert scrub, chaparral, cacti, rocky areas	Moderate potential to occur on site. This species has been recorded in the project vicinity.
big free-tailed bat	*Nyctinomops macrotis*	None/ SSC/None/WBWG: MH	Rocky areas; roosts in caves, holes in trees, buildings, and crevices on cliffs and rocky outcrops; forages over water	Not expected to occur. No suitable roosting or foraging habitat present on site.
pallid bat	*Antrozous pallidus*	None/ SSC/None/WBWG: H	Grasslands, shrublands, woodlands, forests; most common in open dry habitats with rocky outcrops for roosting, but also roosts in man-made structures and trees	Not expected to occur. No suitable roosting or foraging habitat present on site.
Yuma myotis	*Myotis yumanensis*	None/ None/None/WBWG: LM	Riparian, arid scrublands and deserts, and forests associated with water (streams, rivers, tinajas); roosts in bridges, buildings, cliff crevices, caves, mines, and trees	Not expected to occur. No suitable roosting or foraging habitat present on site.
American badger	*Taxidea taxus*	None/ SSC/covered	Dry, open, treeless areas; grasslands, coastal scrub, agriculture, pastures, especially with friable soils	Not expected to occur on site. Site lacks friable soils suitable burrows.
Dulzura pocket mouse	*Chaetodipus californicus femoralis*	None/ SSC/None	Open habitat, coastal scrub, chaparral, oak woodland, chamise chaparral, mixed conifer habitats; disturbance specialist; 0 to 3,000 ft	Moderate potential to occur within chaparral habitat. Has been recorded in the project vicinity.

Common Name	Scientific Name	Status Federal/State/ Local[1]	Primary Habitat Associations	Status On Site or Potential to Occur[2]
hoary bat	*Lasiurus cinereus*	None/ None/None/WBWG:M	Forest, woodland riparian, and wetland habitats, also juniper scrub, riparian forest, and desert scrub in arid areas; roosts in tree foliage and sometimes cavities, such as woodpecker holes	Not expected to occur. No suitable roosting or foraging habitat present on site.
Mexican long-tongued bat	*Choeronycteris mexicana*	None/ SSC/None/WBWG: H	Desert and montane riparian, desert succulent scrub, desert scrub, and pinyon-juniper woodland; roosts in caves, mines, and buildings	Not expected to occur. No suitable roosting or foraging habitat present on site.
northwestern San Diego pocket mouse	*Chaetodipus fallax fallax*	None/ SSC/covered	Coastal scrub, mixed chaparral, sagebrush, desert wash, desert scrub, desert succulent shrub, pinyon-juniper, and annual grassland	Moderate potential to occur within chaparral habitat. Has been recorded in the project vicinity.
pocketed free-tailed bat	*Nyctinomops femorosaccus*	None/ SSC/None/WBWG: H	Pinyon-juniper woodlands, desert scrub, desert succulent shrub, desert riparian, desert wash, alkali desert scrub, Joshua tree, palm oases; roosts in high cliffs or rock outcrops with dropoffs, caverns, buildings	Not expected to occur. No suitable roosting or foraging habitat present on site.
San Diego black-tailed jackrabbit	*Lepus californicus bennettii*	None/ SSC/covered	Arid habitats with open ground; grasslands, coastal scrub, agriculture, disturbed areas, and rangelands	Low potential to occur. The site vegetation is very dense and lacks open areas or grasslands for this species. This species has been recorded in the vicinity.
silver-haired bat	*Lasionycteris noctivagans*	None/ None/None/WBWG: M	Old growth forest, maternity roosts in trees (primarily woodpecker hollows), large diameter snags 50 ft above ground; hibernates in hollow trees, under sloughing bark, in rock crevices, and occasionally in buildings, mines and caves; forages in or near coniferous or mixed deciduous forest, often following stream or river drainages	Not expected to occur. No suitable roosting or foraging habitat present on site.

Common Name	Scientific Name	Status Federal/State/ Local[1]	Primary Habitat Associations	Status On Site or Potential to Occur[2]
spotted bat	*Euderma maculatum*	None/ SSC/None/WBWG: H	Foothills, mountains, desert regions of southern California, including arid deserts, grasslands, and mixed conifer forests; roosts in rock crevices and cliffs; feeds over water and along washes	Not expected to occur. No suitable roosting or foraging habitat present on site.
Townsend's big-eared bat	*Corynorhinus townsendii*	None/ SSC/None/WBWG: H	Mesic habitats characterized by coniferous and deciduous forests and riparian habitat, but also xeric areas; roosts in limestone caves and lava tubes, also man-made structures and tunnels	Not expected to occur. No suitable roosting or foraging habitat present on site.
western mastiff bat	*Eumops perotis californicus*	None/ SSC/None/WBWG: H	Chaparral, coastal and desert scrub, coniferous and deciduous forest and woodland; roosts in crevices in rocky canyons and cliffs where the canyon or cliff is vertical or nearly vertical, trees and tunnels	Not expected to occur. No suitable roosting or foraging habitat present on site.
western red bat	*Lasiurus blossevillii*	None/ SSC/None/WBWG: H	Forest, woodland, riparian, mesquite bosque and orchards, including fig, apricot, peach, pear, almond, walnut, and orange; roosts in tree canopy	Not expected to occur. No suitable roosting or foraging habitat present on site.
western yellow bat	*Lasiurus xanthinus*	None/ SSC/None/WBWG: H	Valley foothill riparian, desert riparian, desert wash, and palm oasis habitats; below 2,000 ft; roost in riparian and palms	Not expected to occur. No suitable roosting or foraging habitat present on site.
Invertebrates				
Riverside fairy shrimp	*Streptocephalus woottoni*	FE/ None/covered	Vernal pools, non-vegetated ephemeral pools	Not expected to occur. No suitable habitat present on site; however, potential vernal pool features mapped directly off site.
San Diego fairy shrimp	*Branchinecta sandiegonensis*	FE/ None/covered	Vernal pools, non-vegetated ephemeral pools	Not expected to occur. No suitable habitat present on site; however, potential vernal pool features mapped directly off site.

Common Name	Scientific Name	Status Federal/State/ Local[1]	Primary Habitat Associations	Status On Site or Potential to Occur[2]
globose dune beetle	*Coelus globosus*	None/ None/None	Inhabitant of coastal sand dune habitat; erratically distributed from Ten Mile Creek in Mendocino County south to Ensenada, Mexico.	Not expected to occur. No suitable habitat present on site.
mesa shoulderband	*Helminthoglypta coelata*	None/ None/None	Known only from a few locations in coastal San Diego County.	Not expected to occur. The site is outside of the species' known geographic range and there is no suitable vegetation present.
mimic tryonia (=California brackishwater snail)	*Tryonia imitator*	None/ None/None	Inhabits coastal lagoons, estuaries and salt marshes, from Sonoma County south to San Diego County.	Not expected to occur. No suitable habitat present on site.
sandy beach tiger beetle	*Cicindela hirticollis gravida*	None/ None/None	Inhabits areas adjacent to non-brackish water along the coast of California from San Francisco Bay to northern Mexico.	Not expected to occur. No suitable habitat present on site.

Notes:

1 Local designation refers to status under the San Diego MHCP. The federal and state status of species primarily is based on the Special Animals List (2017), California Department of Fish and Wildlife.

2 Project Vicinity is defined as the USGS Del Mar Quadrangle.

Federal Designations:

FE Federally listed Endangered

FT Federally listed as Threatened

BCC U.S. Fish and Wildlife Service Bird of Conservation Concern

State Designations:

SE State-listed as Endangered

ST State-listed as Threatened

PSE Proposed State Endangered

CSC California Special Concern Species

WL State Watch List

FP California Department of Fish and Game Protected and Fully Protected

Other Designations:

WBWG:H Western Bat Working Group – High Priority

WBWG:M Western Bat Working Group – Medium Priority

WBWG:MH Western Bat Working Group – Medium-High Priority

WBWG:LM Western Bat Working Group – Low-Medium Priority

APPENDIX F

Jurisdictional Delineation Data Forms

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: The Preserve at Torrey Highlands Project City/County: San Diego/San Diego Sampling Date: 07/13/15

Applicant/Owner: State: CA Sampling Point: 1A

Investigator(s): T. Liddicoat Section, Township, Range: T14S, R3W, Sec 13

Landform (hillslope, terrace, etc.): channel Local relief (concave, convex, none): Concave Slope (%): 3:1

Subregion (LRR): C - Mediterranean California Lat: 32.9537° North Long: 117.1539° West Datum:

Soil Map Unit Name: Terrace Escarpments/Redding gravelly loam 2-9% slopes NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ○ No ● (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ● No ○

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ○	No ●	
Hydric Soil Present?	Yes ○	No ●	**Is the Sampled Area within a Wetland?** Yes ○ No ●
Wetland Hydrology Present?	Yes ●	No ○	

Remarks: Drought year according to NOAA Palmer Index
DS Pit within 2' wide unvegetated channel within mapped southern mixed chaparral vegetation

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Selaginella cinerascens*	2	Yes	Not Listed
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	2 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 98 % % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species		x 3 =	0
FACU species		x 4 =	0
UPL species	2	x 5 =	10
Column Totals:	2 (A)		10 (B)

Prevalence Index = B/A = 5.00

Hydrophytic Vegetation Indicators:

- ● Dominance Test is >50%
- ● Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ○ No ●

Remarks: Unvegetated channel under southern mixed chaparral canopy

SOIL

Sampling Point: 1A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture[3]	Remarks
0-10	7.5 YR 3/3	100	-	-			sandy clay loam	Very cobbly. Living roots present.

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.
[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[4]:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ○ No ◉

Remarks: Lots of stream-like cobbles in channel bed

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☒ Sediment Deposits (B2) (**Nonriverine**)
- ☒ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☒ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches):
Water Table Present?	Yes ○	No ◉	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ○	No ◉	Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Clearly defined channel bed/bank

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: The Preserve at Torrey Highlands Project City/County: San Diego/San Diego Sampling Date: 07/13/15

Applicant/Owner: State: CA Sampling Point: 1B

Investigator(s): T. Liddicoat Section, Township, Range: T14S, R3W, Sec 13

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 2:1

Subregion (LRR): C - Mediterranean California Lat: 32.9537° North Long: 117.1539° West Datum:

Soil Map Unit Name: Terrace Escarpments/Redding gravelly loam 2-9% slopes NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ○ No ● (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ● No ○

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ○	No ●	
Hydric Soil Present?	Yes ○	No ●	**Is the Sampled Area within a Wetland?** Yes ○ No ●
Wetland Hydrology Present?	Yes ○	No ●	

Remarks: Drought year according to NOAA Palmer Index
DS Pit dug within mapped southern mixed chaparral approximately 20 feet upslope from Data Station 1A

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. *Rhus integrifolia*	10	No	Not Listed
2. *Malosma laurinia*	35	Yes	Not Listed
3. *Salvia mellifera*	25	Yes	Not Listed
4. *Mimulus aurantiacus*	25	Yes	Not Listed
5. *Comarostaphylis diversifolia*	5	No	Not Listed
Total Cover:	100%		
Herb Stratum			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	%		
Woody Vine Stratum			
1. *Marah macrocarpa*	5	Yes	Not Listed
2.			
Total Cover:	5 %		

% Bare Ground in Herb Stratum 10 % % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species		x 3 =	0
FACU species		x 4 =	0
UPL species	105	x 5 =	525
Column Totals:	105 (A)		525 (B)

Prevalence Index = B/A = 5.00

Hydrophytic Vegetation Indicators:

- ● Dominance Test is >50%
- ● Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ○ No ●

Remarks: Very dense shrubs with leaf litter debris understory

SOIL

Sampling Point: 1B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture[3]	Remarks
0-10	7.5 YR 3/3	100	-	-			Sandy Clay loam	Few cobbles

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[4]:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ○ No ◉

Remarks: soil looks "sooty" (i.e. fire soot in soil)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches):
Water Table Present?	Yes ○	No ◉	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ○	No ◉	Depth (inches):

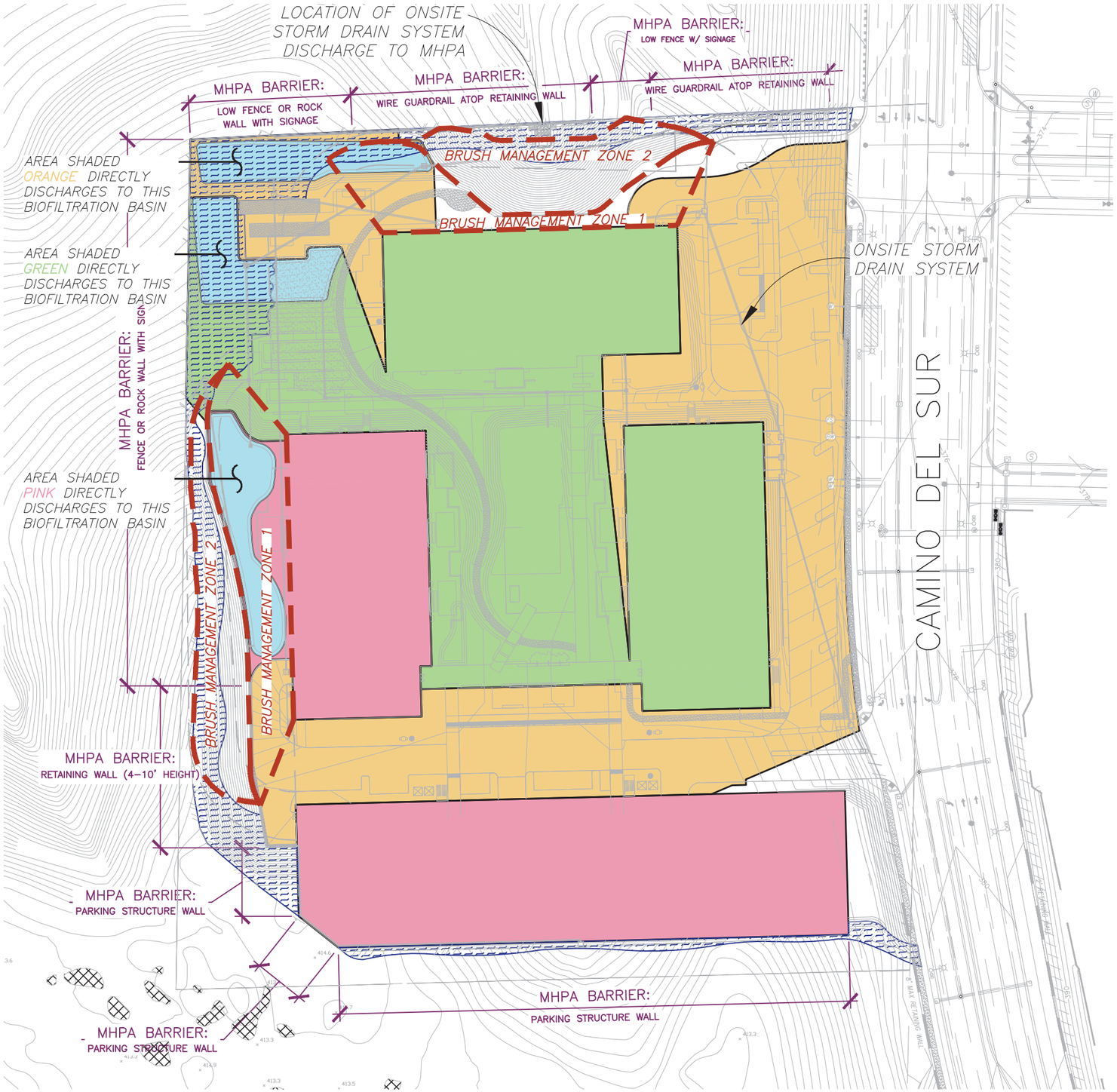
Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No indicators observed

APPENDIX G

MHPA Adjacency Exhibit



MULTI–HABITAT PLANNING AREA (MHPA) LAND USE ADJACENCY GUIDELINES (LUAG) COMPLIANCE EXHIBIT:

1. DEVELOPED AND PAVED AREAS WITHIN THE PROJECT WILL NOT DRAIN DIRECTLY INTO THE MHPA, RATHER THOSE AREAS DRAIN DIRECTLY TO BIOFILTRATION BASINS VIA A SYSTEM OF PIPELINES, WHICH PREVENT THE RELEASE OF TOXINS, CHEMICALS, PETROLEUM PRODUCTS, AND EXOTIC PLANT MATERIALS INTO THE MHPA. THUS ALL DISCHARGE INTO THE MHPA WILL HAVE PASSED THROUGH THE BIOFILTRATION BASIN PRIOR TO DISCHARGE.

2. ANY NIGHTTIME LIGHTING, SUCH AS BUT NOT LIMITED TO SECURITY LIGHTING, WILL BE SHIELDED AND DIRECTED AWAY FROM THE MHPA PER THE CITY'S OUTDOOR LIGHTING ORDINANCE SO THERE IS NO SPILL OF LIGHT INTO THE MHPA.

3. A COMBINATION OF WALLS, SIGNAGE, THE PARKING GARAGE AND NATURAL ROCK/BOULDER BARRIERS, AS ILLUSTRATED, ARE PROVIDED TO PREVENT INTRUSION INTO THE MHPA AREA. NO PUBLIC TRAILS HAVE BEEN DESIGNATED ON SITE.

4. ALL PLANTINGS OR SEED PALETTES ADJACENT TO THE MHPA WILL BE COMPOSED OF NATIVE SPECIES.

5. ALL MANUFACTURED SLOPES ARE CONTAINED WITHIN THE SITE PLAN AND DEVELOPMENT FOOTPRINT. NO MANUFACTURED SLOPES ARE PROPOSED OFF SITE OR WITHIN THE MHPA. BRUSH MANAGEMENT ZONE 1 IS LOCATED WITHIN THE LIMITS OF GRADING OF THE PROJECT AND IS ANALYZED WITH THE DIRECT IMPACTS OF THE PROJECT. BRUSH MANAGEMENT ZONE 1 IS LOCATED ADJACENT TO BUILDINGS AND IS NOT ADJACENT TO THE MHPA. BRUSH MANAGEMENT ZONE 2 WILL INCLUDE ONLY NATIVE PLANT SPECIES AND NO NON NATIVE INVASIVE PLANT SPECIES WILL BE USED. NO BRUSH MANAGEMENT IS PROPOSED IN THE MHPA.

LEGEND:

BRUSH MANAGEMENT ZONE

MHPA BUFFER ZONE

NOTE: THIS EXHIBIT IS TO BE INCLUDED WITH, AND IMPLEMENTED THROUGH, THE PROJECT SITE DEVELOMENT PERMIT.

100 0 100 200

1" = 100'

SCALE: 1" = 100'

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IN ORDER TO COMPLY WITH THE CITY'S LUAGS AND AVOID POTENTIAL INDIRECT IMPACTS TO CALIFORNIA GNATCATCHER AND BELL'S SPARROW, CONSTRUCTION WILL BE IMPLEMENTED OUTSIDE OF THE BREEDING SEASON FOR THE SPECIES, WHICH IS DEFINED BY THE CITY AS MARCH 1 TO AUGUST 15, ANNUALLY. IF CONSTRUCTION MUST OCCUR DURING THE BREEDING SEASON FOR THE CALIFORNIA GNATCATCHER AND BELL'S SPARROW, THE FOLLOWING MEASURES SHALL BE IMPLEMENTED.

- *PRIOR TO ANY CONSTRUCTION-RELATED ACTIVITY, THE BIOLOGIST SHALL SURVEY THE MHPA UP TO 500 FEET FROM THE PROPOSED CONSTRUCTION AREA IN ACCORDANCE WITH THE U.S. FISH AND WILDLIFE SERVICE PROTOCOL.*
- *IF NO CALIFORNIA GNATCATCHERS ARE FOUND TO BE PRESENT WITHIN THE MHPA UP TO 500 FEET OF THE PROPOSED CONSTRUCTION AREA, THEN THE PROJECT CONSTRUCTION MAY PROCEED WITHOUT RESTRICTIONS.*
- *IF CALIFORNIA GNATCATCHERS ARE FOUND OFF SITE WITHIN THE MHPA, CONSTRUCTION WITHIN 500 FEET SHALL NOT COMMENCE UNTIL TEMPORARY NOISE BARRIER(S) ARE PLACE BETWEEN THE CONSTRUCTION AREA AND OCCUPIED GNATCATCHER HABITAT. THE LOCATION OF THE NOISE BARRIER(S) SHALL BE DETERMINED BY THE BIOLOGIST AND ACOUSTICIAN. CONSTRUCTION NOISE LEVELS SHALL BE MONITORED AT THE EDGE OF OCCUPIED HABITAT WITH THE NOISE BARRIER(S) IN PLACE. OTHER MEASURES SHALL BE IMPLEMENTED, AS NECESSARY, TO REDUCE NOISE LEVELS TO BELOW 60 DB(A), OR TO THE AMBIENT NOISE LEVEL IF IT ALREADY EXCEEDS 60 DB(A) AT THE EDGE OF THE OCCUPIED HABITAT.*

CONSTRUCTION NOISE SHALL BE MONITORED ONCE WEEKLY TO VERIFY THAT NOISE AT THE EDGE OF OCCUPIED HABITAT IN THE MHPA IS MAINTAINED BELOW 60 DB(A), OR TO THE AMBIENT NOISE LEVEL IF IT ALREADY EXCEEDS 60 DB(A). IF THIS REQUIREMENT CANNOT BE MET, OTHER MEASURES SHALL BE IMPLEMENTED AS NECESSARY, TO REDUCE NOISE LEVELS TO BELOW 60 DB(A) OR TO THE AMBIENT NOISE LEVEL IF IT ALREADY EXCEEDS 60 DB(A). SUCH MEASURES MAY INCLUDE, BUT ARE NOT LIMITED TO, PLACEMENT OF CONSTRUCTION EQUIPMENT, AND LIMITATIONS ON THE SIMULTANEOUS USE OF EQUIPMENT.

APPENDIX H

2003 Biological Resources Technical Report

BIOLOGICAL RESOURCES TECHNICAL REPORT
for the
OUR LADY OF MOUNT CARMEL CATHOLIC CHURCH SAN DIEGO, CALIFORNIA
(Project No. 2752)

Prepared for:

Catholic Diocese of San Diego
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San Diego, CA 92177
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Prepared by:

DUDEK
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Professional Teams for Complex Projects

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Encinitas, CA 92024
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Vipul R. Joshi, Biologist/Project Manager

AUGUST 2003

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SUMMARY OF FINDINGS

The proposed Our Lady of Mount Carmel Catholic Church project site occupies 11.1 acres of open land in the northern portion of the City of San Diego (City). The site is within Subarea IV of the Future Urbanizing Area of the City. The western portion of the site includes a portion of the planned Camino Del Sur roadway. The planned extension of State Route 56 is located north of the project site. The Multiple Habitat Planning Area (MHPA) occurs along the site border to the north, west, and south.

Based on species composition and physiognomy, three native plant communities are present on the site: chamise chaparral (8.9 acres), scrub oak chaparral (0.6 acre), and southern mixed chaparral (0.9 acre). The site supports two unvegetated stream channels under the jurisdiction of the U.S. Army Corps of Engineers and California Department of Fish and Game. A vernal pool complex occurs in the southwestern corner of the site. Although the vast majority of the vernal pool basin areas are offsite, the watershed for the complex does extend slightly onto the site.

Four sensitive plant species were detected onsite: summer-holly (*Comarostaphylis diversifolia* ssp. *diversifolia*), California adolphia (*Adolphia californica*), Nuttall's scrub oak (*Quercus dumosa*), and ashy spike-moss (*Selaginella cinerascens*). Four sensitive wildlife species were detected onsite: coastal western whiptail (*Cnemidophorus tigris multiscutatus*), San Diego horned lizard (*Phrynosoma coronatum blainvillei*), white-tailed kite (*Elanus leucurus*), and San Diego black-tailed jackrabbit (*Lepus californicus bennettii*).

Implementation of the proposed project would result in grading of 9.8 acres of native habitat on the site. In addition, 0.7 acres of the site will be impacted due to grading within the Camino Del Sur right-of-way; however these impacts have been previously analyzed, approved, and mitigated. Impacts to scrub oak chaparral, chamise chaparral, and southern mixed chaparral and to sensitive plant and wildlife species as result of the Mt. Carmel Catholic Church project are significant and will require mitigation in accordance with the City of San Diego's mitigation guidelines as set forth in the *Biology Guidelines* of the *Land Development Code*. Although impacts to one of the unvegetated stream channels would occur as a result of the project, these impacts are not considered significant because the feature is ephemeral in nature and does not meet the City's definition for wetlands. The project does meet Land Use Adjacency Guidelines intended to reduce indirect impacts to the adjacent MHPA. The project also avoids direct and indirect impacts to the vernal pool complex in the southwestern corner of the site.

1.0 INTRODUCTION

The proposed Our Lady of Mount Carmel Catholic Church project site occupies 11.1 acres of open land in the northern portion of the City of San Diego (City). The site is within Subarea IV of the Future Urbanizing Area of the City. The western portion of the site includes a portion of the planned Camino Del Sur roadway. The planned extension of State Route 56 is located north of the project site. The project includes construction of a worship center, parish hall, a parish ministries center, a school, administrative offices, a playground, and parking lots.

Biological surveys of the project site were conducted by Dudek & Associates, Inc. (DUDEK) biologists in August 1998, July 2000, and September 2002.

The purposes of this report are to describe the biological character of the site in terms of vegetation, flora, wildlife, and wildlife habitats; analyze the biological significance of the site in view of federal, state, and local laws and policies; and provide an analysis of the effects of the proposed project.

2.0 METHODS AND SURVEY LIMITATIONS

Data regarding biological resources present on the project site were obtained through a review of the pertinent literature and through field reconnaissance, both of which are described in detail below.

2.1 Literature Review

Sensitive biological resources present or potentially present onsite were identified through a literature search using the following sources: the California Natural Diversity Database (CNDDB)(2001), U.S. Fish and Wildlife Service (2000), California Department of Fish and Game (2000a-d), California Native Plant Society's Inventory of Rare and Endangered Vascular Plants (CNPS)(2001), and the scientific literature. General information regarding wildlife species present in the region was obtained from Unitt (1984) for birds, Bond (1977) for mammals, Stebbins (1985) for reptiles and amphibians, and Emmel and Emmel (1973) for butterflies.

2.2 Field Reconnaissance

Biological surveys of the site were conducted by DUDEK biologists, as summarized in *Table 1*. Surveys were conducted by foot and the entire property was surveyed and inventoried for biotic components. Surveys performed in August 1998 were conducted by botanists Harold Wier and Sherri Miller, and wildlife biologist Brock Ortega. Surveys performed in July 2000 were conducted by botanist Darren Smith, wetland specialist Vipul Joshi, and wildlife biologist Jeffrey Priest. Mr. Joshi revisited the site in September 2002 and in May 2003 with DUDEK biologist Paul Lemons.

TABLE 1
SUMMARY OF SURVEYS CONDUCTED ON THE PROJECT SITE

Date	Personnel	Purpose	Conditions
August 14, 1998	B. Ortega, S. Miller	Wildlife, vegetation mapping, plants	40-100% cloud cover, light breeze, 70-78 degrees Fahrenheit
August 27, 1998	H. Wier	Plants	▪▪
July 1, 2000	D. Smith, V. Joshi	Vegetation, plants, wetland delineation	Clear, winds < 1 mph, 80 degrees Fahrenheit
July 3, 2000	J. Priest	Wildlife	Overcast, winds < 1 mph, 65-71 degrees Fahrenheit
September 19, 2002	V. Joshi	Vernal Pool Mapping	Clear, winds <1 mph, 58 degrees Fahrenheit
May 19, 2003	V. Joshi, P. Lemons	Vernal Pool Watershed Mapping	Clear, winds <1 mph, 72 degrees Fahrenheit

2.2.1 Resource Mapping

Plant communities were mapped in July of 2000 in the field directly onto a 150-scale (1" = 150') color aerial photograph (MrSID San Diego Aerial Image Database) with the site topography plotted on the photograph. The vegetation boundaries and locations of sensitive species were digitized using AutoCAD. A geographic information system (GIS) coverage was created using ArcCAD to calculate acreages of each vegetation type and impacts of the proposed project.

Plant community classifications used in this report follow Holland (1986), with modifications to accommodate the lack of conformity of the observed communities to those of Holland. Locations of rare or sensitive plant and wildlife species also were mapped.

2.2.2 Flora

Botanical surveys of the site were conducted by DUDEK in August of 1998 and July of 2000 (*Table 1*). All plant species encountered during the field surveys were identified and recorded. Those plant species that could not be identified immediately in the field were brought into the laboratory for further investigation. Latin and common names of plants follow *The Jepson Manual* (Hickman 1993). Where not listed in Hickman, common names are taken from Beauchamp (1986) or Abrams (1923). A cumulative list of plant species observed on the property during the surveys is presented in *Appendix A*.

2.2.3 Fauna

Surveys were conducted for general zoological resources in August 1998 and July 2000 (*Table 1*). Wildlife species detected during the field surveys by sight, vocalizations, burrows, tracks, scat, and other sign were recorded. Binoculars were used to aid in the identification of observed wildlife. Latin and common names of animals referred to in this report follow Stebbins (1985) for reptiles and amphibians, American Ornithologists' Union (1983, 2000) for birds, and Jones *et al.* (1997) for mammals. A cumulative list of wildlife species observed on the project site during all surveys is presented in *Appendix B*.

2.2.4 Sensitive and/or Regulated Resources

Sensitive biological resources are those defined as follows: **(1)** species that have been given special recognition by federal, state, or local conservation agencies and organizations due to limited, declining, or threatened population sizes; **(2)** habitat areas or plant communities that are unique, are of relatively limited distribution, or are of particular value to wildlife; and **(3)** habitat linkages and wildlife corridors. Regulated resources are those that if impacted would require a permit(s) from local, state, or federal agencies (*e.g.,* wetlands).

A focused survey/habitat assessment for narrow endemic plant species, as listed in the City of San Diego Multiple Species Conservation Program (MSCP), was conducted in July 2000 by Darren Smith and May 2003 by Vipul Joshi and Paul Lemons. A jurisdictional wetland delineation of the site was conducted by Vipul Joshi in July 2000. Potential vernal pools were identified both onsite and offsite by Mr. Smith and Mr. Joshi during July 2000

surveys. Mr. Joshi mapped the vernal pools in detail using a portable global positioning system (GPS) unit with sub-meter accuracy in September 2002. Because the project has been designed to avoid direct and indirect impacts to all vernal pools (on site and off site), no focused vernal pool flora or fauna surveys (*e.g.*, fairy shrimp surveys) were conducted. The wildlife survey conducted in August 1998 by Brock Ortega determined that the site does not support habitat for the federally-listed threatened California gnatcatcher (*Polioptila californica*), federally-listed endangered quino checkerspot butterfly (*Euphydryas editha quino*), or federally-listed endangered arroyo toad (*Bufo californicus*). Thus, focused surveys were not conducted for these species. Also, the project site falls outside the range of the federally-listed endangered Pacific pocket mouse (*Perognathus longimembris pacificus*) and focused trapping studies were not conducted.

2.3 Survey Limitations

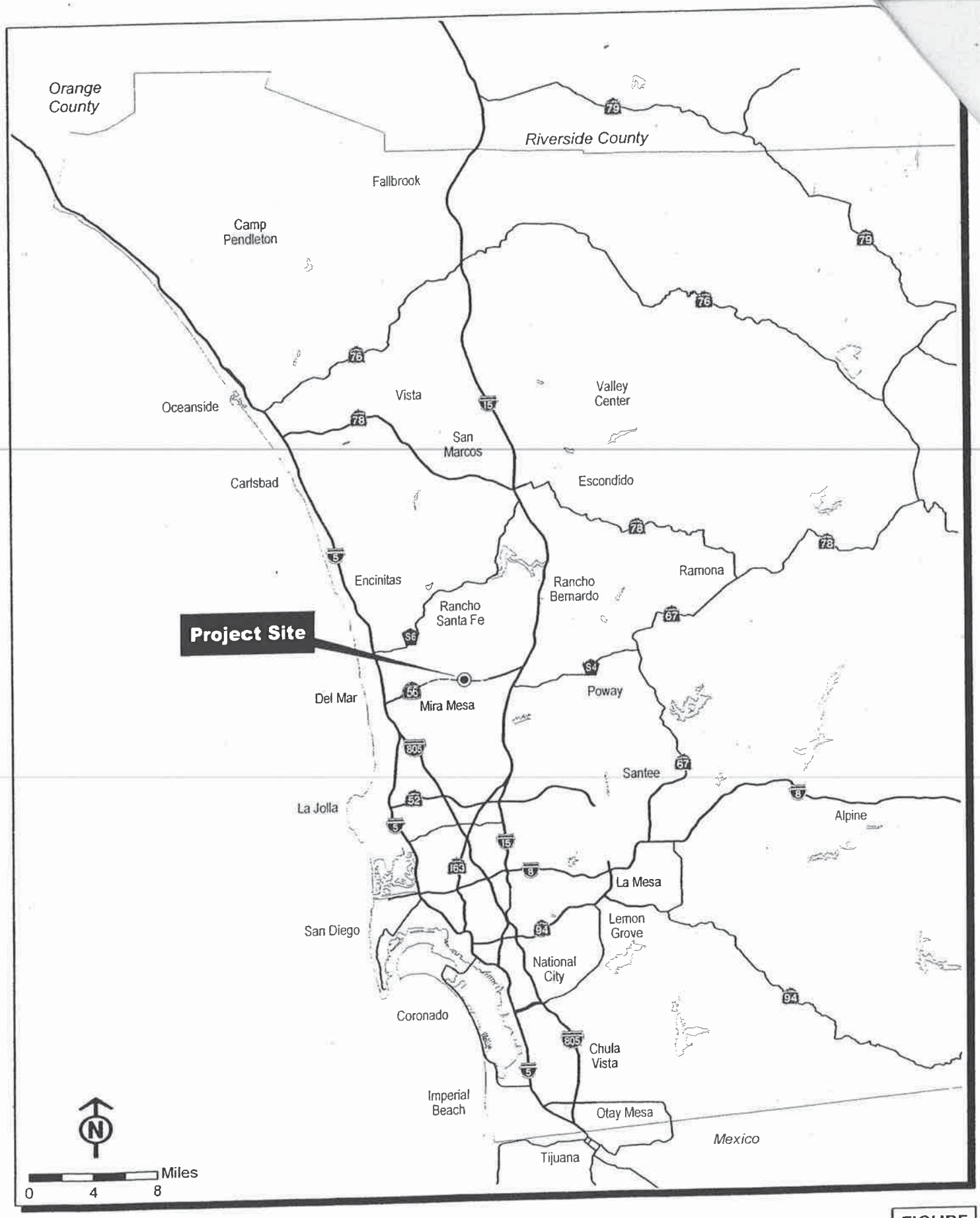
Limitations of the surveys include a diurnal bias and the absence of trapping for small mammals and reptiles. Surveys were conducted during the daytime to maximize the detection of plants and most animals. Birds represent the largest component of the vertebrate fauna, and because most birds are active in the daytime, diurnal surveys maximize the number of observations of this portion of the fauna. In contrast, daytime surveys usually result in few observations of mammals, many of which may only be active at night. In addition, many species of reptiles and amphibians are secretive in their habits and are difficult to observe using standard meandering transects.

The surveys were conducted relatively late in the Spring 2000 season for detecting many sensitive annual plant species. In addition, the year 2000 was relatively dry and was not considered a good year for detecting annual plants. However, Spring 2003 surveys were optimally timed for detection of sensitive annual species and rainfall prior to Spring 2003 was normal.

3.0 PHYSICAL CHARACTERISTICS

3.1 Site Description

The proposed project site occupies 11.1 acres of open land in the northern portion of the City of San Diego (*Figure 1*). The site is within Subarea IV of the Future Urbanizing Area of the City (*Figure 2*). The western portion of the site includes a portion of the planned Camino Del Sur roadway. The planned extension of State Route 56 is located north of the project site. It is located on the U.S. Geological Survey (USGS) 7.5 minute map, Del Mar quadrangle, SE¼ NE¼ SE¼ of Section 14, R3W,T14S.



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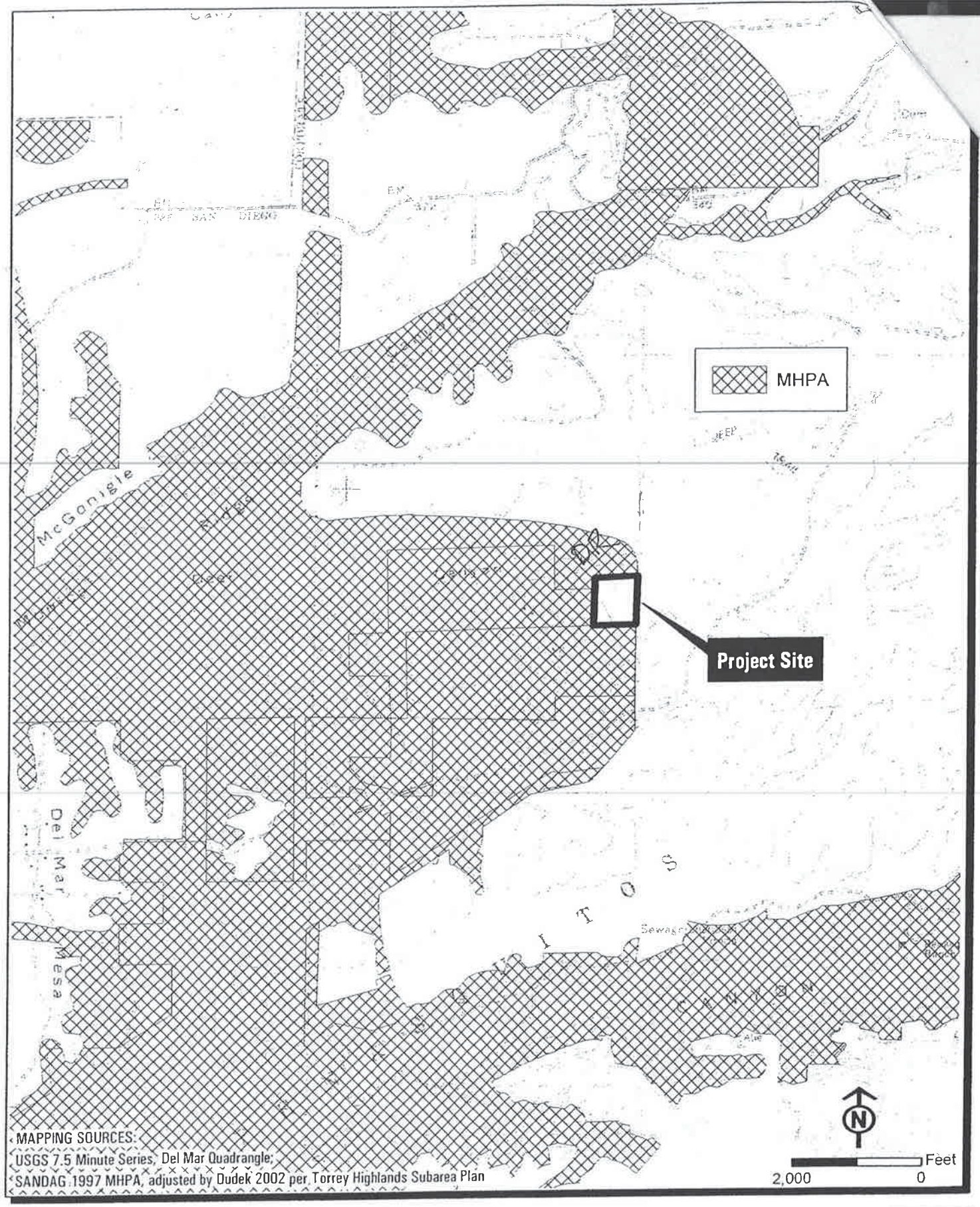
Regional Map

FIGURE 1



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Vicinity Map with MHPA

FIGURE 2

3.1.1 Topography

The site has diverse topography with level to gently sloping terrain in the southern and western portions and two steep canyons with north-trending drainages in the central and northeastern portions of the site. Elevations on the site range from about 325 feet above mean sea level in the drainages in the north and northeastern portions of the site to about 410 feet in the southwestern corner of the site.

3.1.2 Soils

According to Bowman (1973), the site supports Redding gravelly loam (RdC) and terrace escarpments (TeF). Redding gravelly loams have a gravelly clay subsoil formed in mixed cobbly and gravelly alluvium. They typically occur on 2-9 percent gently rolling slopes and may form hummocks locally known as mima mounds. Terrace escarpments consist of steep to very steep escarpments on nearly even fronts of terraces or alluvial fans. In most areas, the escarpment contains 4 to 10 inches of loamy or gravelly soil over soft marine sandstone, shale, and gravelly sediments (Bowman 1973).

3.1.3 Onsite and Surrounding Land Uses

The eastern boundary of the site is defined by a dirt road. The project site and immediate surrounding areas currently are vacant and support natural habitats. Grading for SR-56, and development north of SR-56, has begun north of the site. The residential community of Rancho Peñasquitos is located east of the site.

4.0 RESULTS OF SURVEYS

4.1 Botany - Plant Communities and Floral Diversity

Based on species composition and general physiogomy, three native plant communities were identified on the site: chamise chaparral, scrub oak chaparral and southern mixed chaparral. *Table 2* provides the acreages of these vegetation types and *Figure 3* shows their spatial distribution. The vegetation communities are discussed in detail below.

TABLE 2
ACREAGES BY HABITAT TYPE

Habitat Type	Acreage
Chamise chaparral	9.1
Scrub oak chaparral	0.8
Southern mixed chaparral	1.2
Unvegetated stream channel	0.02 (955 sq. ft.)
TOTAL	**11.1**

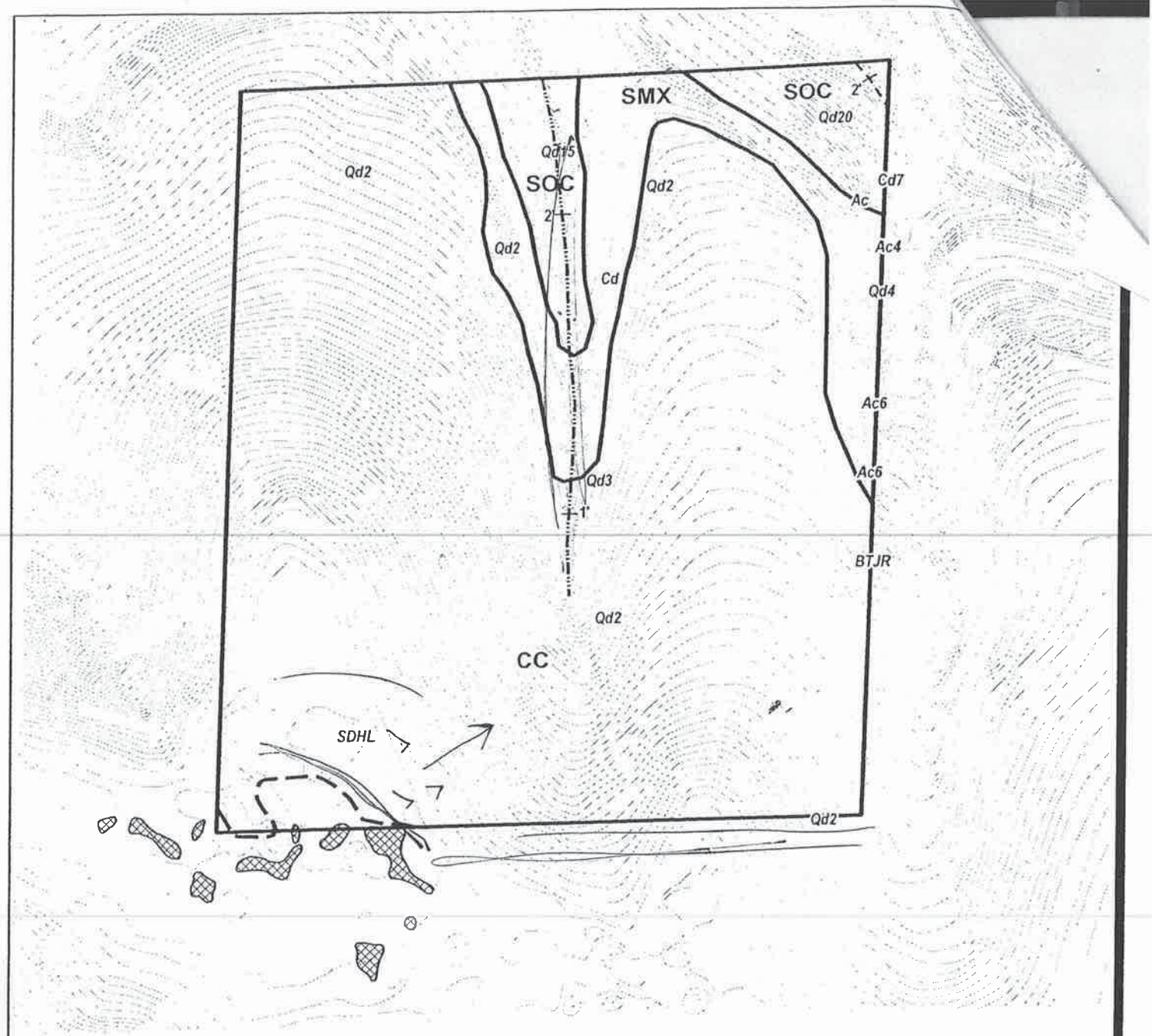
4.1.1 Chamise Chaparral

Description of Typical Chamise Chaparral Habitat

Chamise chaparral is a drought- and fire-adapted community of 1 to 3 meter tall woody shrubs dominated by mature stands of chamise (*Adenostoma fasciculatum*), with very little understory litter or herbaceous material. In addition to chamise, characteristic species of chamise chaparral include manzanita (*Arctostaphylos* spp.), ceanothus (*Ceanothus* spp.), yucca (*Yucca* spp.), sages (*Salvia* spp.), California buckwheat (*Eriogonum fasciculatum*), holly-leaved cherry (*Prunus ilicifolia*), deerweed (*Lotus scoparius*), laurel sumac (*Malosma laurina*), and ashy spike-moss (*Selaginella cinerascens*) (Holland 1986).

Site Specific Chamise Chaparral Habitat

The site supports 8.9 acres of chamise chaparral. The rationale for determining the habitat onsite to be chamise chaparral is because this community on the project site is comprised of approximately 70 percent chamise and about 5 percent each of lemonadeberry (*Rhus integrifolia*), laural sumac, bush monkeyflower (*Mimulus aurantiacus*), and black sage (*Salvia mellifera*), with a cover of ashy spike-moss in open flat areas. The understory includes fascicled tarweed (*Hemizonia fasciculata*), dwarf stonecrop (*Crassula connata*), narrow-leaf filago (*Filago gallica*), and foothill stipa (*Nassella lepida*).



Vegetation Types:

- CC Chamise Chaparral
- SMX Southern Mixed Chaparral
- SOC Scrub Oak Chaparral

Sensitive Plant Species:

Ac = Adolphia californica
Cd = Comarostaphylis diversifolia
Qd = Quercus dumosa

NOTE: Numbers indicate individual plant counts at that location.

Sensitive Animal Species:

BTJR = black-tailed jackrabbit
SDHL = San Diego horned lizard

Ephemeral Stream Channel
Intermittent Stream Channel
NOTE: Width measurements in feet indicate channel width at that location.

Northern Limits of Potential Vernal Pool Watershed
Vernal Pool Basin Area

N
0 150 Feet

BASE TOPO/GRADING SOURCE: Leppert Engineering, May 2003

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Biological Resoures Map

FIGURE 3

ANGIE CULTURAL
760-274-3056

4.1.2 Scrub Oak Chaparral

Description of Typical Scrub Oak Chaparral Habitat

Scrub oak chaparral is dominated by Nuttall•s scrub oak (*Quercus dumosa*) and/or ■interior• scrub oak (*Quercus berberidifolia*) and mountain-mahogony (*Cercocarpus* spp.). This dense evergreen chaparral reaches a height of 6 meters. Other typical species in scrub oak chaparral include Eastwood•s manzanita (*Arctostaphylos glandulosa*), holly-leaved redberry (*Rhamnus ilicifolia*), holly-leaved cherry, ceanothus, honeysuckle (*Lonicera* spp.), narrow-leaved bedstraw (*Galium angustifolium*), toyon (*Heteromeles arbutifolia*), and poison-oak (*Toxicodendron diversilobum*). This fire-tolerant scrub type occupies relatively mesic areas compared to many other chaparrals (Holland 1986).

Site Specific Scrub Oak Chaparral Habitat

The site supports 0.6 acre of scrub oak chaparral. The scrub oak chaparral on the site is approximately 80 percent Nuttall•s scrub oak and 15 percent lemonadeberry, with a brush understory of bush monkeyflower (5%) and southern honeysuckle (*Lonicera subspicata* var. *denudata*). The rationale for classifying this as scrub oak chaparral habitat is due to the dominance of Nuttall•s scrub oak (80% coverage) in this area.

4.1.3 Southern Mixed Chaparral

Description of Typical Southern Mixed Chaparral Habitat

Southern mixed chaparral is a drought- and fire-adapted community of woody shrubs 1.5 to 3 meters tall, frequently forming dense, impenetrable stands. It develops primarily on mesic north-facing slopes and in canyons, and is characterized by crown- or stump-sprouting species that regenerate following burns or other ecological catastrophes. This chaparral association typically contains a mixture of chamise, mission manzanita (*Xylococcus bicolor*), ceanothus, scrub oak (*Quercus dumosa* and *Q. berberidifolia*), laurel sumac, and black sage (Holland 1986).

Site Specific Southern Mixed Chaparral Habitat

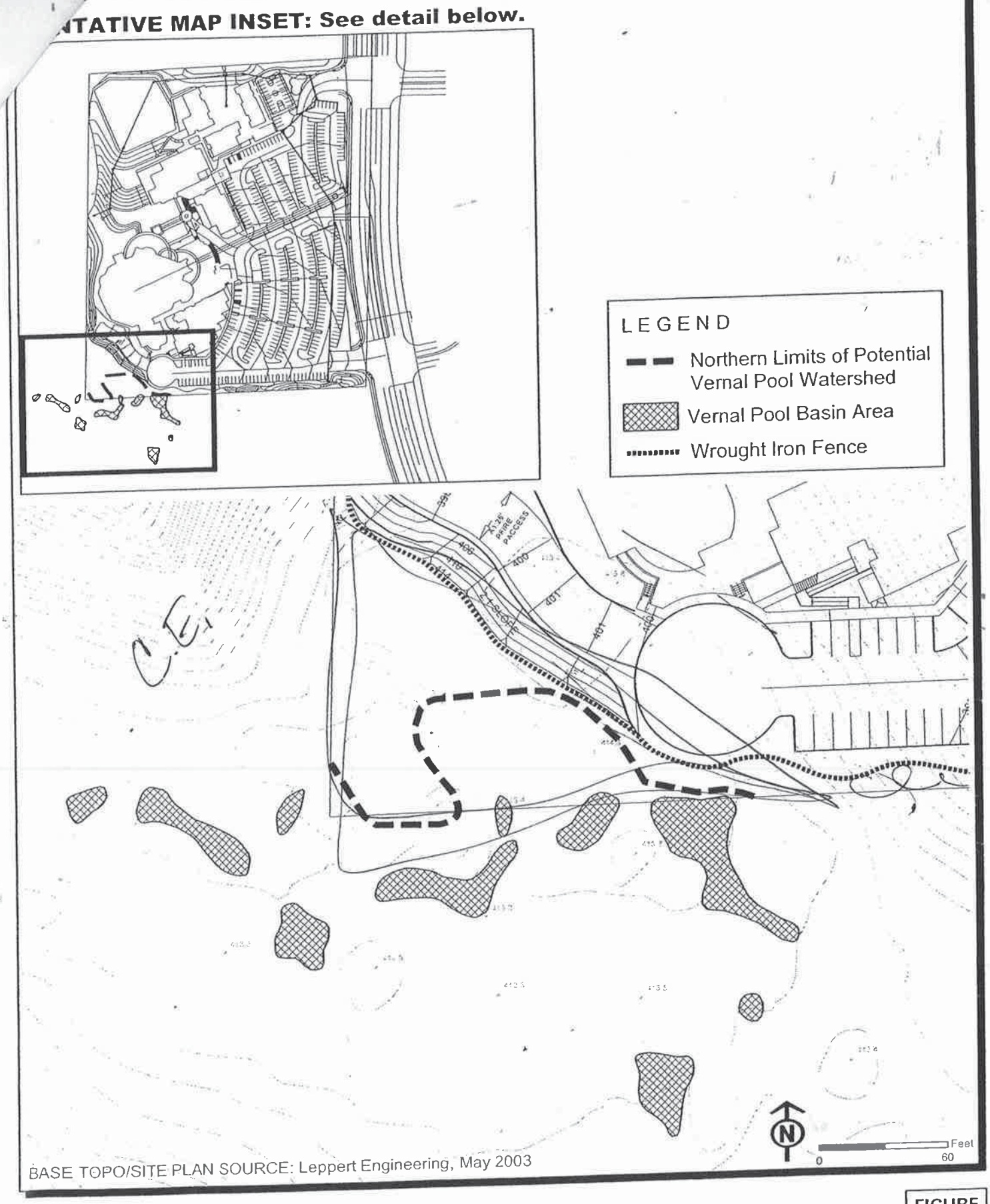
The site supports 0.9 acre of southern mixed chaparral. The southern mixed chaparral on the site is comprised of a relatively even mix of mission manzanita, lemonadeberry, black sage, Nuttall•s scrub oak, chamise, redberry (*Rhamnus crocea*), and bush monkeyflower.

Southern maritime chaparral is similar to southern mixed chaparral but is restricted to coastal localities within the fog belt and typically develops on sandstone soils. Components of southern maritime chaparral, such as Del Mar manzanita *(Arctostaphylos glandulosa* ssp. *glandulosa)*, wart-stemmed ceanothus *(Ceanthothus verrucossus)*, and cactus *(Opuntia* spp.*)* were also not detected. The habitat onsite is therefore considered southern mixed chaparral because it does not occur within the fog belt nor on sandstone soils and does not support of these coastal species.

4.1.4 Vernal Pool

The southwestern portion of the site contains a depressional basin that extends offsite to other basins to the south and west (*Figure 3*). These depressions were examined for floral species to determine the presence of vernal pools. Within the depression onsite, floral species consisted of *Navarretia hamata, Selaginella cinerascens,* and *Vulpia myuros*, none of which are listed as hydrophytic plants in the national inventory (Reed 1988). However, soils were not examined so as to not disturb a potential vernal pool site. No hydrology indicators were present during the year 2000 survey and the topography of the basin indicated that it would only shallowly fill with water (less than 15 centimeters deep). Based on these observations, it was determined that the depressional basin onsite is not a vernal pool and could not be classified as a jurisdictional wetland. However, in August 1998 this depression had exhibited recent ponding from heavy El Niño rains that had fallen the previous winter and spring. Furthermore, this depression probably is connected hydrologically with the larger vernal pool complex to the south (*Figure 3*). For this reason, DUDEK cannot rule out this depression as a vernal pool based on current information, or at least a component of the vernal pools in the immediate area. Consequently, this depression was mapped as potential vernal pool habitat.

The larger, offsite vernal pool complex is known to be conserved and owned by USFWS, however this land was not surveyed as part of this project. The extent of vernal pool species supported in this area is not known but assumed to contain numerous sensitive species including the potential for San Diego fairy shrimp *(Branchinecta sandiegoensis)*. A small portion of the offsite area (extending approximately 50 feet west and south of the southwestern corner) was surveyed to determine the location of potential vernal pool basins and vernal pool watershed *(Figures 3 and 5)*. These immediate basins appear much like those described above; lacking hydrophytic plants and only shallowly depressed. The northern watershed limit for the onsite and offsite vernal pools, based on visual estimation and topographic map interpretation, appears to extend approximately 20 feet north of the basins themselves. From there the watershed continues south of the basins and the project site *(Figure 5)*.



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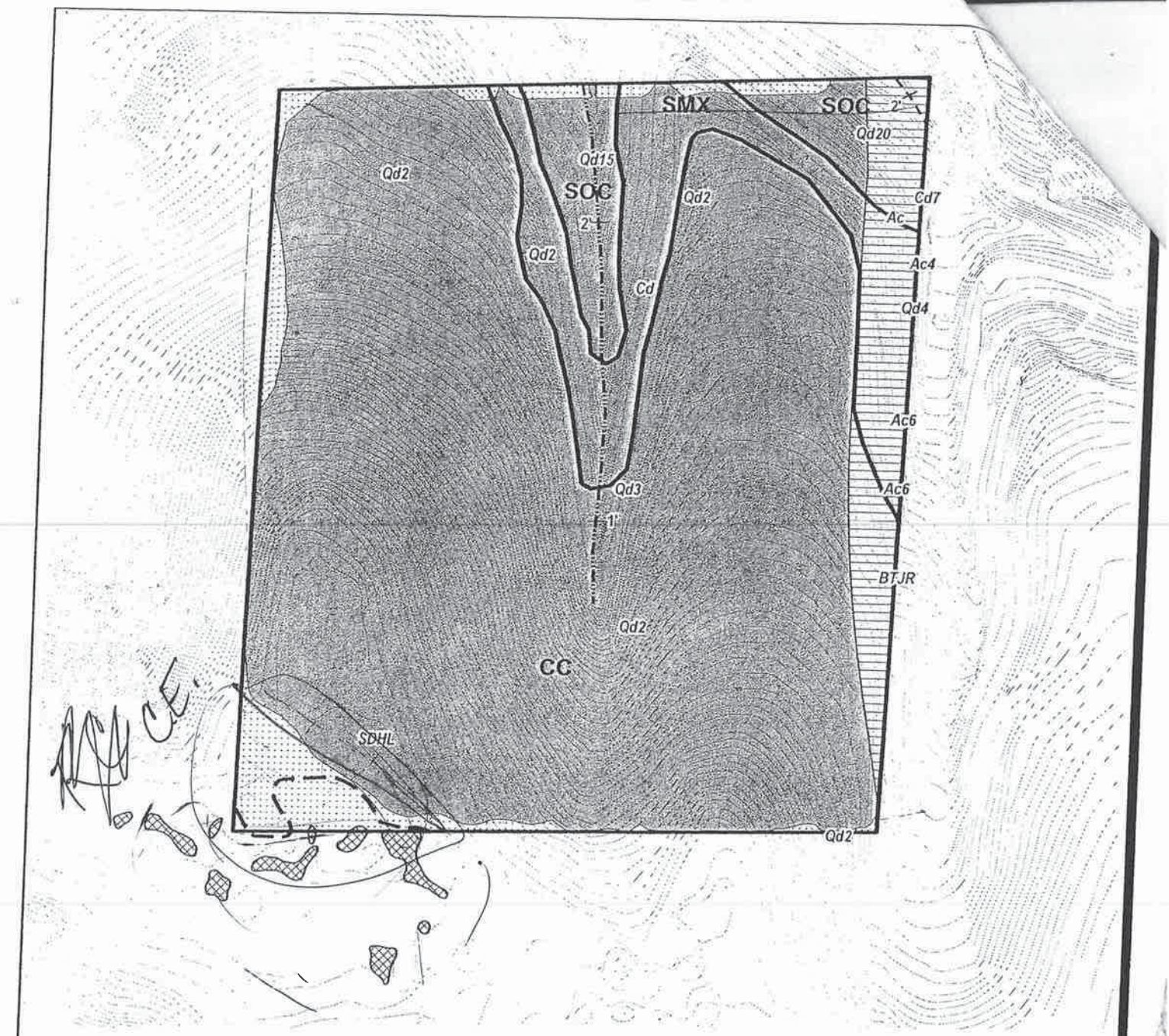
Vernal Pool Avoidance Detail Map

FIGURE 5



Vegetation Types:

- CC Chamise Chaparral
- SMX Southern Mixed Chaparral
- SOC Scrub Oak Chaparral

Proposed Limits of Project Grading

Proposed Camino Ruiz R.O.W.

Proposed Onsite Conservation Easement

Sensitive Plant Species:

Ac = Adolphia californica

Cd = Comarostaphylis diversifolia

Qd = Quercus dumosa

NOTE: Numbers indicate individual plant counts at that location.

Sensitive Animal Species:

BTJR = black-tailed jackrabbit

SDHL = San Diego horned lizard

Ephemeral Stream Channel

Intermittent Stream Channel

NOTE: Width measurements in feet indicate channel width at that location.

Northern Limits of Potential Vernal Pool Watershed

Vernal Pool Basin Area

BASE TOPO/GRADING SOURCE: Leppert Engineering, May 2003

N

0 150 Feet

Our Lady of Mt. Carmel Catholic Church - Biological Resources Report & Impact Analysis

Biological Resources Map with Proposed Grading

FIGURE 4

4.1.5 Jurisdictional Waters

Two unvegetated stream channels totaling 0.02 acre in size were identified on the project site. Vegetation with both drainages is consistent with surrounding upland communities. Both drainages drain to Deer Canyon which eventually drains to the Pacific Ocean via Los Penasquitos Lagoon. Based on a visual assessment of topography, vegetation, and drainage patterns, the northeast drainage is likely intermittent in nature where as the central drainage is likely ephemeral in nature. An ephemeral drainage, by definition, supports flowing water during or immediately after a rain event (up to 24 hours). An intermittent drainage support flowing water for much longer mostly because they contain larger watersheds, are closer to the water table or a seep of some type. The intermittent nature of a drainage is evidenced by presence of at least some hydrophytic vegetation whereas ephemeral drainages often only support species typical of the surrounding uplands (in this case chaparral). Although the intermittent drainage may meet the City definition of wetlands, the ephemeral drainage does not.

4.1.6 Floral Diversity

A total of 40 species of vascular plants was recorded from the site (APPENDIX A). Of the plants detected 29 (72%) are native and 11 (28%) are non-native. The number of plant species occurring on the site is limited by the small size of the site and its low habitat diversity.

4.2 Zoology

A total of 37 wildlife species was observed or detected on the site: two reptiles, 21 birds, seven mammals, and seven butterflies.

4.2.1 Birds

Some of the more common bird species detected on the project site included house finch (*Carpodacus mexicanus*), mourning dove (*Xanadu macroura*), Bewick's wren (*Thyromanes bewickii*), California towhee (*Pipilo crissalis*), spotted towhee (*Pipilo erythrophthalmus*), California quail (*Callipepla californica*), wrentit (*Chamaea fasciata*), common raven (*Corvus corax*), scrub jay (*Aphelocoma coerulescens*), and Anna's hummingbird (*Calypte anna*). Some less common birds observed on the site included white-tailed kite (*Elanus leucurus*), greater roadrunner (*Geococcyx californianus*), lesser nighthawk (*Chordeiles acutipennis*), Allen's hummingbird (*Selasphorus sasin*), Lincoln's sparrow (*Melospiza lincolnii*), and California thrasher (*Toxostoma redivivum*).

4.2.2 Reptiles and Amphibians

No amphibians and only two reptiles species were detected on the site: coastal western whiptail (*Cnemidophorus tigris multiscutatus*) and San Diego horned lizard (*Phrynosoma coronatum blainvillei*) (scat). Other reptiles and amphibians expected to occur include western fence lizard (*Sceloporus occidentalis*), side-blotched lizard (*Uta stansburiana*), gopher snake (*Pituophis melanoleucus*), northern red-diamond rattlesnake (*Crotalus ruber ruber*), western rattlesnake (*Crotalus viridis*), orange-throated whiptail (*Cnemidophorus hyperythrus beldingi*), southern alligator lizard (*Gerrhonotus multicarinatus*), western toad (*Bufo boreas*), Pacific treefrog (*Hyla regilla*), and California treefrog (*Hyla cadaverina*).

4.2.3 Mammals

Seven mammals were observed or detected on the site: coyote (*Canis latrans*), mule deer (*Odocoileus hemionus*), bobcat (*Felis rufus*), California ground squirrel (*Spermophilus beecheyi*), cottontail rabbit (*Sylvilagus* sp.), San Diego black-tailed jackrabbit (*Lepus californicus bennettii*), and woodrat (*Neotoma* sp.). Other mammals highly likely to occur on the site include raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), Virginia opossum (*Didelphis virginiana*), deer mouse (*Peromyscus maniculatus*), California mouse (*Peromyscus californicus*), cactus mouse (*Peromyscus eremicus*), Dulzura California pocket mouse (*Chaetodipus californicus femoralis*), Dulzura kangaroo rat (*Dipodomys simulans*), and western harvest mouse (*Reithrodontomys megalotis*).

4.2.4 Invertebrates

Seven butterfly species were observed on the site: tiger swallowtail (*Papilio rutulus*), cabbage butterfly (*Pieris rapae*), common white (*Pontia protodice*), marine blue (*Leptotes marina*), acmon blue (*Plebejus acmon*), queen (*Danaus gilippus*), and west coast lady (*Vanessa annabella*).

4.3 Sensitive Resources

The following resources are discussed in this section: (1) plant and animal species present in the project vicinity that are given special recognition by federal, state, or local conservation agencies and organizations owing to declining, limited, or threatened populations; and (2) habitat areas that are unique, are of relatively limited distribution, or

are of particular value to wildlife. Sources used for determination of sensitive biological resources are as follows: wildlife -- U.S. Fish and Wildlife Service (USFWS 2000), California Department of Fish and Game (CDFG 2000), and Remsen (1978); plants -- USFWS (2000), CDFG (2000), and CNPS (2001).

4.3.1 Sensitive Plant Species

Four sensitive plant species were detected onsite: California adolphia (*Adolphia californica*), summer-holly (*Comarostaphylis diversifolia* ssp. *diversifolia*), Nuttall's scrub oak (*Quercus dumosa*), and ashy spike-moss (*Selaginella cinerascens*). The listing authorities and explanation of listing categories are presented in *Appendix C*. No City of San Diego narrow endemic plants were observed on the site and none are expected to occur. In addition, there was no observation of wart-stemmed ceanothus on the project site. These species are listed in *Table 3* and the reason for their absence from the site is indicated.

TABLE 3
OBSERVED AND POTENTIALLY OCCURRING SENSITIVE SPECIES

Scientific Name	Common Name	Status Fed/State	Primary Habitat Associations	Status Onsite and Potential for Occurrence
Plants				
Acanthomintha ilicifolia	San Diego thornmint	FE/CE	native grassland, coastal sage scrub, chaparral on crumbly clay soils	Not detected and low potential to occur. Friable soils not present onsite.
Adolphia californica	California adolphia	None/None	chaparral and coastal sage scrub on clay soils	Observed
Agave shawii	Shaw's agave	None/None	coastal bluffs and slopes	Not detected. Outside of range.
Ambrosia pumila	San Diego ambrosia	PE/None	dry coastal grasslands, edges of vernal pools, sand or fine sandy loams.	Not detected. Habitat not present.

Scientific Name	Common Name	Status Fed/State	Primary Habitat Associations	Status Onsite and Potential for Occurrence
Aphanisma blitoides	aphanisma	FSC/None	coastal strand, bluffs, alkaline areas in coastal sage scrub	Not detected. Habitat not present.
Baccharis vanessae	Encinitas baccharis	FT/CE	chaparral < 300 m	Not detected. A perennial that would have been detected if present.
Comarostaphylis diversifolia ssp. *diversifolia*	summer-holly	None/None	chaparral	Observed
Ceanothus verrucossus	wart-stemmed ceanothus	None/None	chaparral	Not detected. A perennial that would have been detected if present.
Dudleya blochmaniae ssp. *brevifolia*	short-leaved dudleya	None/CE	bare sandstone terraces	Not detected. Habitat not present.
Dudleya variegata	variegated dudleya	FSC/None	mesas with clay soils	Not detected. Exposed hardpan formation not present.
Hemizonia [Deinandra] conjugens	Otay tarplant	FT/CE	clay soils and swales	Not detected. Outside of range.
Navarretia fossalis	spreading navarretia	FT/None	vernal pools and roadside depressions	Potential habitat but not detected.
Opuntia parryi var. *serpentina*	snake cholla	FSC/None	sandy soils, dry slopes of coastal sage scrub and mixed chaparral	Not detected. Habitat not present and outside of range.
Orcuttia californica	California Orcutt grass	FE/CE	vernal pools, clay soils	Potential habitat, but not detected.

Scientific Name	Common Name	Status Fed/State	Primary Habitat Associations	Status Onsite and Potential for Occurrence
Pogogyne abramsii	San Diego mesa mint	FE/CE	vernal pools, clay soils	Potential habitat, but not detected.
Pogogyne nudiuscula	Otay Mesa mint	FE/SE	vernal pools on Otay Mesa	Not detected. Outside of range.
Quercus dumosa	Nuttall's scrub oak	None/None	chaparral	Observed. Common onsite.
Selaginella cinerascens	ashy spike-moss	None/None	openings in chaparral and coastal sage scrub	Observed. Common onsite.
Birds				
Amphispiza belli belli	Bell's sage sparrow	PIF, SMC, FSC/CSC	coastal sage scrub and chaparral	Not detected. Moderate potential.
Elanus leucurus	White-tailed kite	PIF, MNBMC/SP	open scrub, grassland, agriculture, coastal sage scrub, chaparral	Observed
Polioptila californica	California gnatcatcher	FT/CSC	coastal sage scrub	Habitat not present.
Mammals				
Antrozous pallidus	Pallid bat	CSC	coastal sage scrub, chaparral, woodland	Unknown. Potential foraging habitat.
Chaetodipus californicus femoralis	Dulzura California pocket mouse	FSC/CSC	coastal sage scrub, chaparral	High potential.
Chaetodipus fallax fallax	Northwestern San Diego pocket mouse	FSC/CSC	sparse coastal sage scrub/grassland ecotone	Low potential
Lepus californicus bennettii	San Diego black-tailed jackrabbit	FSC/CSC	coastal sage scrub, grassland	Observed
Neotoma lepida intermedia	San Diego desert woodrat	FSC/CSC	coastal sage scrub, chaparral, southern cactus scrub, rock	Moderate potential.

Scientific Name	Common Name	Status Fed/State	Primary Habitat Associations	Status Onsite and Potential for Occurrence
Perognathus longimembris pacificus	Pacific pocket mouse	FE/CSC	sparse coastal sage scrub and sandy soils	Habitat not present. Outside of range.
Puma concolor	Mountain lion	None/SP	coastal sage scrub, chaparral, woodland, riparian	Moderate potential.
Amphibians and Reptiles				
Bufo californicus	arroyo toad	FE/CSC	2-3rd order streams, riparian habitats	Habitat not present.
Cnemidophorus hyperythrus beldingi	Orange-throated whiptail	FSC/CSC, SP	coastal sage scrub, chaparral, woodland	High potential.
Cnemidophorus tigris multiscutatus	Coastal western whiptail	FSC/None	coastal sage scrub, chaparral	Observed
Coleonyx variegatus abbotti	San Diego banded gecko	FSC/None	coastal sage scrub, chaparral, cliff and rock	Moderate potential.
Crotalus ruber ruber	Northern red-diamond snake	FSC/CSC	coastal sage scrub, grassland, chaparral.	Moderate potential.
Diadophis punctatus similis	San Diego ringneck snake	None/None	woodland, grassland, chaparral, cliff and rock	Moderate potential.
Lichanura trivirgata roseofusca	Coastal rosy boa	FSC/None	chaparral, coastal sage scrub, cliff and rock	Low potential.
Phrynosoma coronatum blainvillei	San Diego horned lizard	FSC/CSC, SP	coastal sage scrub, chaparral	Observed (scat)
Salvadora hexalepis virgultea	Coast patch-nosed snake	FSC/CSC	coastal sage scrub, chaparral, grassland	Moderate potential.
Scaphiopus hammondi	Western spadefoot toad	None/CSC, SP	coastal sage scrub, chaparral, grassland, vernal pools	Moderate potential.

Legend:

CE = California Endangered
CSC = California Species of Special Concern
FE = Federally Endangered
FPE = Federally Proposed Endangered

FSC	=	Federal Species of Concern
FT	=	Federally Threatened
MNBMC	=	Migratory Nongame Bird of Management Concern
PIF	=	Federal Partners in Flight Priority Bird Species
SMC	=	Federal Species of Management Concern
SP	=	State (CDFG) Protected

Adolphia californica - California adolphia
USFWS: None
CDFG: None
CNPS: List 2, 1-3-1

California adolphia is a moderate-sized (0.5-1.0 m) profusely branched, rigid, spinescent shrub, ranging from western San Diego County, California, south into adjacent northwestern Baja California, Mexico. It generally occurs on clay soils and on dry south-facing slopes and washes in chaparral and coastal sage scrub communities below 300 m (965 ft) elevation. It blooms in late winter to spring (December-May). In San Diego County it has been reported from Morro Hill, Cerro de Calavera, Agua Hedionda, Rancho Santa Fe, Mount Soledad, Bernardo, Chollas Valley, Barrett Junction, and Proctor Valley (Beauchamp 1986). This species is threatened by urbanization, which has reduced its former range considerably (Skinner and Pavlik 1994).

California adolphia is relatively common in the eastern portion of the site. Where observed, the location and number of individuals was recorded (*Figure 3*), but much of the chaparral on the site is impenetrable and the species probably occurs at other unrecorded locations.

Comarostaphylis diversifolia ssp. *diversifolia* - summer-holly
USFWS: None
CDFG: None
CNPS: List 1B, 2-2-2

Summer-holly is a large shrub generally occurring on north-facing canyons and slopes and in sandy washes in chaparral and foothill habitats below 700 m (2,297 feet). It occurs in scattered locations from the Pacific coast in San Diego County south into Baja California. Reported localities in the County include San Marcos Mountains, Mount Whitney, Rancho Santa Fe, Gonzales Canyon, Encinitas, Mount Soledad, Peñasquitos Canyon, Del Mar Heights, Iron Mountain, canyons of Mission Valley, Jamul Valley, and Otay Mountain (Beauchamp 1986).

A least seven individuals of summer-holly occur in the northeastern portion of the site and a single individual is present in the north-central part of the site (*Figure 3*). It is possible that other individuals occur in inaccessible areas.

Quercus dumosa - Nuttall's scrub oak
USFWS: None
CDFG: None
CNPS: 1B, 2-3-2

Nuttall's scrub oak is a coastal species that was separated from the closely related "interior" scrub oak (*Quercus berberidifolia*) (Hickman 1993). Although interior scrub oak is widely distributed throughout southern California in chaparral habitats, Nuttall's scrub oak is restricted to the narrow coastal strip and, hence, has been severely affected by development. Since the two species were split, Nuttall's scrub oak has become recognized as sensitive by the CNPS.

Nuttall's scrub oak is a dominant component of the scrub oak chaparral in the northern portion of the site. It also occurs in the southern mixed chaparral and it is likely that other individuals occur in inaccessible areas.
Selaginella cinerascens - ashy spike-moss
USFWS: None
CDFG: None
CNPS: None

This tiny, prostrate, whitish gray, moss-like plant occurs in San Diego County and adjacent northwestern Baja California, Mexico. In San Diego County it ranges from about Rancho Bernardo south to the international border. This plant is one of the most common understory plants in coastal sage scrub and chaparral communities, but has a restricted geographical range in southern California. Because it occurs on flat mesas below 300 m that are prime locations for housing, development of these areas has caused substantial reduction of the habitat of the ashy spike-moss.

Ashy spike-moss is abundant in openings in the chaparral on the site and thus specific locations were not mapped.

4.3.2 Sensitive Wildlife Species

One sensitive bird species, two sensitive reptile species, and one sensitive mammal were

detected on the site: white-tailed kite (*Elanus leucurus*), San Diego horned lizard (*Phrynosoma coronatum blainvillei*), coastal western whiptail (*Cnemidophorus tigris multiscutatus*), and San Diego black-tailed jackrabbit (*Lepus californicus bennettii*). The site does not support habitat for and/or occurs outside of the known range of four listed wildlife species, including the federally-listed threatened California gnatcatcher (*Polioptila californica*), the federally-listed endangered Pacific pocket mouse (*Perognathus longimembris pacificus*), the federally-listed endangered arroyo toad (*Bufo californicus*), and the federally-listed endangered quino checkerspot butterfly (*Euphydryas editha quino*). *Table 3* lists these species and their reason for absence from the site, as well as the potential status of other sensitive wildlife species known from chaparral habitats.

Birds

Elanus leucurus - white-tailed kite
USFWS: Partners in Flight Priority Bird Species, Migratory Nongame Birds of Management
CDFG: Fully-Protected Species

The white-tailed kite inhabits low elevation open grasslands, savannah-like habitats, agricultural areas, wetlands, and oak woodlands, as well as riparian areas adjacent to open areas. They use trees with dense canopies for cover. Prey abundance apparently is more important than specific vegetation structure. In California, the kite is a common to uncommon year-long resident in coastal and valley lowlands. Earlier in the last century, the California kite population was reduced by habitat loss, shooting, and possibly egg collecting, and the species almost became extinct. Although the species rebounded in California, current trends indicate a population decline, probably as a result of habitat loss to urban development, clean farming techniques, increased competition for nest sites with other raptors and corvids, drought, and disturbances of nest sites.

A white-tailed kite was observed foraging over the project site in August 1998, but roosting and breeding sites are not available onsite.

Reptile and Amphibians

Cnemidophorus tigris multiscutatus - coastal western whiptail
USFWS: Federal Concern Species
CDFG: None

The coastal western whiptail is a moderately large, slender lizard typically found in semiarid

areas or where the vegetation is sparse. It eats insects, spiders, scorpions, and lizards. It is restricted to the western coast of North America from about Ventura County, California, south through the northern two-thirds of the peninsula of Baja California. This species apparently has declined in California as a result of loss of habitat to urban development.

This species was observed in open habitat on the site in August 1998.

Phrynosoma coronatum blainvillei - San Diego horned lizard
USFWS: Federal Concern Species
CDFG: Species of Special Concern
MSCP: Covered Species

The San Diego horned lizard is a small, spiny, somewhat rounded lizard that occurs primarily in coastal sage scrub communities, but may be found in a variety of other habitats such as annual grassland, chaparral, oak woodland, riparian woodland, and coniferous forest. In inland areas, this species is restricted to areas with open microhabitats. It ranges throughout California west of the desert and Cascade-Sierran highlands, south through nearly all of Baja California, Mexico. The San Diego horned lizard appears to have disappeared from about 45 percent of its former range. Three factors have contributed to its decline: loss of habitat, over-collecting, and the introduction of exotic ants. In some places, especially adjacent to urban areas, introduced ants have displaced native harvester ants (*Pogonomyrmex* spp.) upon which the lizard feeds almost exclusively.

Scat of the San Diego horned lizard was detected in the southern portion of the site in July 2000.

Mammals

Lepus californicus bennettii - San Diego black-tailed jackrabbit
USFWS: Federal Concern Species
CDFG: Species of Special Concern

The black-tailed-jackrabbit occupies many diverse habitats, but primarily is found in arid regions supporting short-grass habitats. Jackrabbits typically are not found in high grass or dense brush where it is difficult for them to locomote, and the openness of open scrub habitat probably is preferred over dense chaparral. Jackrabbits are common in grasslands that are overgrazed by cattle and they are well adapted to using low-intensity agricultural habitats. In fact, to a point, drought and overgrazing may create better habitat for black-

tailed-jackrabbits. The black-tailed jackrabbit is widespread throughout the western United States, west from central Missouri and Arkansas, and only is absent from the higher elevations of the Rocky Mountains, the Sierra Nevada, and the Cascades (Hall 1981). It ranges south into central Mexico. Urban development, habitat loss, and habitat fragmentation and isolation of populations are all potential long-term risks to jackrabbits in southern California. They may disappear from a location when the size of the habitat patch declines to some critical point. Jackrabbit populations exhibit large fluctuations and the risk of extirpation from marginal isolated habitat patches probably is high. Suitable habitat linkages, including agriculture, may be very important for colonization of unoccupied habitat patches.

A black-tailed jackrabbit was observed in July 2000 along the eastern edge of the site.

4.3.3 Sensitive Habitats

Sensitive habitats are those that are considered rare or declining in the region or support sensitive plant and/or wildlife species. Habitats found onsite that are considered sensitive are chamise chaparral, scrub oak chaparral, and southern mixed chaparral because they are declining regionally and support sensitive plant and wildlife species. Scrub oak chaparral is classified as a Tier I habitat (rare upland) and chamise and southern mixed chaparrals are classified as Tier IIIA habitats (common uplands) by the City (City of San Diego 2002). The site also supports potential vernal pool habitat, but additional work during the wet season would be needed to make this determination.

4.3.4 Wildlife Corridors and Habitat Linkages

Wildlife corridors are linear features that connect large patches of natural open space and provide avenues for dispersal or migration of animals, as well as dispersal of plants (*e.g.,* via wildlife vectors). Wildlife corridors contribute to population viability in several ways: **(1)** they assure continual exchange of genes between populations which helps maintain genetic diversity; **(2)** they provide access to adjacent habitat areas representing additional territory for foraging and mating; **(3)** they allow for a greater carrying capacity; and **(4)** they provide routes for colonization of habitat lands following local population extinctions or habitat recovery from ecological catastrophes.

Habitat linkages are patches of native habitat that function to join two larger patches of habitat. They serve as connections between habitat patches and help reduce the adverse effects of habitat fragmentation. Although individual animals may not move through a

habitat linkage, the linkage is a potential route for gene flow and long-term dispersal. Habitat linkages may serve both as habitat and avenues of gene flow for small animals such as reptiles, amphibians, and rodents. Habitat linkages may be represented by continuous patches of habitat or by nearby habitat islands that function as stepping stones for dispersal and movement (especially for birds and flying insects).

The project site is used by at least three relatively large mammals: coyote, mule deer and bobcat, and possibly mountain lion. However, no specific movement corridors on the site for these or other species were identified. Furthermore, the project site is located east of the City of San Diego MSCP Multiple Habitat Planning Area (MHPA), and north of Peñasquitos Canyon and south of McGonigle Canyon, both of which are key wildlife corridors/habitat linkages under the MSCP. Deer Canyon located immediately north of the site also may convey wildlife to adjacent uplands, but is limited in function because it dead ends into residential development at its eastern terminus. Proposed Camino Del Sur will be constructed in the eastern portion of the site and SR-56 will be constructed to the north. Given the spatial context of the site, its relatively small size, and future projects in the area, the proposed project site is unlikely to be an important wildlife corridor or habitat linkage in the area.

4.4 Regional Resource Planning Context

In San Diego County, three major coordinated conservation planning efforts have been completed or are in progress: **(1)** the City of San Diego MSCP focused biological resource planning for the southwestern quarter of the County; **(2)** the San Diego Association of Governments Multiple Habitat Conservation Program (MHCP) focused on city jurisdictions in north San Diego County; and **(3)** the County of San Diego Multiple Species and Open Space Conservation Program focused on the unincorporated portions of western San Diego County (excluding Camp Pendleton). The long-term goal of these programs is to protect natural habitats and their associated species in conformance with the State of California Natural Communities Conservation Planning (NCCP) program.

The project site is located within Subarea IV of the Northern Future Urbanizing Area of the City of San Diego, as identified in the City s adopted MSCP Subarea Plan and Implementing Agreement. The project site is located outside of the MHPA, which will form the core of the MSCP reserve system. However, the MHPA does include lands immediately north, west, and south of the site.

5.0 ANTICIPATED PROJECT IMPACTS

This section addresses the direct, indirect, and cumulative impacts to biological resources that would result from implementation of the proposed project.

Direct Impacts were quantified by overlaying the proposed limits of grading on the biological resources map of the site (*Figure 4*). For purposes of this assessment, all biological resources within the limits of grading were considered 100 percent lost.

Excluded within this report are lands within the approved Camino Del Sur Right-of-Way (ROW). This roadway has undergone environmental review and approvals by the City under the name Camino Ruiz North Roadway Mitigated Negative Declaration (MND) (SCH No.2000121031). The portion of the roadway north of SR-56 has been built. Impacts associated with all portions of this roadway have therefore been mitigated by the City inaccordance with the MND and Mitigation, Monitoring, and Report Program (MMRP). The mitigation is to be paid for through developer fees. The MND for the project identifies numerous significant impacts to biological resources all of which are to be mitigated through habitat restoration, creation, and/or preservation within the MHPA in the vicinity of the project site.

Indirect Impacts are very difficult to identify and quantify, but are presumed to occur. They primarily result from adverse ■edge effects,• and may be short-term indirect effects related to construction or long-term indirect effects associated with development in proximity to biological resources within natural open space. For the proposed project, it is assumed that the potential indirect impacts resulting from construction activities include dust, noise, and general human presence that may temporarily disrupt species and habitat vitality and construction-related soil erosion and runoff. With respect to these latter factors, however, all project grading will be subject to the typical restrictions and requirements that address erosion and runoff, including the federal Clean Water Act, National Pollution Discharge Elimination System (NPDES), and preparation of a Stormwater Pollution Prevention Plan.

Cumulative Impacts refer to incremental environmental effects of two or more projects when considered together. These impacts taken individually may be minor, but collectively significant as they occur over a period of time.

5.1 Direct Impacts

5.1.1 Vegetation Communities

Implementation of the proposed project would result in the direct and complete loss of 10.1 acres of native habitat, as shown in *Table 2* and depicted in *Figure 4*. Loss of habitat would include 8.6 acres of chamise chaparral, 0.6 acre of scrub oak chaparral, and 0.9 acre of southern mixed chaparral.

SUMMARY TABLE OF POST-PROJECT ACREAGES ONSITE

Habitat Type	Total Onsite Acreage	Proposed Development Impacts	Camino Del Sur ROW Impacts	Open Space (Conserved)
Chamise chaparral	9.1	8.4	0.2	0.5
Scrub oak chaparral	0.8	0.5	0.2	<0.1
Southern mixed chaparral	1.2	0.9	0.3	<0.1
Unvegetated Stream Channel	0.02 (955 sq. ft.)	0.02 (825 sq. ft.)	0.003 (130 sq. ft.)	---
TOTAL*	**11.1**	**9.8**	**0.7**	**0.6**

* Numbers may not total precisely due to rounding.

5.1.2 Sensitive Plants

Implementation of the project would result in direct impacts to the entire onsite populations of four sensitive plant species: California adolphia, summer-holly, Nuttall's scrub oak, and ashy spike-moss. No narrow endemics, as identified in the City's MSCP Subarea Plan, were observed on the project site or would be affected by the project.

5.1.3 Sensitive Animals

Implementation of the project would result in direct impacts to at least four sensitive species: San Diego horned lizard, coastal western whiptail, San Diego black-tailed jackrabbit, and foraging habitat for the white-tailed kite. Other sensitive species with a moderate to high potential to occur on the project site and that may be directly affected are listed in *Table 3*. No state- and/or federally-listed threatened or endangered species would be affected.

5.1.4 Jurisdictional Waters

The proposed project would impact the ephemeral stream channel in the central portion of the site (*Figure 4*). The ephemeral drainage to be impacted totals 0.02 acre in size. Because the project would impact a jurisdictional stream bed, a permit from the ACOE pursuant to Section 404 of the federal Clean Water Act will be required. In addition, a Streambed Alteration Agreement from CDFG pursuant to Sections 1600-1603 of the California Fish and Game Code will be required, as well as a Section 401 Certification from

the Regional Water Quality Control Board (RWQCB). Direct impacts to the potential vernal pool in the southwest corner of the site would be avoided.

5.1.5 Habitat Linkages/Movement Corridors

As stated previously in *Section 4.3.4*, the project area does not serve as a regional habitat linkage or movement corridor for terrestrial species (birds, mammals, reptiles and amphibians, etc.) and no direct impacts are anticipated.

5.2 Indirect Impacts

5.2.1 Vegetation Communities

Indirect impacts to vegetation communities primarily would result from adverse ■edge effects• as described above. During construction activity, edge effects may include dust which could disrupt plant vitality in the short term or construction-related soil erosion and water runoff. It is assumed, however, that standard construction Best Management Practices (BMPs) to control dust, erosion, and runoff will be implemented and will substantially reduce these effects. Long-term indirect impacts on vegetation mostly would occur as a result of trampling of vegetation by humans and domestic pets, invasion by exotic species, alteration of the natural fire regime, and exposure to the urban pollutants (*e.g.*, pesticides, urban runoff). Because the proposed project is a church and is subject to City MSCP Land Use Adjacency Guidelines (see Section 5.5 below), potential indirect effects from humans and pets probably are minimal. Exotic plant species, altered fire regime, and urban pollutants are the most likely indirect impacts. In addition, a Resource Management Plan (RMP) has been prepared and will be implemented upon completion of construction *(Appendix D)*. The plan has been developed to provide monitoring of the adjacent MHPA such that potential edge effects from the church can be actively and adaptively managed. A focus of the plan will be avoidance of indirect impacts to vernal pools located offsite, southwest of the project area.

5.2.2 Sensitive Plants

Indirect impacts to plants are assumed to be similar to those described above for vegetation communities. There are no specific sensitive plant localities new to the site which would be particularly affected by the project.

5.2.3 Sensitive Animals

Most of the indirect impacts to vegetation communities and sensitive plants described above (*e.g.,* trampling of habitat, pets, etc.) apply to sensitive wildlife. Lighting and noise also are potential adverse edge effects. Potential noise onsite could be a significant indirect impact to offsite California gnatcatcher. Offsite areas subject to indirect impacts probably support similar species to those observed on the site (San Diego horned lizard, coastal western whiptail, San Diego black-tailed jackrabbit and white-tailed kite) and other potentially occurring sensitive species listed in *Table 3*. No listed threatened or endangered wildlife species other than California gnatcatcher are expected in the immediate vicinity of project site.

5.2.4 Jurisdictional Waters/Vernal Pools

The jurisdictional waters subject to indirect impacts is located north of the site. These indirect impacts include possible. Short-term indirect impacts would be related construction runoff and pollutant loads. Implementation of standard BMPs are expected to substantially reduce these affects. Long-term impacts may include sedimentation, erosion, and pollutant loads.

To minimize potential long-term indirect impacts to jurisdictional waters downstream, project design includes rip-rap at the drainage outlet to decrease water velocity during storm event and storm drain inlet filters to control pollutant loads.

Project design also includes avoidance of vernal pools and their respective watersheds (*Figure 5*). Development is below the grade of the preserved mesa in the southwest corner and offsite. Although a small portion of the 415-foot contour is being graded, onsite visual assessment indicates that this area does not contribute to the watershed of the vernal pools. Furthermore, project site irrigation will flow away from the preserve and thus avoid all adjacent vernal pools and their watersheds. A buffer area greater than 30 feet in width will be maintained in its natural condition between the edge of development and the vernal pools. This area supports dense chaparral vegetation, approximately two meters in height, which will serve to shield the vernal pool area from debris, seed sources and other adverse edge effects. Wrought iron fencing, signage, and a combination 2:1 slope (sloping away from the vernal pools) and retaining wall creating an average 12-foot vertical separation will serve as barriers between the project and vernal pools and their watersheds. An ongoing RMP will also be implemented to monitor and manage potential edge effects *(Appendix D)*. Although the natural buffer is smaller than typically required, given the additional project features incorporated to reduce potential edge effects and implementation of the RMP, no impacts to the functions and values of adjacent vernal pools, including potentially sensitive

flora and fauna, are expected to occur. Please see *Section 5.5* for general MHPA adjacency guidelines that will be implemented for the proposed project.

5.3 Cumulative Impacts

Several other projects within Subarea IV are proposed for development within the next several years, including Torrey Glen, Bryn Glen, Torrey Santa Fe, Rancho Peñasquitos, the PUSD high school site, State Route 56 and Camino Del Sur. Together, the present project and these projects would contribute to the cumulative loss of the biological resources within Subarea IV. Such cumulative losses were anticipated in the certified EIR for the Subarea IV Plan and the certified EIR/EIS for the City•s MSCP. To the extent that these projects together, including mitigation required for the present project, conserve open space and implement conservation measures anticipated in the Subarea IV Plan and the MSCP Subarea Plan, cumulative impacts to biological resources would be avoided or minimized to a level below significance.

5.4 Relationship to MSCP

The proposed project is located within Subarea IV of the North City Future Urbanizing Area (NCFUA). The Framework Plan adopted for the NCFUA includes an Environmental Tier that delineates an interconnected system of open space within the NCFUA that will contribute to the long-term conservation of biological resources. As part of the planning efforts for Subarea IV and the City•s MSCP Subarea Plan, the Environmental Tier was refined and specified within Subarea IV. The project site is portrayed in the Framework Plan as ■Commercial Limited• property. The MHPA, which forms the boundary for planned conservation, abuts the proposed project site on the north, west and south. The proposed project does not fall within the MHPA and thus is consistent with the Framework Plan and MSCP.

5.5 Land Use Adjacency Guidelines Consistency

The Land Use Adjacency Guidelines contained in the MSCP Subarea Plan provide a list of issues to be addressed for projects within or adjacent to the MHPA. These include potential indirect impacts to MHPA such as drainage, toxics, lighting, noise, barriers, invasive exotics and brush management. The following measures should be implemented to be consistent with these guidelines:

Adjacency Guideline	Project Design Measure
1. Developed and paved areas should not drain directly into the MHPA.	The onsite drainage design will include "fossil filters", or their equivalent, at all inlets to trap pollutants. These inlets will be maintained by the Church. The primary drainage outlet along the northerly property line will not only have rip-rap but also an energy dissipater structure to reduce outlet velocities to a non-erosive level. All project site runoff will be directed to this outlet.
2. Toxic chemicals should not be used during project implementation.	Toxic chemicals will not be used during project implementation.
3. All lighting should be faced away from the MHPA.	Project design calls for lighting to face away or be shielded from MHPA.
4. The project should be designed such that noise impacts into the MHPA are minimized.	Short-term construction related noise may affect adjacent MHPA, however the project is not expected to generate significant long-term noise.
5. A barrier should be provided between the project and the MHPA. This barrier could include rocks/boulders, a native vegetation screen, fences and/or walls.	For the proposed project, wrought iron fences and retaining walls will be used as a barrier between the project site and the MHPA.
6. Plant species used to revegetate slopes adjacent to the MHPA should be natives appropriate to the area.	DUDEK has reviewed the planting plan and legend from Dennen Powell Ateller, Inc., dated April 30, 2003, and it is in conformance with these guidelines.
7. A brush management plan should be developed in accordance with the Land Use Adjacency Guidelines.	Brush management Zone 1 is included within the project development footprint. No Zone 2 or 3 are proposed due to the use of a 6-foot block wall on the project's west boundary.

6.0 ANALYSIS OF SIGNIFICANCE

6.1 Explanation of Findings of Significance

Impacts to native habitats, sensitive plants, and sensitive wildlife species must be quantified and analyzed to determine whether such impacts are significant under the California

Environmental Quality Act (CEQA). CEQA Guidelines section 15064(b) states that an ironclad definition of ■significant• effect is not possible because the significance of an activity may vary with the setting. Appendix G of the Guidelines, however, does provide ■examples of consequences which may be deemed to be a significant effect on the environment• (Guidelines section 15064[3]). These effects include substantial effects on rare or endangered species of animal or plant or the habitat of the species. Guidelines section 15065[a] also is helpful in defining whether a project may have a ■significant effect on the environment.• Under this section, a proposed project may have a significant effect on the environment if the project has the potential to: **(1)** substantially degrade the quality of the environment; **(2)** substantially reduce the habitat of a fish or wildlife species; **(3)** cause fish or wildlife population to drop below self-sustaining levels; (4) threaten to eliminate a plant or animal community; **(5)** reduce the number or restrict the range of a rare or endangered plant or animal; or **(6)** eliminate important examples of the major period of California history.

The evaluation of whether or not an impact to a particular biological resource is significant must consider both the resource itself and the role of that resource in a regional context. Substantial impacts are those that contribute to, or result in, permanent loss of an important resource, such as a population of a rare plant or animal. Impacts may be important locally because they result in an adverse alteration of existing site conditions, but considered not significant because they do not contribute substantially to the permanent loss of that resource regionally. The severity of an impact is the primary determinant of whether or not that impact can be mitigated to a level below significant.

6.2 Vegetation Communities

For the purpose of analyzing the significance of impacts to vegetation communities, impacts resulting from grading for the project were considered as direct impacts. Please refer also to *Table 2* for a summary of direct impacts to vegetation communities. Indirect impacts to vegetation communities are not considered significant given implementation of standard construction BMPs and incorporation of MHPA Land Use Adjacency Guidelines (*see Section 5.5*)

6.2.1 Scrub Oak Chaparral (Tier I)

Implementation of the project would result in impacts to 0.6 acre of scrub oak chaparral. The site supports Nuttall's scrub oak, which is restricted to the narrow coastal strip, and hence, has been severely affected by development. The City of San Diego (2000) classifies

scrub oak chaparral as a Tier I habitat (rare upland). The scrub oak chaparral onsite also supports summer-holly and California adolphia, both sensitive plant species. Direct and cumulative impacts to scrub oak chaparral are considered significant.

6.2.2 Chamise Chaparral (Tier IIIA)

Implementation of the project would result in impacts to 8.6 acres of chamise chaparral. Although chamise chaparral is considered a relatively common upland habitat (Tier IIIA), the chaparral onsite also supports at least four sensitive wildlife species (San Diego horned lizard, coastal western whiptail lizard, San Diego black-tailed jackrabbit, and white-tailed kite [foraging habitat]) and at least two sensitive plant species: Nuttall•s scrub oak and ashy spike-moss. Cumulative impacts to chamise chaparral are considered significant.

6.2.3 Southern Mixed Chaparral (Tier IIIA)

Implementation of the project would result in impacts to 0.9 acres of southern mixed chaparral. Although southern mixed chaparral is considered a relatively common upland habitat (Tier IIIA), the chaparral onsite also supports at least three sensitive plant species: Nuttall•s scrub oak, California adolphia, and summer-holly. The southern mixed chaparral onsite also probably supports several sensitive wildlife species as listed in *Table 3*. Cumulative impacts to southern mixed chaparral are considered significant.

6.3 Sensitive Plants

The project would result in direct impacts to Nuttall•s scrub oak, California adolphia, summer-holly, and ashy spike-moss. California adolphia and ashy spike-moss are still relatively common within their range (CNPS 2001), therefore impacts to these is not considered significant. Nuttall•s scrub oak and summer-holly are considered rare or endangered in California and confined to just ■several• populations according to the CNPS (2001). At least 60 individuals of Nuttall•s scrub oak and eight individuals of summer-holly would be lost. Impacts to both Nuttall•s scrub oak and summer-holly are considered significant.

Indirect impacts to sensitive plant populations are not considered significant with incorporation of standard construction BMPs and MHPA Land Use Adjacency Guidelines (see *Section 5.5*).

6.4 Sensitive Wildlife

The project would result in direct, indirect, and cumulative impacts to at least four sensitive wildlife species: San Diego horned lizard, coastal western whiptail, white-tailed kite (foraging habitat), and San Diego black-tailed jackrabbit. Because all of these species are still relatively widespread in southern California, the loss of 10.8 acres of habitat for these species is not considered a significant direct impact. However, the cumulative loss of habitat for these species is considered significant. Although most short-term and all long-term indirect impacts to sensitive wildlife are reduced to below a level of significance through the use of standard construction BMPs and MHPA Land Use Adjacency Guidelines, significant potential indirect noise impacts to offsite California gnatcatcher exist.

6.5 Jurisdictional Waters

The direct loss of 0.02 acre of ephemeral jurisdictional stream channel is not considered significant. The channel does not support hydrophytic vegetation or hydric soils and appear to only convey ephemeral water flow and therefore does not meet City-definition of wetlands and is not a significant resource under CEQA.

6.6 Habitat Linkages/ Wildlife Corridors/ Relationship to MSCP

The site is located outside of the MHPA and, with its location beyond the eastern boundary of the MHPA, does not function as an important habitat linkage or wildlife corridor. The project would not have a significant adverse effect on habitat linkages or wildlife corridors. Indirect impacts are not considered significant due to the use of standard construction BMPs and MHPA Land Use Adjacency Guidelines.

7.0 CONSERVATION AND MITIGATION MEASURES

The following conservation and mitigation measures will reduce significant effects to vegetation communities and sensitive species identified in *Section 6.0* to a level less than significant, including MSCP Covered Species (San Diego horned lizard) and CEQA sensitive species (Nuttall•s scrub oak, summer-holly, California adolphia, ashy spike-moss, coastal western whiptail, white-tailed kite, and San Diego black-tailed jackrabbit). These conservation and mitigation measures were developed in accordance with the City•s MSCP Subarea Plan and the mitigation guidelines set forth in the *Biology Guidelines* of the *Land Development Code* (City of San Diego 2002).

The overall mitigation package consists of two basic components: (1) an onsite preservation

component that would avoid direct and indirect impacts to the potential vernal pool in the southwestern corner of the site and known vernal pools to the south of the site; and (2) an offsite mitigation requirement component. Offsite mitigation requirements were calculated based on City's *Biology Guidelines* (pg. 15) for upland habitats mitigation ratios. The factors for determining the mitigation ratios were as follows:

1. The project site is outside of the MHPA and thus all impacts are located outside of the MHPA;

2. Habitats were classified by tier level to determine mitigation ratios;

3. Onsite mitigation of chamise chaparral and scrub oak chaparral would be acceptable to the City of San Diego; and

4. Offsite mitigation ratios are based on the assumption that offsite habitat mitigation would be inside the MHPA.

7.1 Mitigation for Direct Impacts

Table 4 summarizes the mitigation requirements for the project.

TABLE 4
MITIGATION REQUIREMENTS FOR TIER I AND IIIA PLANT COMMUNITIES

Habitat	Impacts (Acres)	Areas Preserved Onsite (Acres)	Mitigation Required Offsite (Acres)
TIER I (2:1 mitigation onsite and 1:1 mitigation offsite)			
Scrub Oak Chaparral	0.51	0.03	0.50
Tier IIIA (1:1 mitigation onsite and 0.5:1 mitigation offsite)			
Chamise Chaparral Southern Mixed Chaparral	8.40 +0.88 9.28	0.48 +0.03 0.51	4.39

Tier I Habitats: A total of 0.51 acre of Tier I habitat (scrub oak chaparral) would be impacted. This impact may be mitigated at a ratio of 2:1 for mitigation onsite (outside of the MHPA) and at a ratio of 1:1 provided mitigation is inside the MHPA. Conservation of 0.03 acre of Tier I habitat onsite reduced the impact requiring mitigation to 0.50 acre.

Mitigation should be directed to locations in the Subarea IV portion of the MHPA if possible. In addition, the mitigation can be with any Tier I habitat type (*i.e.*, southern foredunes, Torrey Pine coastal bluff scrub, maritime succulent scrub, southern maritime chaparral, native grassland, or oak woodlands).

Tier III A Habitats: A total of 9.28 acres of Tier IIIA habitat (chamise chaparral and southern mixed chaparral) would be impacted. This impact may be mitigated at a ratio of 1:1 onsite and 0.5:1 offsite provided mitigation is inside the MHPA. Conservation of 0.51 acre of Tier IIIA habitat onsite reduces the impact requiring offsite mitigation to 8.77 acres. The mitigation requirement for 8.77 acres is 4.39 acres to be purchased offsite within the MHPA. Mitigation should be directed to locations in Subarea IV if possible. Also, mitigation can be any Tier I-III habitat if it occurs in the MHPA. Acquisition of offsite mitigation should be assumed prior to issuance of a grading or brushing permit.

7.2 Mitigation for Indirect Impacts

Short-term construction related noise may be a significant indirect impact to offsite California gnatcatcher. To avoid this impact, construction generated noise greater than 60 dB within 500 feet of coastal sage scrub habitat shall require a focused California gnatcatcher survey for nest locations. If nests are detected, a monitoring biologist must be onsite to ensure no impacts to California gnatcatcher during the breeding season (March 1st through August 15th).

7.3 Mitigation for Cumulative Impacts

Cumulative impacts for habitats and covered species (San Diego horned lizard) have been addressed by the MSCP. The other sensitive plant and wildlife species also would be adequately mitigated through the onsite and offsite mitigation measures for vegetation communities described above. Thus, significant cumulative impacts are considered mitigated by the mitigation measures described in *Section 7.1*.

7.4 Impacts to the Waters of U.S

It should be noted that the ephemeral stream channel in the central portion of the site is within the jurisdiction of the ACOE and CDFG, but it does not meet the wetlands criteria of the City of San Diego. Therefore, impacts to this channel do not require mitigation in accordance with CEQA beyond that described in *Section 7.2*. However, it is assumed that the project proponent will obtain necessary permits/agreements from ACOE, CDFG, and

the RWQCB.

7.5 Mitigation for MHPA Adjacency

No invasive non-native plants will be planted in or adjacent to the MHPA as a result of the proposed project. Brush management areas, as currently designed, shall remain within the development footprint and outside the MHPA. A wrought-iron fence will provide a permanent barrier from the church use areas to the adjacent MHPA. Drainage will be modified using permanent BMPs to reduce potential indirect impacts to MHPA. An ongoing RMP will be implemented to monitor and manage potential edge effects on the MHPA resulting from church activities *(Appendix D)*.

8.0 ACKNOWLEDGMENTS

This report was prepared by DUDEK biologist Philip R. Behrends, Ph.D, Vipul Joshi and Paul Lemons. Graphics and GIS mapping analyses were provided by Martie A. Clemons. Annabelle Cuypers provided word processing.

9.0 LITERATURE CITED

Abrams, L. 1923. Illustrated Flora of the Pacific States. Stanford University Press, Stanford, California.

American Ornithologists' Union. 1983. The Check-list of North American Birds, 6th edition. Allen Press, Lawrence, Kansas.

American Ornithologist's Union. 2000. Forty-second supplement to the checklist of North American birds. The Auk 117:847-858

Beauchamp, R. M. 1986. A flora of San Diego County, California. Sweetwater Press, National City, California. 241 pp.

Bond, S.I. 1977. An annotated list of the mammals of San Diego County, California. Trans. San Diego Soc. Nat. Hist. 18:229-248.

Bowman, R.H. 1973. Soil survey, San Diego area, California, part 1. Unites States Department of Agriculture. 104 pp + appendices.

California Department of Fish and Game. 2000a. Special Plants. California Natural

Diversity Data Base, Sacramento, California. July.

California Department of Fish and Game. 2000b. Special Animals. California Natural Diversity Data Base, Sacramento, California. July.

California Department of Fish and Game. 2000c. State and Federally Listed Endangered, Rare and Threatened Animals of California. California Natural Diversity Data Base, Sacramento, California. October.

California Department of Fish and Game. 2000d. Listed Endangered, Threatened and Rare Plants of California. California Natural Diversity Data Base, Sacramento, California. October.

City of San Diego. 2002. San Diego Municipal Code, Land Development Code, Biology Guidelines, 36 pp.

CNPS. 2001. Inventory of Rare and Endangered Vascular Plants of California (sixth edition).
Rare Plant Scientific Advisory Committee, David Pl Tibor, Covening Editor. California Native Plant Society. Sacramento, CA + 388pp.

Emmel. T.C. and J.F. Emmel. 1973. The butterflies of southern California. Natural History Museum of Los Angeles County, Science Series 26:1-148.

Hall, E.R. 1981. The Mammals of North America, Second Edition, John Wiley and Sons, New York.

Hickman, J. C. 1993. The Jepson manual: Higher plants of California. University of California Press, Berkeley. 1400 pp.

Holland, R.F. 1986. Preliminary descriptions of the terrestrial natural communities of California. Nongame-Heritage Program, California Department of Fish and Game. 156 pp.

Jones, C., R.S. Hoffmann, D.W. Rice, R.J. Baker, M.D. Engstrom, R.D. Bradley, D.J. Schmidly, and C.A. Jones. 1997. Revised checklist of North American mammals north of Mexico, 1997. Occasional Papers, Museum of Texas Tech University, No. 173, 23 pp.

Munz, P. 1974. A Flora of Southern California. University of California Press, Berkeley, California. 1086 pp.

Murphy, D. D. 1990. A report on the California butterflies listed as candidates for endangered status by the United States Fish and Wildlife Service. Draft Report for California Department of Fish and Game, Contract No. C-1755. 60 pp.

Remsen, J.V. 1978. Bird species of special concern in California: An annotated list of declining or vulnerable bird species. Administrative Report No. 78-1. Nongame Wildlife Investigations, Wildlife management Branch, California Department of Fish and Game.

Stebbins, R. C. 1985. A field guide to western reptiles and amphibians. Houghton Mifflin Co., Boston, Mass.

United States Fish and Wildlife Servcice. (USFWS). 2000. Federally listed and candidate species that may occur within the jurisdiction of the Carlsbad Fish and Wildlife Office. Provided by the USFWS Carlsbad Fish and Wildlife Office on November 1, 2000.

Unitt, P.A. 1984. Birds of San Diego County. Memoir 13, San Diego Soc. Nat. Hist. 287 pp.

APPENDIX A

Vascular Plant Species Detected on the Project Site

APPENDIX A

LYCOPODIAE

SELAGINELLACEAE - SPIKE-MOSS FAMILY

Selaginella cinerascens - ashy spike-moss

ANACARDIACEAE - SUMAC FAMILY

Malosma laurina - laurel sumac
Rhus integrifolia - lemonadeberry

ASTERACEAE - SUNFLOWER FAMILY

Acourtia microcephala - sacapellote
Ageratina adenophorum - sticky eupatorium
Baccharis pilularis - coyote brush
Filago californica - California fluffweed
* *Filago gallica* - narrow-leaf filago
Hemizonia fasciculata - fascicled tarweed
* *Hypochaeris glabra* - smooth car's-ear
Isocoma menziesii ssp. *veneta* - coastal goldenbush
Stephanomeria exigua - small wreathplant

BRASSICACEAE - MUSTARD FAMILY

* *Brassica nigra* - black mustard

CACTACEAE - CACTUS FAMILY

Opuntia littoralis - coastal prickly-pear

CAPRIFOLIACEAE - HONEYSUCKLE FAMILY

Lonicera subspicata var. *denudata* - southern honeysuckle

CISTACEAE - ROCK-ROSE FAMILY

Helianthemum scoparium var. *aldersonii* - Alderson's rock-rose

APPENDIX A *(Continued)*

CRASSULACEAE - STONECROP FAMILY

Crassula connata - dwarf stonecrop

CUCURBITACEAE - GOURD FAMILY

Marah macrocarpus - wild cucumber

ERICACEAE - HEATH FAMILY

Comarostaphylis diversifolia - summer-holly
Xylococcus bicolor - mission manzanita

FABACEAE - PEA FAMILY

Lotus scoparius - deerweed

FAGACEAE - BEECH FAMILY

Quercus dumosa - Nuttall's scrub oak

HYDROPHYLLACEAE - WATERLEAF FAMILY

Emmenanthe penduliflora - whispering bells

LAMIACEAE - MINT FAMILY

Salvia mellifera - black sage

POLYGONACEAE - BUCKWHEAT FAMILY

Eriogonum fasciculatum - California buckwheat

RHAMNACEAE - BUCKTHORN FAMILY

Adolphia californica - California adolphia
Rhamnus crocea - redberry

ROSACEAE - ROSE FAMILY

Adenostoma fasciculatum - chamise

RUBIACEAE - MADDER FAMILY

Galium angustifolium - narrow-leaved bedstraw

RUTACEAE - RUE FAMILY

Cneoridium dumosum - bushrue, coast spicebush

APPENDIX A *(Continued)*

SCROPHULARIACEAE - FIGWORT FAMILY

Linaria canadensis - toadflax
Mimulus aurantiacus - bush monkeyflower

POACEAE - GRASS FAMILY

* *Avena barbata* - slender wild oat
* *Brachypodium distachyon* - purple falsebrome
* *Bromus diandrus* - ripgut grass
* *Bromus hordeaceus* - soft chess
* *Bromus madritensis* ssp. *rubens* - foxtail chess
* *Gastridium ventricosum* - nitgrass
* *Schismus barbatus* - Mediterranean schismus
* *Vulpia myuros* - rattail fescue

* denotes a non-native species

APPENDIX B

Wildlife Species Species Detected or Observed
On the Project Site

APPENDIX B *(Continued)*

APPENDIX B

REPTILES

IGUANIDAE - IGUANID LIZARDS
Phrynosoma coronatum blainvillei - San Diego horned lizard

TEIIDAE - WHIPTAIL LIZARDS
Cnemidophorus tigris - western whiptail

BIRDS

ACCIPITRIDAE - HAWKS
Elanus leucurus - white-tailed kite

PHASIANIDAE - PHEASANTS & QUAILS
Callipepla californica - California quail

COLUMBIDAE - PIGEONS & DOVES
Zenaida macroura - mourning dove

CUCULIDAE - CUCKOOS & ROADRUNNERS
Geococcyx californianus - greater roadrunner

CAPRIMULGIDAE - GOATSUCKERS
Chordeiles acutipennis - lesser nighthawk

TROCHILIDAE - HUMMINGBIRDS
Calypte anna - Anna's hummingbird
Selasphorus sasi - Allen's hummingbird

HIRUNDINIDAE - SWALLOWS
Hirundo pyrrhonota - cliff swallow
Hirundo rustica - barn swallow

APPENDIX B *(Continued)*

CORVIDAE - JAYS & CROWS

Aphelocoma coerulescens - scrub jay
Corvus brachyrhynchos - American crow
Corvus corax - common raven

AEGITHALIDAE - BUSHTITS

Psaltriparus minimus - bushtit

TROGLODYTIDAE - WRENS

Thryomanes bewickii - Bewick's wren

MUSCICAPIDAE - KINGLETS, GNATCATCHERS, THRUSHES & BABBLERS

Chamaea fasciata - wrentit

MIMIDAE - THRASHERS

Toxostoma redivivum - California thrasher

EMBERIZIDAE - WOOD WARBLERS, TANAGERS, BUNTINGS & BLACKBIRDS

Melospiza lincolnii - Lincoln's sparrow
Pipilo crissalis - California towhee
Pipilo erythrophthalmus - spotted towhee

FRINGILLIDAE - FINCHES

Carpodacus mexicanus - house finch
Carduelis psaltria - lesser goldfinch

MAMMALS

LEPORIDAE - HARES & RABBITS

Lepus californicus bennettii - San Diego black-tailed jackrabbit
Sylvilagus sp. - cottontail rabbit

SCIURIDAE - SQUIRRELS

Spermophilus beecheyi - California ground squirrel

MURIDAE - RATS & MICE

Neotoma sp. - woodrat

APPENDIX B *(Continued)*

CANIDAE - WOLVES & FOXES

Canis latrans - coyote

FELIDAE - CATS

Lynx rufus - bobcat

CERVIDAE - DEERS

Odocoileus hemionus - mule deer

BUTTERFLIES AND MOTHS

PAPILIONIDAE - SWALLOWTAILS

Papilio rutulus - tiger swallowtail

PIERIDAE - WHITES AND SULFURS

Pieris rapae - cabbage butterfly
Pontia protodice - common white

LYCAENIDAE - BLUES, HAIRSTREAKS, & COPPERS

Leptotes marina - marine blue
Plebejus acmon - acmon blue

NYMPHALIDAE - BRUSH-FOOTED BUTTERFLIES

Danaus gilippus - queen
Vanessa annabella - west coast lady

APPENDIX C

Species Sensitivity Categories

APPENDIX C

FEDERAL

Endangered:. Taxa threatened throughout all or a significant portion of their range.

Threatened: Taxa likely to become endangered in the foreseeable future.

Candidate: Taxa for which the USFWS currently has on file substantial information on biological vulnerability and threat(s) to support the appropriateness of proposing to list them as endangered or threatened species.

Federal Species of Concern: Taxa that were formerly Category 2 Candidates for listing as threatened or endangered. This category is an ■unofficial• designation for species that may warrant listing, but for which substantial information to support the listing is lacking.

STATE OF CALIFORNIA

Endangered: Taxa which are in serious danger of becoming extinct throughout all, or a significant portion, of their range due to one or more causes including loss of habitat, change in habitat, over exploitation, predation, competition, or disease (Section 2062 of the Fish and Game Code).

Threatened: Taxa which, although not presently threatened with extinction, are likely to become endangered species in the foreseeable future (Section 2067 of the Fish and Game Code).

Rare: Taxa which, although not presently threatened with extinction, are present in such small numbers throughout their range that they may become endangered if the present environment worsens (Section 1901 of the Fish and Game Code).

APPENDIX C *(Continued)*

Candidate:	Taxa which the Fish and Game Commission has formally noticed as being under review by the Department in addition to the list of threatened and endangered species.
California or CDFG Species of Special Concern:	Taxa that appear to be vulnerable to extinction because of declining populations, limited ranges, and/or continuing threats.

CALIFORNIA NATIVE PLANT SOCIETY (1994)

Lists

1A: Presumed Extinct in California
1B: Rare or Endangered in California and Elsewhere
2: Rare or Endangered in California, More Common Elsewhere
3: Need More Information
4: Plants of Limited Distribution

Note: Plants on CNPS list 1B meet California Department of Fish and Game Criteria for Rare or Endangered listing.

R-E-D Code

R (Rarity)
1- Rare, but found in sufficient numbers and distributed widely enough that the potential for extinction or extirpation is low at this time.
2- Occurrence confined to several populations or to one extended population.
3- Occurrence limited to one or a few highly restricted populations, or present in such small numbers that it is seldom reported.

E (Endangerment)
1- Not endangered
2- Endangered in a portion of its range
3- Endangered throughout its range

D (Distribution)
1- More or less widespread outside of California

APPENDIX C *(Continued)*

2- Rare outside California
3- Endemic to California

APPENDIX D

Resource Management Plan

APPENDIX I

2003 Maritime Chaparral Classification Memo

DUDEK
& ASSOCIATES, INC.
Professional Teams for Complex Projects

Engineering, Planning,
Environmental Sciences and
Management Services

Corporate Office:
605 Third Street
Encinitas, California 92024

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Fax 760.632.0164

MEMORANDUM

July 14, 2003 2643-01

To : Marilyn Mirrasoul - City of San Diego

cc : Joel King - Catholic Diocese of San Diego
David Pfieffer - Dominy & Associates Architects
John Leppert - Leppert Engineering
Paul Lemons - DUDEK

From : Vipul Joshi - DUDEK

RE : Chaparral Classification for the Our Lady of Mt. Carmel Catholic Church Project Site, City of San Diego, California - Project No. 2752

This memo is a response to an email from Ms. Mirrasoul dated June 18, 2003 regarding the requesting additional information to support the Dudek and Associates, Inc. (DUDEK) conclusion that southern maritime chaparral is not present onsite and it is in fact southern mixed chaparral. Specifically, Ms. Mirrasoul requested a review of the information as it relates to the City's Biological Review Guidelines.

The project site supports 0.9 acre of southern mixed chaparral. The southern mixed chaparral on the site is comprised of a relatively even mix of mission manzanita (*Xylococcus bicolor*), lemonadeberry (*Rhus integrifolia*), black sage (*Salvia mellifera*), Nuttall's scrub oak (*Quercus dumosa*), chamise (*Adenostoma fasciculatum*), redberry (*Rhamnus crocea*), and bush monkeyflower (*Mimulus aurantiacus*).

Sources of information were reviewed on southern maritime chaparral, including the following: Holland (1986) and the City of San Diego Biological Review Guidelines (2002).

I will provide a comparison between the onsite chaparral and these descriptions of southern maritime chaparral in the following sections.

Holland (1986) Description of Southern Maritime Chaparral

Prior to Holland, coastal chaparrals were referred to as coastal mixed chaparral by Thorne (1976). The description of southern maritime chaparral appears to have originated around 1986 based upon the need to identify, for conservation purposes, sites occupied by one or more of a suite of sensitive plant species, including Del Mar manzanita (*Arctostaphylos glandulosa* ssp. *crassifolia*), sea-dahlia (*Coreopsis maritima*), Del Mar mesa sand-aster (*Corethrogyne filaginifolia* var. *linifolia*), Orcutt's spineflower (*Chorizanthe orcuttiana*), Encinitas baccharis (*Baccharis vanessae*), and, to a lesser extent, wart-stemmed ceanothus (*Ceanothus verrucosus*), summer-holly (*Comarostaphlis diversifolia*), and, most recently, Nuttall's scrub oak.

Holland, in his preliminary description of terrestrial natural communities of California, circulated by the California Department of Fish and Game, described southern maritime chaparral as a "low, fairly open chaparral dominated by wart-stemmed ceanothus and [Del Mar manzanita]" occurring on "weathered sands within the coastal fog belt." He listed 18 plant species as "characteristic" including: chamise, Del Mar manzanita, Encinitas baccharis, wart-stemmed ceanothus, mountain mahogany (*Cercocarpus minutiflorus*), bushrue (*Cneoridium dumosum*), summer-holly, sea-dahlia, Del Mar Mesa sand-aster, western dichondra (*Dichondra occidentalis*), toyon (*Heteromeles arbutifolia*), Torrey pine (*Pinus torreyana*), Nuttall's scrub oak, laurel sumac (*Malosma laurina*), sugarbush (*Rhus ovata*), Cleveland's sage (*Salvia clevelandii*), mission manzanita, and Mojave yucca (*Yucca schidigera*).

In contrast to the Holland (1986) description, the chaparral on the Our Lady of Mt. Carmel site is quite tall (2 meters) and dense, being nearly impenetrable in most areas. Of Holland's eighteen characteristic species, the site is known to support only three (chamise, Nuttall's scrub oak and mission manzanita). With the exception of Nuttall's scrub oak, the site doesn't support any species considered by many to be indicators of a coastal environment. The presence, even dominance, of Nuttall's scrub oak is not sufficient to classify chaparral as southern maritime in my opinion. If it were, much broader areas of chaparral in San Diego County would be mapped as such. This species has been recorded as far as 12 miles inland on Village 13 of Otay Ranch (Fred Roberts, mapping for Otay Ranch, 2000). In terms of soils, according to Bowman (1973), the project site supports Redding gravelly loam (RdC) and terrace escarpments (TeF). Redding gravelly loams have a gravelly clay subsoil formed in

mixed cobbly and gravelly alluvium. Terrace escarpments consist of steep to very steep escarpments on nearly even fronts of terraces or alluvial fans. In most areas, the escarpment contains 4 to 10 inches of loamy or gravelly soil over soft marine sandstone, shale, and gravelly sediments (Bowman 1973). Although martine sandstone can be a subsoil type for Terrace escarpments, it does not appear on the surface and is thus distinguished from "weathered sands" referred to in Holland's description.

City of San Diego (2002)

The City of San Diego's definition of southern maritime chaparral used in determining Tier levels for MSCP is as follows: a rare vegetation community associated with the fog belt along coastal areas, extending inland as far as Carlsbad, El Camino Real, and Palomar (Airport) Road. Four of the following indicators must be present to define chaparral as southern maritime within the City of San Diego: sandstone soils, fog belt, Del Mar manzanita, wart-stemmed ceanothus, sea-dahlia , Del Mar Mesa sand-aster, California aster (*Lessingia filaginifolia* var. *filaginifolia*), bush poppy (*Dendromecon rigida*), short-leaved dudleya (*Dudleya blochmaniae* ssp. *brevifolia*), Torrey pine, Nuttall's scrub oak, and Mojave yucca. The indicated plant species do not need to be dominant to be considered an indicator of southern maritime chaparral.

The Our Lady of Mt. Carmel site may lie within the coastal fog belt; however, in contrast to the City's description, the Our Lady of Mt. Carmel site contains only one of the City's indicator species: Nuttall's scrub oak, and as previously discussed, does not support sandstone soils.

A final test may be to consider whether or not the chaparral in question should be used as mitigation for impacts that would occur in chaparral which is undisputedly southern maritime (*e.g.,* Oakcrest Park in Encinitas or Torrey Pines State Reserve). My answer to this question would be "no." Similar botanical values would not be conserved and, therefore, impacts could not be adequately mitigated. Considering the review of information above, DUDEK's original determination regarding the type of chaparral on the Our Lady of Mt. Carmel site should remain as southern mixed chaparral.

Please feel free to contact me at (760) 942-5147 if there is any further information you need or if there are any questions or comments.

APPENDIX G

Phase I Historical Resources Inventory Report

PHASE I HISTORICAL RESOURCES INVENTORY REPORT
for the
TORREY HIGHLANDS OFFICE PROJECT,
SAN DIEGO COUNTY, CALIFORNIA

Lead Agency:

City of San Diego
Development Services Department
Land Development Review Division
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MARCH 2016

Type of Study: Phase I Historical Resources Inventory
USGS Quadrangle: Del Mar, California 7.5', Township 14 South, Range 3 West, Section 14
Area: 11.1 acres **Key Words:** Negative Intensive Pedestrian Survey, City of San Diego

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MANAGEMENT SUMMARY

This report presents the results of a Phase I historical resources (including both archaeological and built-environment) inventory conducted for the Torrey Highlands Office Project (Project), located in Section 14, Township 14 South, Range 3 West of the Del Mar USGS 7.5 minute quadrangle map, along a small ridge overlooking Deer Canyon, San Diego County, California. The City of San Diego is the lead agency responsible for overseeing compliance with the California Environmental Quality Act (CEQA) and City guidelines. The Project proposes development of a 450,000 square-foot office project in the Torrey Highlands community of San Diego, located south of SR 56 along the future extension of Camino del Sur. The area of potential effects (APE), consisting of the 11.1 acre Project site, is bounded on three sides by undeveloped land within the City's Multi-Habitat Preservation Area (MHPA).

South Coastal Information Center (SCIC) staff conducted a records search for the proposed project parcel and a surrounding one-mile on July 30, 2015. SCIC records search results indicated that no archaeological or built-environment resources are present within the project APE; however, there is a high density of previously recorded archaeological resources in the surrounding area.

NAHC Sacred Lands File search failed to indicate the presence of Native American resources. Tribal information outreach letters have received no responses to date. An intensive pedestrian survey of the APE did not identify any resources within the APE. The City will conduct government to government consultation with NAHC-listed tribes.

Dudek conducted an intensive pedestrian cultural survey of the project area of potential effect (APE) on July 13, 2015. A Native American Monitor was present for all field survey activities. Dense vegetative ground cover was present throughout the APE during the survey, restricting direct visibility of the ground surface in a number of areas. No cultural resources or historic buildings were identified as a result of the inventory field survey.

Phase I inventory of the Project area suggests that there is a moderate potential for the inadvertent discovery of historical resources during implementation. Based on available information, and in consideration of the topography and presence of resources in the surrounding area, it is recommended that a historical resources mitigation program be implemented. Mitigation should include archaeological and Native American monitoring during initial disturbance of subsurface soils within the Project APE.

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1.0 INTRODUCTION

1.1 Project Location and Description

The Torrey Highlands Office Project (Project) is located in Section 14, Township 14 South, Range 3 West of the Del Mar USGS 7.5 minute quadrangle map, along a small ridge overlooking Deer Canyon, San Diego County, California (Figure 1).

The proposed project proposes development of a 450,000 square-foot office project in the Torrey Highlands community of San Diego. The Project site consists of 11.1 gross acres of undeveloped land that situated along a ridgeline located south of SR 56 and the future extension of Camino del Sur. It is bounded on three sides by the City's Multi-Habitat Preservation Area (MHPA). The area of potential effects (APE) consists of the 11.1 acre Project site (Figure 2); with the vertical APE represented by the maximum depth of excavation (less than 20 feet below the surface).

1.2 Regulatory Context

The following section provides a summary of the applicable regulations, policies and guidelines relating to the proper management of cultural and paleontological resources.

1.2.1 Cultural Resources Regulations

1.2.1.1 State Level Regulations

CEQA requires that all private and public activities not specifically exempted be evaluated for the potential to impact the environment, including effects to historical resources. Historical resources are recognized as part of the environment under CEQA. It defines historical resources as "any object, building, structure, site, area, or place, which is historically significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California" (Division I, Public Resources Code, Section 5021.1(b)).

Lead agencies have a responsibility to evaluate historical resources against the California Register criteria prior to making a finding as to a proposed project's impacts to historical resources. Mitigation of adverse impacts is required if the proposed project will cause substantial adverse change. Substantial adverse change includes demolition, destruction, relocation, or alteration such that the significance of an historical resource would be impaired. The CEQA Guidelines provide that a project that demolishes or alters those physical characteristics of an historical resource that convey its historical significance (i.e., its character-defining features) can be considered to materially impair the resource's significance.

The California Register is used in the consideration of historic resources relative to significance for purposes of CEQA. The California Register includes resources listed in, or formally determined eligible for some California State Landmarks and Points of Historical Interest. Properties of local significance that have been designated under a local preservation ordinance (local landmarks or landmark districts), or that have been identified in a local historical resources inventory may be eligible for listing in the California Register and are presumed to be significant resources for purposes of CEQA unless a preponderance of evidence indicates otherwise.

Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources (Pub. Res. Code SS5024.1, Title 14 CCR, Section 4852) consisting of the following:

1. It is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States; or
2. It is associated with the lives of persons important to local, California, or national history; or
3. It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master, or possesses high artistic values; or
4. It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

In the event that Native American human remains or related cultural material are encountered, Section 15064.5(e) of the state CEQA Guidelines (as incorporated from Public Resources Code section 5097.98) and Health and Safety Code Section 7050.5 define the subsequent protocol. In the event of the accidental discovery or recognition of any human remains, excavation or other disturbances shall be suspended of the site or any nearby area reasonably suspected to overlie adjacent human remains or related material. Protocol requires that a county-approved coroner be contacted in order to determine if the remains are of Native American origin. Should the coroner determine the remains to be Native American, the coroner must contact the Native American Heritage Commission (NAHC) within 24 hours. The most likely descendent may make recommendations to the landowner or the person responsible for the excavation work, for means of treating, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code section 5097.98 (California Code of Regulations, Title 14; Chapter 3; Article 5; Section 15064.5(e)).

Riverside Cou
San Diego Cou
Rainbow
Fallbrook
Bonsall
Camp Pendleton South
Oceanside
Vista
Hidden Meadows
Valley Center
San Marcos
Escondido
Carlsbad
Santa Ysabel
Encinitas
Ramona
San Diego Country Estates
Project Site
San Diego
Santee
Lakeside
Alpine
Harbison Canyon
El Cajon
La Mesa
Rancho San Diego
Lemon Grove
Spring Valley
Jamul
Coronado
National City
Bonita
Chula Vista
Imperial Beach
Pacific Ocean
MEXICO
0 5 10 Miles
DUDEK
FIGURE 1
Regional Map
Torrey Highlands Office Project

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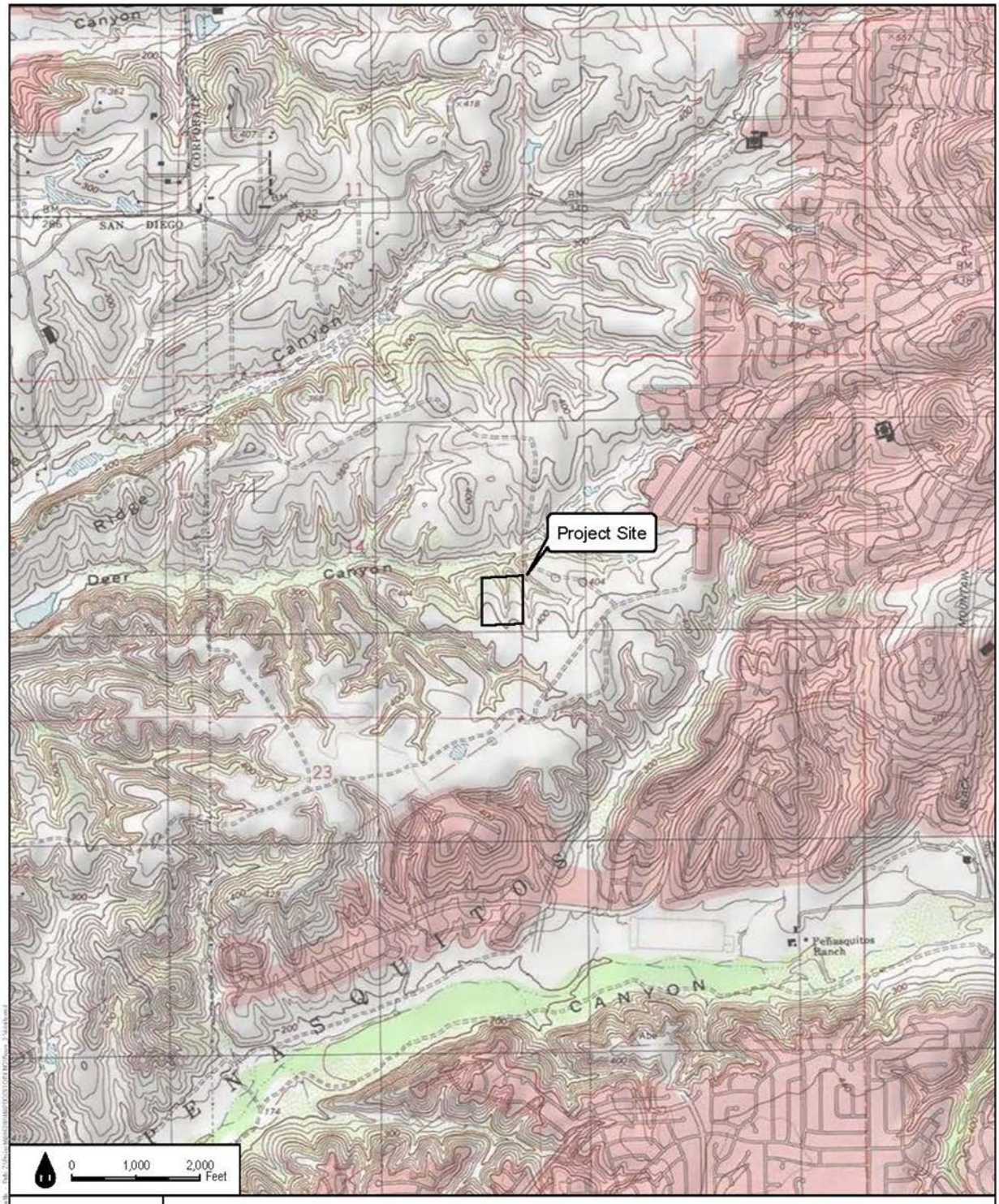

DUDEK

SOURCE: USGS 7.5-Minute Series Del Mar Quadrangle.

FIGURE 2
Vicinity Map

Torrey Highlands Office Project

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1.2.1.2 City of San Diego Historic Resource Guidelines

The City of San Diego General Plan Programmatic Environmental Impact Report (PEIR) states the following:

> "Chapters 11, 12 and 14 of the City of San Diego Municipal Code establish the Historical resources Board (HRB) authority, appointment and terms, meeting conduct, and powers and duties; the designation process including the nomination process, noticing and report requirements, appeals, recordation, amendments or recision, and nomination of historical resources to state and national registers; and development regulations for historical resources. The purpose of these regulations is to protect, preserve, and, where damaged, restore the historical resources of San Diego. The historical resources regulations require that designated historical resources and traditional cultural properties be preserved unless deviation findings can be made by the decision maker as part of a discretionary permit. Minor alterations consistent with the U.S. Secretary of the Interior's Standards are exempt from the requirement to obtain a separate permit but must comply with the regulations and associated historical resources guidelines. Limited development may encroach into important archaeological sites if adequate mitigation measures are provided as a condition of approval.
>
> Historical Resources Guidelines, located in the Land Development Manual, provide property owners, the development community, consultants and the general public explicit guidance for the management of historical resources located within the City's jurisdiction. These guidelines are designed to implement the historical resources regulations and guide the development review process from the need for a survey and how impacts are assessed to available mitigation strategies and report requirements and include appropriate methodologies for treating historical resources located in the City.
>
> Any improvement, building, structure, sign, interior element and fixture, feature, site, place, district, area, or object may be designated a historical resource by the City's HRB if it meets one or more of the following designation criteria:
>
> a. exemplifies or reflects special elements of the City's, a community's, or a neighborhood's, historical, archaeological, cultural, social, economic, political, aesthetic, engineering, landscaping or architectural development;
>
> b. is identified with persons or events significant in local, state or national history;
>
> c. embodies distinctive characteristics of a style, type, period, or method of construction or is a valuable example of the use of indigenous materials or craftsmanship;

d. is representative of the notable work or a master builder, designer, architect, engineer, landscape architect, interior designer, artist, or craftsman;

e. is listed or has been determined eligible by the National Park Service for listing on the National Register of Historic Places or is listed or has been determined eligible by the State Historical Preservation Office for listing on the State Register of Historical Resources; or

f. is a finite group of resources related to one another in a clearly distinguishable way or is a geographically definable area or neighborhood containing improvements which have a special character, historical interest or aesthetic value or which represent one or more architectural periods or styles in the history and development of the City."

According to the City's Significance Determination Thresholds (City of San Diego 2011a), impacts to historical resources would be significant if the project would:

- Result in the alteration, including the adverse physical or aesthetic effects and/or the destruction of a prehistoric or historic building (including an architecturally significant building), structure, object, or site
- Result in any impact to existing religious or sacred uses within the potential impact area
- Result in the disturbance of any human remains, including those interred outside of formal cemeteries.

In general, the City's historic resource guidelines build on federal and state cultural resources laws and guidelines in an attempt to streamline the process of considering impacts to cultural resources within the City's jurisdiction, while maintaining that some resources not significant under federal or state law may be considered historical under the City's guidelines. Essentially, the City's historic resource guidelines localize cultural resources laws providing local perspective on significance criteria. In order to apply the criteria and determine the significance of potential project impacts to a cultural resource, the Area of Potential Effects (APE) of the project must be defined for both direct impacts and indirect impacts. Indirect impacts can include increased public access to an archaeological site, or visual impairment of a historically significant viewshed related to a historic building or structure.

2.0 PROJECT CONTEXT

2.1 Environmental Context

While dirt trails and roads surround the general vicinity, the current project area has never been previously developed. Mostly vacant land surrounds the property; however it is important to note that the approximate 11.1 acre site is surrounded on three sides (the north, west, and south) by the City's Multi-Habitat Preservation Area (MHPA). A complete faunal and botanical list will be included as part of Dudek technical studies for the Project area.

2.2 Cultural Context

Evidence for continuous human occupation in the San Diego region spans the last 10,000 years. Various attempts to parse out variability in archaeological assemblages over this broad time frame have led to the development of several cultural chronologies; some of these are based on geologic time, most are based on temporal trends in archaeological assemblages, and others are interpretive reconstructions. Each of these reconstructions describes essentially similar trends in assemblage composition in more or less detail. This research employs a common set of generalized terms used to describe chronological trends in assemblage composition: Paleoindian (pre-5500 BC), Archaic (8000 BC.–AD 500), Late Prehistoric (AD 500–1750), and Ethnohistoric (post-AD 1750).

2.2.1 Paleoindian (pre-5500 BC)

Evidence for Paleoindian occupation in coastal Southern California is tenuous, especially considering the fact that the oldest dated archaeological assemblages look nothing like the Paleoindian artifacts from the Great Basin. One of the earliest dated archaeological assemblages in coastal Southern California (excluding the Channel Islands) derives from SDI-4669/W-12, in La Jolla. A human burial from SDI-4669 was radiocarbon dated to 9,590–9,920 years before present (95.4% probability) (Hector 2007). The burial is part of a larger site complex that contained more than 29 human burials associated with an assemblage that fits the Archaic profile (i.e., large amounts of groundstone, battered cobbles, and expedient flake tools). In contrast, typical Paleoindian assemblages include large stemmed projectile points, high proportions of formal lithic tools, bifacial lithic reduction strategies, and relatively small proportions of groundstone tools. Prime examples of this pattern are sites that were studied by Emma Lou Davis (1978) on China Lake Naval Air Weapons Station near Ridgecrest, California. These sites contained fluted and unfluted stemmed points and large numbers of formal flake tools (e.g., shaped scrapers, blades). Other typical Paleoindian sites include the Komodo site (MNO-679)—a multicomponent fluted point site, and MNO-680—a single

component Great Basined Stemmed point site (Basgall et al. 2002). At MNO-679 and MNO-680, groundstone tools were rare while finely made projectile points were common.

Turning back to coastal Southern California, the fact that some of the earliest dated assemblages are dominated by processing tools runs counter to traditional notions of mobile hunter–gatherers traversing the landscape for highly valued prey. Evidence for the latter—that is, typical Paleoindian assemblages—may have been located along the coastal margin at one time, prior to glacial desiccation and a rapid rise in sea level during the early Holocene (pre-7500 BP) that submerged as much as 1.8 kilometer of the San Diego coastline. If this were true, however, it would also be expected that such sites would be located on older landforms near the current coastline. Some sites, such as SDI-210 along Agua Hedionda Lagoon, contained stemmed points similar in form to Silver Lake and Lake Mojave projectile points (pre-8000 BP) that are commonly found at sites in California's high desert (Basgall and Hall 1990). SDI-210 yielded one corrected radiocarbon date of 8520–9520 BP (Warren et al. 2004). However, sites of this nature are extremely rare and cannot be separated from large numbers of milling tools that intermingle with old projectile point forms.

Warren et al. (2004) claimed that a biface manufacturing tradition present at the Harris site complex (SDI-149) is representative of typical Paleoindian occupation in the San Diego region that possibly dates between 10,365 and 8200 BC (Warren et al. 2004, p. 26). Termed San Dieguito (Rogers 1945), assemblages at the Harris site are qualitatively distinct from most others in the San Diego region because the site has large numbers of finely made bifaces (including projectile points), formal flake tools, a biface reduction trajectory, and relatively small amounts of processing tools (Warren 1964, 1968). Despite the unique assemblage composition, the definition of San Dieguito as a separate cultural tradition is hotly debated. Gallegos (1987) suggested that the San Dieguito pattern is simply an inland manifestation of a broader economic pattern. Gallegos' interpretation of San Dieguito has been widely accepted in recent years, in part because of the difficulty in distinguishing San Dieguito components from other assemblage constituents. In other words, it is easier to ignore San Dieguito as a distinct socioeconomic pattern than it is to draw it out of mixed assemblages.

The large number of finished bifaces (i.e., projectile points and non-projectile blades), along with large numbers of formal flake tools at the Harris site complex, is very different than nearly all other assemblages throughout the San Diego region, regardless of age. Warren et al. (2004) made this point, tabulating basic assemblage constituents for key early Holocene sites. Producing finely made bifaces and formal flake tools implies that relatively large amounts of time were spent for tool manufacture. Such a strategy contrasts with the expedient flake-based tools and cobble-core reduction strategy that typifies non-San Dieguito Archaic sites. It can be inferred

from the uniquely high degree of San Dieguito assemblage formality that the Harris site complex represents a distinct economic strategy from non-San Dieguito assemblages.

If San Dieguito truly represents a distinct socioeconomic strategy from the non-San Dieguito Archaic processing regime, its rarity implies that it was not only short-lived, but that it was not as economically successful as the Archaic strategy. Such a conclusion would fit with other trends in southern California deserts, wherein hunting-related tools are replaced by processing tools during the early Holocene (Basgall and Hall 1993).

2.2.2 Archaic (8000 BC–AD 500)

The more than 1500-year overlap between the presumed age of Paleoindian occupations and the Archaic period highlights the difficulty in defining a cultural chronology in the San Diego region. If San Dieguito is the only recognized Paleoindian component in the San Diego region, then the dominance of hunting tools implies that it derives from Great Basin adaptive strategies and is not necessarily a local adaptation. Warren et al. (2004) admitted as much, citing strong desert connections with San Dieguito. Thus, the Archaic pattern is the earliest local socioeconomic adaptation in the San Diego region (Hale 2001, 2009).

The Archaic pattern is relatively easy to define with assemblages that consist primarily of processing tools: millingstones, handstones, battered cobbles, heavy crude scrapers, incipient flake-based tools, and cobble-core reduction. These assemblages occur in all environments across the San Diego region, with little variability in tool composition. Low assemblage variability over time and space among Archaic sites has been equated with cultural conservatism (Byrd and Reddy 2002; Warren 1968; Warren et al. 2004). Despite enormous amounts of archaeological work at Archaic sites, little change in assemblage composition occurs until the bow and arrow is adopted at around AD 500, as well as ceramics at approximately the same time (Griset 1996; Hale 2009). Even then, assemblage formality remains low. After the bow is adopted, small arrow points appear in large quantities and already low amounts of formal flake tools are replaced by increasing amounts of expedient flake tools. Similarly, shaped millingstones and handstones decrease in proportion relative to expedient, unshaped groundstone tools (Hale 2009). Thus, the terminus of the Archaic period is equally as hard to define as its beginning because basic assemblage constituents and patterns of manufacturing investment remain stable, complimented only by the addition of the bow and ceramics.

2.2.3 Late Prehistoric (AD 500–1750)

The period of time following the Archaic and prior to Ethnohistoric times (AD 1750) is commonly referred to as the Late Prehistoric (M. Rogers 1945; Wallace 1955; Warren et al.

2004). However, several other subdivisions continue to be used to describe various shifts in assemblage composition, including the addition of ceramics and cremation practices. In northern San Diego County, the post-AD 1450 period is called the San Luis Rey Complex (Meighan and True 1977), while the same period in southern San Diego County is called the Cuyamaca Complex and is thought to extend from AD 500 until Ethnohistoric times (Meighan 1959). Rogers (1929) also subdivided the last 1,000 years into the Yuman II and III cultures, based on the distribution of ceramics. Despite these regional complexes, each is defined by the addition of arrow points and ceramics, and the widespread use of bedrock mortars. Vagaries in the appearance of the bow and arrow and ceramics make the temporal resolution of the San Luis Rey and Cuyamaca complexes difficult. For this reason, the term Late Prehistoric is well-suited to describe the last 1,500 years of prehistory in the San Diego region.

Temporal trends in socioeconomic adaptations during the Late Prehistoric period are poorly understood. This is partly due to the fact that the fundamental Late Prehistoric assemblage is very similar to the Archaic pattern, but includes arrow points and large quantities of fine debitage from producing arrow points, ceramics, and cremations. The appearance of mortars and pestles is difficult to place in time because most mortars are on bedrock surfaces; bowl mortars are actually rare in the San Diego region. Some argue that the Ethnohistoric intensive acorn economy extends as far back as AD 500 (Bean and Shipek 1978). However, there is no substantial evidence that reliance on acorns, and the accompanying use of mortars and pestles, occurred prior to AD 1400. True (1980) argued that acorn processing and ceramic use in the northern San Diego region did not occur until the San Luis Rey pattern emerged after approximately AD 1450. For southern San Diego County, the picture is less clear. The Cuyamaca Complex is the southern counterpart to the San Luis Rey pattern, however, and is most recognizable after AD 1450 (Hector 1984). Similar to True (1980), Hale (2009) argued that an acorn economy did not appear in the southern San Diego region until just prior to Ethnohistoric times, and that when it did occur, a major shift in social organization followed.

2.2.4 Ethnohistoric (post-AD 1750)

The history of the Native American communities prior to the mid-1700s has largely been reconstructed through later mission-period and early ethnographic accounts. The first records of the Native American inhabitants of the San Diego region come predominantly from European merchants, missionaries, military personnel, and explorers. These brief, and generally peripheral, accounts were prepared with the intent of furthering respective colonial and economic aims and were combined with observations of the landscape. They were not intended to be unbiased accounts regarding the cultural structures and community practices of the newly encountered cultural groups. The establishment of the missions in the San Diego region brought more extensive documentation of Native American communities, though these groups did not become

the focus of formal and in-depth ethnographic study until the early twentieth century (Boscana 1846; Fages 1937; Geiger and Meighan 1976; Harrington 1934; Laylander 2000). The principal intent of these researchers was to record the precontact, culturally specific practices, ideologies, and languages that had survived the destabilizing effects of missionization and colonialism. This research, often understood as "salvage ethnography," was driven by the understanding that traditional knowledge was being lost due to the impacts of modernization and cultural assimilation. Alfred Kroeber applied his "memory culture" approach (Lightfoot 2005, p. 32) by recording languages and oral histories within the San Diego region. Kroeber's 1925 assessment of the impacts of Spanish missionization on local Native American populations supported Kumeyaay traditional cultural continuity (Kroeber 1925, p. 711):

> San Diego was the first mission founded in upper California; but the geographical limits of its influence were the narrowest of any, and its effects on the natives comparatively light. There seem to be two reasons for this: first, the stubbornly resisting temper of the natives; and second, a failure of the rigorous concentration policy enforced elsewhere.

In some ways this interpretation led to the belief that many California Native American groups simply escaped the harmful effects of contact and colonization all together. This, of course, is untrue. Ethnographic research by Dubois, Kroeber, Harrington, Spier, and others during the early twentieth century seemed to indicate that traditional cultural practices and beliefs survived among local Native American communities. These accounts supported, and were supported by, previous governmental decisions which made San Diego County the location of more federally recognized tribes than anywhere else in the United States: 18 tribes on 18 reservations that cover more than 116,000 acres (CSP 2009).

The traditional cultural boundaries between the Luiseño and Kumeyaay Native American tribal groups have been well defined by anthropologist Florence C. Shipek:

> In 1769, the Kumeyaay national territory started at the coast about 100 miles south of the Mexican border (below Santo Tomas), thence north to the coast at the drainage divide south of the San Luis Rey River including its tributaries. Using the U.S. Geological Survey topographic maps, the boundary with the Luiseño then follows that divide inland. The boundary continues on the divide separating Valley Center from Escondido and then up along Bear Ridge to the 2240 contour line and then north across the divide between Valley Center and Woods Valley up to the 1880-foot peak, then curving around east along the divide above Woods Valley. [1993 summarized by the San Diego County Board of Supervisors 2007:6]

Based on ethnographic information, it is believed that at least 88 different languages were spoken from Baja California Sur to the southern Oregon state border at the time of Spanish contact (Johnson and Lorenz 2006, p. 34). The distribution of recorded Native American languages has been dispersed as a geographic mosaic across California through six primary language families (Golla 2007, p. 71). Based on the project location, the Native American inhabitants of the region would have likely spoken both the Ipai or Tipai language subgroup of the Yuman language group. Ipai and Tipai, spoken respectively by the northern and southern Kumeyaay communities, are mutually intelligible. For this reason, these two are often treated as dialects of a larger Kumeyaay tribal group rather than as distinctive languages, though this has been debated (Luomala 1978; Laylander 2010).

Victor Golla has contended that one can interpret the amount of variability within specific language groups as being associated with the relative "time depth" of the speaking populations (Golla 2007, p. 80) A large amount of variation within the language of a group represents a greater time depth then a group's language with less internal diversity. One method that he has employed is by drawing comparisons with historically documented changes in Germanic and Romantic language groups. Golla has observed that the "absolute chronology of the internal diversification within a language family" can be correlated with archaeological dates (2007, p. 71). This type of interpretation is modeled on concepts of genetic drift and gene flows that are associated with migration and population isolation in the biological sciences.

Golla suggested that there are two language families associated with Native American groups who traditionally lived throughout the San Diego County region. The northern San Diego tribes have traditionally spoken Takic languages that may be assigned to the larger Uto–Aztecan family (Golla 2007, p. 74). These groups include the Luiseño, Cupeño, and Cahuilla. Golla has interpreted the amount of internal diversity within these language-speaking communities to reflect a time depth of approximately 2,000 years. Other researchers have contended that Takic may have diverged from Uto–Aztecan ca. 2600 BC–AD 1, which was later followed by the diversification within the Takic speaking San Diego tribes, occurring approximately 1500 BC–AD 1000 (Laylander 2010). The majority of Native American tribal groups in southern San Diego region have traditionally spoken Yuman languages, a subgroup of the Hokan Phylum. Golla has suggested that the time depth of Hokan is approximately 8,000 years (Golla 2007, p. 74). The Kumeyaay tribal communities share a common language group with the Cocopa, Quechan, Maricopa, Mojave, and others to east, and the Kiliwa to the south. The time depth for both the Ipai (north of the San Diego River, from Escondido to Lake Henshaw) and the Tipai (south of the San Diego River, the Laguna Mountains through Ensenada) is approximated to be 2,000 years at the most. Laylander has contended that previous research indicates a divergence between Ipai and Tipai to have occurred approximately AD 600–1200 (Laylander 1985). Despite

the distinct linguistic differences between the Takic-speaking tribes to the north, the Ipai-speaking communities in central San Diego, and the Tipai southern Kumeyaay, attempts to illustrate the distinctions between these groups based solely on cultural material alone have had only limited success (Pigniolo 2004; True 1966).

The Kumeyaay generally lived in smaller family subgroups that would inhabit two or more locations over the course of the year. While less common, there is sufficient evidence that there were also permanently occupied villages, and that some members may have remained at these locations throughout the year (Owen 1965; Shipek 1982; Shipek 1985; Spier 1923). Each autonomous triblet was internally socially stratified, commonly including higher status individuals such as a tribal head (Kwaaypay), shaman (Kuseyaay), and general members with various responsibilities and skills (Shipek 1982). Higher-status individuals tended to have greater rights to land resources, and owned more goods, such as shell money and beads, decorative items, and clothing. To some degree, titles were passed along family lines; however, tangible goods were generally ceremonially burned or destroyed following the deaths of their owners (Luomala 1978). Remains were cremated over a pyre and then relocated to a cremation ceramic vessel that was placed in a removed or hidden location. A broken metate was commonly placed at the location of the cremated remains, with the intent of providing aid and further use after death. At maturity, tribal members often left to other bands in order to find a partner. The families formed networks of communication and exchange around such partnerships.

Areas or regions, identified by known physical landmarks, could be recognized as band-specific territories that might be violently defended against use by other members of the Kumeyaay. Other areas or resources, such as water sources and other locations that were rich in natural resources, were generally understood as communal land to be shared amongst all the Kumeyaay (Loumala 1978). The coastal Kumeyaay exchanged a number of local goods, such as seafood, coastal plants, and various types of shell for items including acorns, agave, mesquite beans, gourds, and other more interior plants of use (Luomala 1978). Shellfish would have been procured from three primary environments, including the sandy open coast, bay and lagoon, and rocky open coast. The availability of these marine resources changed with the rising sea levels, siltation of lagoon and bay environments, changing climatic conditions, and intensity of use by humans and animals (Gallegos and Kyle 1988; Pigniolo 2005; Warren 1964). Shellfish from sandy environments included *Donax*, *Saxidomas*, *Tivela*, and others. Rocky coast shellfish dietary contributions consisted of *Pseudochama*, *Megastraea*, *Saxidomus*, *Protothaca*, *Megathura*, *Mytolis* and others. Lastly, the bay environment would have provided *Argopecten*, *Chione*, *Ostrea*, *Neverita*, *Macoma*, *Tagelus*, and others. While marine resources were obviously consumed, terrestrial animals and other resources likely provided a large portion of sustenance. Game animals consisted of rabbits, hares (*Leporidae*), birds, ground squirrels, woodrats

(*Neotoma*), deer, bears, mountain lions (*Puma concolor*), bobcats (*Lynx rufus)*, coyotes (*Canus latrans*), and others. In lesser numbers, reptiles and amphibians may have been consumed.

A number of local plants were used for food and medicine. These were exploited seasonally, and were both traded between regional groups and gathered as a single triblet moved between habitation areas. Some of the more common of these that might have been procured locally or as higher elevation varieties would have included buckwheat (*Eriogonum fasciculatum*), *Agave*, *Yucca*, lemonade berry (*Rhus integrifolia*), sugar brush (*Rhus ovata*), sage scrub (*Artemisia californica*), yerba santa (*Eriodictyon*), sage (*Salvia*), *Ephedra*, prickly pear (*Opuntia*), mulefat (*Baccharis salicifolia*), chamise (*Adenostoma fasciculatum*), elderberry (*Sambucus nigra*), oak (*Quercus*), willow (Salix), and *Juncus* grass among many others (Wilken 2012).

2.2.5 The Historic Period (post-AD 1542)

European activity in the region began as early as AD 1542, when Juan Rodríguez Cabrillo landed in San Diego Bay. Sebastián Vizcaíno returned in 1602, and it is possible that there were subsequent contacts that went unrecorded. These brief encounters made the local native people aware of the existence of other cultures that were technologically more complex than their own. Epidemic diseases may also have been introduced into the region at an early date, either by direct contacts with the infrequent European visitors or through waves of diffusion emanating from native peoples farther to the east or south (Preston 2002). It is possible, but as yet unproven, that the precipitous demographic decline of native peoples had already begun prior to the arrival of Gaspar de Portolá and Junípero Serra in 1769.

Spanish colonial settlement was initiated in 1769, when multiple expeditions arrived in San Diego by land and sea, and then continued northward through the coastal plain toward Monterey. A military presidio and a mission were soon firmly established at San Diego, despite violent resistance to them from a coalition of native communities in 1776. Private ranchos subsequently established by Spanish and Mexican soldiers, as well as other non-natives, appropriated much of the remaining coastal or near-coastal locations (Pourade 1960–1967).

Mexico's separation from the Spanish empire in 1821 and the secularization of the California missions in the 1830s caused further disruptions to native populations in western San Diego County. Some former mission neophytes were absorbed into the work forces on the ranchos, while others drifted toward the urban centers at San Diego and Los Angeles or moved to the eastern portions of the county where they were able to join still largely autonomous native communities. United States conquest and annexation, together with the gold rush in Northern California, brought many additional outsiders into the region. Development during the following decades was fitful, undergoing cycles of boom and bust, exceptionally drastic towards the late-nineteenth century. With rising populations in the early twentieth-century throughout the Southern

California region, there were increased demands for important commodities, services, and urban development.

2.3 Previous Cultural Resource Investigations

SCIC staff provided the results of a records search for the proposed project parcel and a surrounding one- mile buffer on July 30, 2015. These records indicate that at least 29 previous cultural resources studies have included portions of the current project area. No sites have been previously identified within the project area; however, 75 sites and isolated finds have been recorded within a mile of the project area (Confidential Appendix A).

2.3.1 Cultural Resources

A records search conducted by SCIC staff indicates that no previously recorded cultural resources are located within the project boundaries. However, SCIC records do indicate that 75 cultural resources have been recorded within a one-mile buffer of the proposed project (Table 1). Of the 75 resources previously recorded, 51 are cultural sites and 24 are isolates (isolated artifacts or materials).

Table 1. Sites on File at SCIC Within One-Mile of Project Area

Trinomial	Primary Number	Age	Description
P-37-004620	CA-SDI-004620	Prehistoric	Ceramic and lithic artifact scatter
P-37-005219	CA-SDI-005219	Prehistoric	Habitation site
P-37-005221	CA-SDI-005221	Prehistoric	Lithic scatter
P-37-005324	CA-SDI-005324	Prehistoric	Lithic and millingstone scatter
P-37-005325	CA-SDI-005325	Prehistoric	Habitation site
P-37-005326	CA-SDI-005326	Prehistoric	Lithic scatter
P-37-006040	CA-SDI-006040	Prehistoric	Lithic scatter
P-37-006041	CA-SDI-006041	Prehistoric	Isolated lithic artifact
P-37-006042	CA-SDI-006042	Prehistoric	Lithic scatter/Quarry/Procurement area
P-37-006043	CA-SDI-006043	Prehistoric	Lithic scatter
P-37-006044	CA-SDI-006044	Prehistoric	Lithic scatter
P-37-006045	CA-SDI-006045	Prehistoric	Lithic scatter
P-37-006046	CA-SDI-006046	Prehistoric	Artifact scatter

Trinomial	Primary Number	Age	Description
P-37-008104	CA-SDI-008104	Prehistoric	Lithic scatter
P-37-008108	CA-SDI-008108	Prehistoric	Lithic scatter
P-37-008109	CA-SDI-008109	Prehistoric	Lithic scatter
P-37-008116	CA-SDI-008116	Prehistoric	Lithic and shell scatter
P-37-010305	CA-SDI-010305	Prehistoric	Quarry and lithic scatter
P-37-010306	CA-SDI-010306	Prehistoric	Shell scatter
P-37-010307	CA-SDI-010307	Prehistoric	Midden site
P-37-010860	CA-SDI-010860	Prehistoric	Lithic scatter
P-37-010909	CA-SDI-010909	Prehistoric	Quarry and lithic scatter
P-37-012507	CA-SDI-012507	Prehistoric	Lithic scatter
P-37-012508	CA-SDI-012508	Prehistoric	Shell scatter
P-37-012999	CA-SDI-012999	Prehistoric	Artifact scatter
P-37-013000	CA-SDI-013000	Prehistoric	Artifact scatter
P-37-013077	CA-SDI-013077	Historic	Homestead/structure foundations & features
P-37-013078	CA-SDI-013078	Prehistoric	Archaic habitation site
P-37-013079	CA-SDI-013079	Prehistoric	Artifact scatter
P-37-013080	CA-SDI-013080	Prehistoric	Artifact scatter
P-37-013082	CA-SDI-013082	Prehistoric	Lithic scatter
P-37-013099	CA-SDI-013099	Prehistoric	Lithic scatter
P-37-014113	CA-SDI-014045	Prehistoric	Lithic scatter
P-37-014114	-	Prehistoric	Isolated lithic artifact
P-37-014115	-	Prehistoric	Isolated lithics
P-37-014116	-	Prehistoric	Isolated lithic tool
P-37-014340	CA-SDI-014121	Prehistoric	Artifact scatter
P-37-014341	CA-SDI-014122	Prehistoric	Lithic scatter
P-37-014342	CA-SDI-014123	Prehistoric	Lithic scatter
P-37-014343	CA-SDI-014124	Prehistoric	Lithic scatter

Trinomial	Primary Number	Age	Description
P-37-014344	CA-SDI-014125	Prehistoric	Lithic scatter
P-37-014350	CA-SDI-014131	Prehistoric	Lithic scatter/Quarry/Procurement area
P-37-014351	CA-SDI-014132	Prehistoric	Lithic scatter
P-37-014352	CA-SDI-014133	Prehistoric	Lithic scatter/Quarry/Procurement area
P-37-014353	CA-SDI-014134	Prehistoric	Lithic scatter/Quarry/Procurement area
P-37-014354	CA-SDI-014135	Prehistoric	Lithic scatter/Quarry/Procurement area
P-37-014355	CA-SDI-014136	Prehistoric	Lithic scatter
P-37-014356	CA-SDI-014137	Prehistoric	Lithic scatter
P-37-014357	CA-SDI-014138	Prehistoric	Lithic scatter
P-37-014358	CA-SDI-014139	Prehistoric	Lithic scatter/Quarry/Procurement area
P-37-014516	-	Prehistoric	Isolated lithics
P-37-014517	-	Prehistoric	Isolated lithic
P-37-014518	-	Prehistoric	Isolated lithics
P-37-014520	-	Prehistoric	Isolated lithics
P-37-014521	-	Prehistoric	Isolated lithic
P-37-014522	-	Prehistoric	Isolated lithic
P-37-014846	-	Prehistoric	Isolated milling artifact
P-37-014847	-	Prehistoric	Isolated milling artifact
P-37-014875	-	Prehistoric	Isolated lithic
P-37-014876	-	Prehistoric	Isolated lithic
P-37-014878	-	Prehistoric	Isolated lithic tool
P-37-014879	-	Prehistoric	Isolated lithic
P-37-014880	-	Prehistoric	Isolated lithic
P-37-014881	-	Prehistoric	Isolated lithic
P-37-014882	-	Prehistoric	Isolated lithic
P-37-014883	-	Prehistoric	Isolated lithic
P-37-014884	-	Prehistoric	Isolated milling artifact

Trinomial	Primary Number	Age	Description
P-37-014885	-	Prehistoric	Isolated lithic
P-37-016040	CA-SDI-014603	Multi-component	Historic homestead and prehistoric artifact scatter
P-37-016041	CA-SDI-014604	Multi-component	Historic homestead and prehistoric artifact scatter
P-37-016446	-	Prehistoric	Isolated lithic tool
P-37-016447	CA-SDI-014876	Prehistoric	Artifact scatter
P-37-029613	-	Prehistoric	Isolated artifacts

Of the 75 total resources identified in the area surrounding the APE, 72 are prehistoric in age, two (2) are multi-component sites (both consisting of historic homesteads with an associated prehistoric component), and one (1) site is a historical-era homestead site with no prehistoric component. Nearly 80 percent of these previously recorded resources (n=60) consist primarily of lithic materials and/or are associated with lithic procurement/quarrying activities.

2.3.2 Previous Technical Studies

SCIC records indicate that 124 previous cultural resources studies have been conducted within the one-mile SCIC record search area. Twenty-nine (29) of these previous studies have included all, or at least a portion of, the current APE (Table 2). These records suggest that some, or all, of the APE has been previously studied multiple times. Citations for these technical studies have been included as Table 2 below; with studies that have intersected the current APE bolded for reference.

Table 2 Previous Studies Within the SCIC One-mile Record Search

NADB ID#	Author	Date	Report Title
SD-00218	Carbone, Larry A. and Nancy A. Whitney-Desautels	1987	Cultural Resources Investigation of the Park View Estates Property San Diego, California.
SD-00269	Bull, Charles	1974	An Archaeological Survey of Proposed Route 56.
SD-00404	Carrico, Richard	1976	Preliminary Report on the Archaeological Testing and Mitigation at Torrey Pines Science Park
SD-00581	Carrillo, Charles	1983	Archaeological Survey Report for Four Biological Mitigation Parcels. 11-SD-52-3.3/8.8 11206-047070 11206-047040 11206-152361
SD-01064	Fulmer, Scott	1984	Addendum to Vernal Pool Mitigation 11-SD-52 3.3-8.8 11206-152360.
SD-01152	Laylander, Don	1988	Extended Phase I Investigations of Site CA-SDi-5383 Loci B, C, H, I, and J and Site CA-SDi-10116 Penasquitos Area, San Diego, California.

NADB ID#	Author	Date	Report Title
SD-01153	Laylander, Don	1988	An Archaeological Survey Report for a Portion of State Route 56 (West of Black Mountain Road to I-15),San Diego, California, 11-SD-56, P.M. 6.2-9.0, 11225-030100.
SD-01295	Norwood, Richard H.	1978	The Cultural Resources of Penasquitos East.
SD-01316	McCoy, Lesley C. and Alex N. Kirkish	1982	Cultural Resources Data Recovery Program for the 230KV Transmission Line Rights-of-Way from San Onofre Nuclear Generating Station to Black Star Canyon and Santiago Substation and to Encina and Mission Valley Substations Vols. I & II
SD-01454	Scientific Resource Surveys, Inc.	1985	Report on a Cultural Resources Survey of the Black Mountain Vistas North Project
SD-01794	Schaefer, Jerry and Michael C. Elling	1987	An Assessment of Cultural Resources in Los Penasquitos Canyon Reserve San Diego, California
SD-01795	RECON-Regional Environmental Consultants	1981	Archaeological and Biological Survey Reports for the San Andres Project County of San Diego
SD-01927	Hanna, David Jr. and John Cook	1977	Hearst Carmel Valley Tentative Parcel Map San Diego, California
SD-01928	Hanna, David Jr.	1977	An Archaeological Reconnaissance of a Carmel Valley Associates Proposed Parcel Division
SD-02013	Englehorn, Curtis Scott	1980	An Environmental Impact Analysis of Black Mountain Vistas (T14, R3W-Sec13)
SD-02267	BERRYMAN, JUDY AND LINDA ROTH	1990	CULTURAL RESOURCE ASSESSMENT OF 39+ ACRES OVERLOOKING MC GONIGLE CANYON
SD-02283	KYLE,CAROLYN	1992	CULTURAL RESOURCE SURVEY REPORT FOR THE WAVE CREST II PROJECT SAN DIEGO CA
SD-02493	CITY OF SAN DIEGO	1980	DRAFT ENVIRONMENTAL IMPACT REPORT PENASQUITOS PARK VIEW ESTATES UNIT 5
SD-02619	BROWN, JOAN	1991	MESA VERDE MIDDLE SCHOOL FIELD RECONNAISSANCE
SD-02698	GALLEGOS, DENNIS, IVAN STRUDWICK, and ROXANA PHILLIPS	1993	HISTORIC/ARCHAEOLOGICAL SURVEY AND TEST REPORT FOR SUBAREA 111 FUTURE URBANIZING AREA, SAN DIEGO, CALIFORNIA
SD-02736	BROWN, JOAN C.	1993	ARCHAEOLOGICAL TESTING AND SIGNIFICANCE ASSESSMENT OF CA-SDI-13000, THE MESA VERDE MIDDLE SCHOOL SITE LOCATED IN POWAY, SAN DIEGO COUNTY
SD-02740	PIGNIOLO,	1993	NATIONAL ARCHAEOLOGICAL DATA BASE (NADB) INFORMATION

NADB ID#	Author	Date	Report Title
	ANDREW R. and ET AL		SHEET CULTURAL RESOURCES CONTRAINTS ANALYSIS AND SURVEY FOR THE DEL MAR HEIGHTS ROAD ALIGNMENT, SAN DIEGO CALIFORNIA
SD-02880	SRS and BRIAN D. DILLON	1989	ARCHAEOLOGICAL RECONNAISSANCE OF THE PROPOSED ALIGNMENT OF CARMEL MOUNTAIN ROAD: AN ADDENDUM TO THE CULTURAL RESOURCES INVESTIGATION OF THE PARK VIEW ESTATES PROPERTY, SAN DIEGO, CALIFORNIA.
SD-03043	SCHROTH, ADELLA, ROXANA PHILLIPS, and DENNIS GALLEGOS	1996	HISTORICAL/ARCHAEOLOGICAL SURVEY REPORT FOR SUBAREA V FUTURE URBANIZING AREA, SAN DIEGO, CALIFORNIA
SD-03237	MONSERRATE, LAWRENCE C.	1994	PENASQUITOS RELIEF TRUCK SEWER CITY COUNCIL APPROVAL
SD-03312	SCHAEFER, JERRY	1998	ARCHAEOLOGICAL CONSULTING SERVICES: CA-SDI-13077H INSPECTION AND EVALUATION
SD-03341	SCHROTH, ADDELLA B. and DENNIS R. GALLEGOS	1997	ARCHAEOLOGICAL TEST OF PREHISTORIC SITE CA-SDI-5324, LOCATED ON THE GOODELL PROPERTY, SUBAREA IV SAN DIEGO, CALIFORNIA
SD-03351	CITY OF SAN DIEGO	1998	DRAFT EIR PACIFIC HIGHLANDS RANCH (SUBAREA 3) SUBAREA PLAN IN THE NORTH CITY FUTURE URBANIZING AREA (NCFUA)
SD-03352	STUDWICK, IVAN H., ROXANA PHILLIPS, and DENNIS R. GALLEGOS	1993	HISTORICAL/ARCHAEOLOGICAL SURVEY AND TEST REPORT FOR NORTH CITY FUTURE URBANIZING AREA, SUBAREA 3
SD-03477	DOLAN,CHRISTY	1998	ADDENDUM TECHNICAL REPORT HISTORIC STUDY REPORT FOR THE PROPOSED ALTERNATE MODIFIED NORTHERN D AND F STATE ROUTE 56 ALIGNMENTS CITY OF SAN DIEGO, CALIFORNIA
SD-03540	SCHROTH, ADELLA B. and NINA HARRIS	1997	ARCHAEOLOGICAL SURVEY OF THE TORREY DEL MAR PROPERTY, SUBAREA IV SAN DIEGO, CALIFORNIA
SD-03718	EIGHMEY, JAMES D., ROXANA L. PHILLIPS, IVAN H. STRUDWICK, CAROLYN KYLE, and DENNIS R. GALLEGOS	1996	FINAL HISTORICAL/ARCHAEOLOGICAL SURVEY REPORT FOR THE TORREY HIGHLANDS SUBAREA IV FUTURE URBANIZING AREA SAN DIEGO, CALIFORNIA

NADB ID#	Author	Date	Report Title
SD-03719	SCHROTH, ADELLA B, DENNIS R. GALLEGOS, IVAN H. STRUDWICK, and JAMES D. EIGHMEY	1997	ADDENDUM TO ARCHAEOLOGICAL SURVEY REPORT FOR THE PROPOSED ALTERNATE NORTHERLY AND CENTRAL STATE ROUTE 56 ALIGMENTS CITY OF SAN DIEGO, CALIFORNIA (DEP NO.95-0099)
SD-03738	DOLAN, CHRISTY C. V.	1997	RESEARCH DESIGN FOR ASSESSING SITE SRH-1 IN THE PROPOSED ALTERNATE NORTHERN STATE ROUTE 56 ALIGNMENTS CITY OF SAN DIEGO, CALIFORNIA
SD-03763	SCHROTH, ADELLA B., NINA M. HARRIS, and DENNIS R. GALLEGOS	1999	ARCHAEOLOGICAL SURVEY OF THE TORREY DEL MAR PROJECT SAN DIEGO, CALIFORNIA
SD-03820	KYLE, CAROLYN	2000	CULTURAL RESOURCE SURVEY FOR THE VISTA ALEGRE PROJECT SAN DIEGO, CALIFORNIA
SD-03840	CITY OF SAN DIEGO	2000	CULTURAL RESOURCE EVALUATION FOR SITE CA-SDI-14604/H, TORREY HIGHLANDS, SAN DIEGO COUNTY, CALIFORNIA
SD-03853	NINA M. HARRIS, DENNIS R. GALLEGOS	1998	CULTURAL RESOURCE SURVEY AND TEST REPORT FOR THE MCMILLIN PROPERTY SAN DIEGO, CALIFORNIA LDR NO. 98-1177
SD-03916	GALLEGOS, DENNIS and ASSOCIATES	1997	ARCHAEOLOGICAL TEST OF PREHISTORIC SITE CA-SDI-5324
SD-03944	GALLEGOS, DENNIS, PETEI MCHENRY, MICHAEL CALDWELL, NINA HARRIS, and JENN PERRY	1996	HISTORICAL/ARCHAEOLOGICAL SURVEY REPORT FOR SUBAREA V FUTURE URBANIZING AREA SAN DIEGO, CALIFORNIA
SD-04516	MONSERRATE, LAWRENCE C. and CITY OF SAN DIEGO	1996	PUBLIC NOTICE OF DRAFT ENVIRONMENTAL IMPACT REPORT TORREY HIGHLANDS SUBAREA IV AMENDMENT TO THE NCFUA FRAMEWORK PLAN
SD-04715	CITY OF SAN DIEGO	1992	APPENDICES TO THE DRAFT ENVIRONMENTAL IMPACT REPORT FOR THE LOS PENASQUITOS CANYON PRESERVE MASTER PLAN
SD-04779	CITY OF SAN DIEGO	1996	DRAFT ENVIRONMENTAL IMPACT REPORT FOR THE MIDDLE SEGMENT OF STATE ROUTE 56
SD-04826	EIGHMEY, JIM	2000	CULTURAL RESOURCE TESTING AND EVALUATION AT SITES CA-

NADB ID#	Author	Date	Report Title
			SDI-5324 AND CA-SDI-5325, SAN DIEGO, CA.
SD-04828	PIGNIOLO, ANDREW, JAMES CLELAND, and REBECCA MCCORKLE APPLE	1996	BETWEEN COAST AND FOOTHILL: ARCHAEOLOGICAL EVALUATION FOR THE PROPOSED ALTERNATIVE NORTHERN AND CENTRAL STATE ROUTE 56 ALIGNMENTS CITY OF SAN DIEGO, CA.
SD-04979	RECON	1980	Environmental Impact Analysis for Penasquitos Park View Estates Units 6 & 7
SD-05114	Monserrate, Lawrence	1998	EIR: Pacific Highlands Ranch Subarea Plan in the North City Future Urbanizing Area
SD-05220	EIGHMEY, JAMES	1996	Historical/ Archaeological Survey Report for the Torrey Highlands Subarea IV Future Urbanizing Area S.D., Calif.
SD-05226	PIGINOLO, ANDREW	1996	Archaeological Resource Evaluation Report: State Route 56: Between Coast & Foothill, City of San Diego, CA
SD-05251	WESTEC SERVICES	1979	ENVIRONMENTAL DATA STATEMENT SAN ONOFRE TO ENCINA 230 KV TRANSMISSION LINE ADDENDUM NO. 3
SD-05445	FULMER, SCOTT	1984	Negative Archaeological Survey Report District II County of San Diego, Route 52 Post Mile 3.3-8.8
SD-05642	CITY OF SAN DIEGO	1993	DEIR TORREY HIGHLANDS-SUBAREA IV
SD-05643	CITY OF SAN DIEGO	1993	DEIR OF SUBAREA V PLAN IN THE NORTH CITY FUTURE URBANIZING AREA
SD-05656	MONSERRATE, LAWRENCE	2001	ADDENDUM-EIR-SANTA MONICA
SD-05686	PRICE, HARRY	1980	ARCHAEOLOGICAL SURVEY REPORT FOR A PROPOSED RIGHT-OF-WAY EASEMENT
SD-05739	MONSERRATE, LAWRENCE	1996	DRAFT EIR SUBAREA V DEL MAR MESA SPECIFIC PLAN IN THE NORTH CITY FUTURE URBANIZING AREA
SD-05793	STRUDWICK IVAN	1993	HISTORICAL/ARCHAEOLOGICAL SURVEY: TEST REPORT FOR NORTH CITY FUTURE URBANIZING AREA SUBAREA 3, SAN DIEGO
SD-05992	GALLEGOS, DENNIS	2000	ACHAEOLOGICAL RECORDS FOR THE CAMINO RUIZ ROADWAY PROJECT, SAN DIEGO, CALIFORNIA
SD-06066	CITY OF SAN DIEGO	2001	EIR FOR NOAH CITY WATER-RECLEMATION SYSTEM PROJECT
SD-06098	DOLAN, CHRISTY	1996	HISTORIC STUDY REPORT STATE ROUTE 56 BETWEEN INTERSTATE 8 AND INTERSTATE 15, McGONIGLE FAMILY
SD-06170	HARRIS, NINA	1998	CULTURAL RESOURCE SURVEY & TEST FOR THE McMILLIN

NADB ID#	Author	Date	Report Title
			PROPERTY SAN DIEGO
SD-06242	PIGNIOLO, ANDREW	1996	ARCHAEOLOGICAL RESOURCE EVALUATION REPORT-STATE ROUTE 56
SD-06311	COLLETT, RUSSEL	1997	CULTURAL RESOURCE SURVEY OF THE 12.5 ACRE TORREY GLEN PROPERTY IN SAN DIEGO, CA (RECON #2962A)
SD-06451	WHITE, CHRIS	1984	HISTORIC PROPERTY SURVEY REPORT-NEGATIVE FINDINGS IMPACT TO VERNAL POOLS FROM STATE ROUTE 52
SD-06452	ROSEN, MARTIN	1990	HISTORIC PROPERTY SURVEY STATE ROUTE 56
SD-06574	ROSEN, MARTIN	1991	NEGATIVE ARCHAEOLOGICAL SURVEY NEW STATE ROUTE 56
SD-06725	CITY OF SAN DIEGO	1992	MASTER EIR NORTH CITY FUTURE URBANIZING AREA
SD-06765	CALTRANS	1990	NEGATIVE ARCHAEOLOGICAL SURVEY REPORT-FIRST ADDENDUM SD-11-56 PM 6-8-9.0
SD-06944	CITY OF SAN DIEGO	1999	PUBLIC NOTICE OF PROPOSED MITIGATED NEGATIVE DECLARATION-TORREY DEL MAR
SD-07106	COUNTY OF SAN DIEGO	1975	RANCHO PENASQUITOS OVERVIEW
SD-07151	CITY OF SAN DIEGO	1996	PUBLIC NOTICE OF DRAFT EIR SUBAREA V DEL MAR MESA SPECIFIC PLAN IN THE NORTH CITY FUTURE URBANIZING AREA
SD-07212	CITY OF SAN DIEGO	1999	PUBLIC NOTICE OF PROPOSED MITIGATED NEGATIVE DECLARATION TORREY GLEN
SD-07348	NIGHABHLAIN., SINEAD and DREW PALLETTE	2002	DATA RECOVERY FOR PREHISTORIC SITES CA-SDI-10306, 10307, AND 14562, CENTRAL SECTION OF SR-56
SD-07367	CALTRANS and DON LAYLANDER	1988	EXTENDED PHASE I INVESTIGATIONS OF SITE CA-SDI-5383 LOCI B, C, H, I, AND J AND SITE CA-SDI-10116, PENASQUITOS AREA, SAN DIEGO, CA, 11-SD-56 PM 6.7-9.0
SD-07368	CALTRANS	1989	HISTORIC PROPERTY CLEARANCE REPORT FOR A PORTION OF PROPOSED STATE ROUTE 56 WEST OF BLACK MOUNTAIN ROAD TO I-15, SAN DIEGO, CA, 11-SD-56 PM 6.7-9.0
SD-07369	CALTRANS and DON LAYLANDER	1990	HISTORIC PROPERTY SURVEY REPORT FOR A PORTION OF STATE ROUTE 56 WEST OF BLACK MOUNTAIN ROAD TO I-15 11-SD-56 PM 6.7-9.0
SD-07387	MCCORKLE-APPLE, REBECCA, JAMES CLELAND, ANDREW YORK, TANYA	1997	ARCHAEOLOGICLA RESOURCES EVALUATION REPORT, STATE ROUTE 56: BETWEEN COAST AND FOOTHILL, CITY OF SAN DIEGO, CALIFORNIA

NADB ID#	Author	Date	Report Title
	WAHOFF, and DELMAN JAMES		
SD-07528	Kyle, Carolyn	2001	Cultural Resource Significance Test for Historic Site CA-SDI-14147H Cit of San Diego, CA
SD-07531	CITY OF SAN DIEGO	2002	PUBLIC NOTICE OF A PROPOSED MITIGATED NEGATIVE DECLARATION CIELO DEL MAR PROJECT
SD-07533	EIGHMEY, JIM and ANDREA M. BROGAN	2000	CULTURAL RESOURCE TESTING AND EVALUATIUON AT SITES CA-SDI-5324 AND CA-SDI-5325 SAN DIEGO COUNTY, CALIFORNIA
SD-07613	DON LAYLANDER and CHRIS WHITE	1990	HISTORIC PROPERTY SURVEY REPORT FOR A PORTRION OF STATE ROUTE 56 (WEST OF BLACK MOUNTAIN ROAD TO RT. 15), SAN DIEGO, CA 11-SD-56 PM 6.7/9.0
SD-07645	CITY OF SAND DIEGO	2002	PUBLIC NOTICE OF A PROPOSED MITIGATED NEGATIVE DECLARATION SHAW PROPERTY
SD-07647	JIM EIGHMEY and DEBORAH HUNTLEY	1999	ARCHAEOLOGICAL SIGNIFICANCE EVALUATION OF CA-SDI-10,306 FUTURE URBANIZING SUB-AREA IV, CITY OF SAN DIEGO, CALIFORNIA
SD-07901	JIM EIGHMEY	1999	ARCHAEOLOGICAL SIGNIFICANE EVALUATION OF CA-SDI-10306 FUTURE URBANIZING SUB-AREA IV, CITY OF SAN DIEGO, CA
SD-07902	JIM EIGHMEY and ANDREA M. BROGAN	2000	CULTURAL RESOURCE TESTING AND EVALUATION AT SITES CA-SDI-5324 AND CA-SDI-5325- SAN DIEGO, C7
SD-07993	NiGhabhlain, Sinead	2000	Los Penasquitos Canyon Preserve Restoration Program, Cultural Resource Survey
SD-08004	ROSEN, MARTIN	1991	NEGATIVE ARCHAEOLOGICAL SURVEY REPORT-SECOND ADDENDUM ROUTE 11-SD-56
SD-08054	DENNIS R. GALLEGOS and JEFF FLENNIKEN	2001	THE TORREY RANCH CULTURAL RESOURCE TEST PROGRAM FOR CA-SDI-5325 AND CA-SDI-12507 SAN DIEGO COUNTY, CALIFORNIA
SD-08057	DENNIS R. GALLEGOS, TRACY STROPES, and MONICA GUERRERO	2001	CULTURAL RESOURCE TEST PROGRAM FOR CA-SDI-12508, SAN DIEGO, CALIFORNIA
SD-08258	KYLE, CAROLYN	2003	CULTURAL RESOURCE INVENTORY UPDATE AND RECOMMENDATIONS FOR THE PHODES CROSSING PROJECT

NADB ID#	Author	Date	Report Title
			CITY OF SAN DIEGO, CALIFORNIA
SD-08406	Rosen, Martin	1990	First Addendum to Laylander 1988 for State Route 59 from Black Mountain Road to I-15
SD-08535	FINK, GARY	1983	THE CULTURAL RESOURCES OF LOS PENASQUITOS REGIONAL PARK, SAN DIEGO, CALIFORNIA
SD-08556	KYLE, CAROLYN	2003	A CULTURAL RESOURCE INVENTORY UPDATE AND RECOMMENDATION FOR THE RHODES CROSSING PROJECT CITY OF SAN DIEGO, CALIFORNIA
SD-08962	CITY OF SAN DIEGO	2003	EIR- RHODES CROSSING PROJECT
SD-09208	VAN WORMER, STEPHEN, SUSAN D. WALTER, and CAROLYN KYLE	2004	RESULTS OF ARCHAEOLOGICAL MONITORING FOR THE FENTON-CARROLL CANYON OFF-SITE MITIGATION PROJECT
SD-09225	SMITH, BRIAN F. and JOHNNA L. BUYSSE	2003	RESULTS OF AN ARCHAEOLOGICAL DATA RECOVERY PROGRAM AT SITE SDI-5326, WESTVIEW HIGH SCHOOL, POWAY UNIFIED SCHOOL DISTRICT
SD-09347	Mason, Roger D. and Cary D. Cotterman	2004	Cultural Resources Records Search and Survey Report for the Penasquitos West Property, San Diego County, California
SD-09517	GALLEGOS, DENNIS and CERRETO, RICHARD	2005	ARCHAEOLOGICAL SURVEY FOR CAMINO RUIZ SOUTH ROADWAY PROJECT, SAN DIEGO CALIFORNIA
SD-09561	GUERRERO, MONICA C. and DENNIS R. GALLEGOS	2003	MONITORING PROGRAM FOR THE LMXU/TORREY RANCH EXPORT PLAN PROJECT SAN DIEGO, CALIFORNIA
SD-09588	GUERRERO, MONICA C. and DENNIS R. GALLEGOS	2003	HISTORICAL RESOURCES REPORT FOR THE CAMINO DEL SUR PROJECT SAN DIEGO, CALIFORNIA
SD-09902	AISLIN-KAY, MARNIE and CHRISTEEN TANIGUCHI	2004	RECORDS SEARCH AND SITE RESULTS FOR CINGULAR TELECOMMUNICATIONS FACILITY CANDIDATE SD-600-01 (WESTVIEW HIGH SCHOOL), 13500 CAMINO RUIZ, SAN DIEGO, CALIFORNIA
SD-10133	Kyle, Carolyn	2006	Cultural Resource Monitoring for the Cielo del Mar Project, City of San Diego, California

NADB ID#	Author	Date	Report Title
SD-10923	TANNER, DON and MARTY STOTT		A STUDY OF THE SANTA MARIA DE LOS PENASQUITOS RANCHO
SD-11148	WOLF, SCOTT	2007	PENASQUITOS BLUFF CANYON TRUNK SEWER MAINTENANCE AND EMERGENCY ACCESS PLAN PROJECT
SD-11427	BONNER, WAYNE H. and MARNIE AISLIN-KAY	2007	CULTURAL RESOURCE RECORDS SEARCH AND SITE VISIT RESULTS FOR T-MOBILE FACILITY CANDIDATE SD06289 (YOLO COURT ROW), FOUND AT THE TERMINUS OF YOLO COURT JUST SOUTH OF DARKWOOD ROAD, SAN DIEGO, SAN DIEGO COUNTY, CALIFORNIA
SD-11567	HALE, MICAH	2004	CULTURAL RESOURCE INVENTORY FOR THE GAWLE PROPERTY, SAN DIEGO COUNTY
SD-11568	COOK, JOHN R.	2007	SDI-7202 TEST RESULTS; GAWLE PROPERTY
SD-11569	AKYUZ, LINDA	2008	HISTORICAL RESOURCES EVALUATION FOR AN ARCHAEOLOGICAL SITE WITHIN THE GAWLE PROJECT AREA, CITY OF SAN DIEGO, CALIFORNIA
SD-11823	KICK, MAUREEN S.	2007	CULTURAL RESOURCES TECHNICAL REPORT FOR THE SAN DIEGO VEGETATION MANGEMENT PROJECT
SD-11906	BONNER, WAYNE H. and MARNIE AISLIN-KAY	2008	CULTURAL RESOURCE RECORDS SEARCH AND SITE VISIT RESULTS FOR T-MOBILE FACILITY CANDIDATE SD07119 (ECLIPSE ROW) 7900 ECLIPSE ROAD, SAN DIEGO, SAN DIEGO COUNTY, CALIFORNIA
SD-12010	GALLEGOS, DENNIS R., JEFF FLENNIKEN, TRACY A. STROPES, and MONICA GUERRERO	2003	CULTURAL RESOURCE MITIGATION PROGRAM FOR TORREY RANCH SITE CA-SDI-5325 SAN DIEGO COUNTY, CALIFORNIA
SD-12023	GUERRERO, MONICA, PATRICIA MITCHELL, TRACY STROPES, and DENNIS R. GALLEGOS	2005	CULTURAL RESOURCE MONITORING REPORT FOR THE TORREY RANCH SITE CA-SDI-5325, SAN DIEGO COUNTY, CALIFORNIA
SD-12044	NOAH, ANNA C. and DENNIS R. GALLEGOS	2008	FINAL CLASS III ARCHAEOLOGICAL INVENTORY FOR THE SDG&E SUNRISE POWERLINK PROJECT, SAN DIEGO AND IMPERIAL COUNTIES, CALIFORNIA
SD-12165	ROSEN, MARTIN	2009	FIRST SUPPLEMENTAL ARCHAEOLOGICAL SURVEY REPORT FOR THE ZAMUDIO

NADB ID#	Author	Date	Report Title
			BIOLOGICAL MITIGATION PARCEL FOR THE INTERSTATE 805 DIRECT ACCESS RAMP AND CARROLL CANYON ROAD EXTENSION PROJECT CITY OF SAN DIEGO, CALIFORNIA
SD-13803	DANIELS, JAMES T., TONY QUACH, MICAH J. HALE, SARAH STRINGER-BOWSHER, and SCOTT WOLF	2012	EVALUATION OF SDI-13077H AND DATA RECOVERY AT SDI-13078 FOR THE RHODES CROSSING PROJECT, SAN DIEGO COUNTY, CALIFORNIA
SD-14012	UNDERWOOD, JACKSON	2001	DATA RECOVERY PLAN FOR SITE CA-SDI-10307, TORREY HIGHLANDS/ VILLAGE CENTER
SD-14164	SMITH, BRIAN F.	2012	MITIGATION MONITORING REPORT FOR LOS PENASQUITOS RECYCLED WATER PIPELINE
SD-14487	ROBBINS-WADE, MARY and ANDREW GILETTI	2013	CULTURAL RESOURCE STUDY: CA-SDI-11696 AND CA-SDI-14131, CARMEL MOUNTAIN/ DEL MAR MESA PRESERVES NATURAL RESOURCE MANAGEMENT PLAN TRAILS SAN DIEGO, CALIFORNIA
SD-14488	ROBBINS-WADE, MARY	2013	CARMEL MOUNTAIN/ DEL MAR PRSERVES NATURAL RESOURCE MANAGEMENT PLAN TRAIL CULTURAL RESOURCES STUDY
SD-14703	KYLE, CAROLYN E.	2003	A CULTURAL RESOURCE INVENTORY UPDATE AND RECOMMENDATIONS FOR THE RHODES CROSSING PROJECT CITY OF SAN DIEGO, CALIFORNIA
SD-14730	DAVISON, KRISTINA and MARY ROBBINS-WADE	2013	LAKE MORENA'S OAK SHORES MUTUAL WATER COMPANY WATER SYSTEM IMPROVEMENTS PROJECT PHASE 2- ARCHAEOLOGICAL MONITORING
SD-14742	ROBBINS-WADE, MARY	2013	CULTURAL RESOURCES STUDY : CA-SDI-11696 AND CA-SDI-14131, CARMEL MOUNTAIN/ DEL MAR MESA PRESERVES NATURAL RESOURCE MANAGEMENT PLAN TRAILS SAN DIEGO, CALIFORNIA

2.4 NAHC Search and Tribal Correspondence

Dudek requested an initial NAHC search of their Sacred Lands File (SLF) on July 10, 2015 for the proposed project area. Due to the lack of response, a second search request was sent to the NAHC on March 09, 2016. The NAHC response, received March 10, 2016, failed to indicate the presence of Native American cultural resources within the project area or the surrounding 1-mile records search area.

2.5 Tribal Correspondence

Contact information for potentially interested Native American representatives was provided as part of the results of the SLF search. Letters were mailed March 10, 2016 by Dudek to the NAHC-listed tribal representatives with the intent of requesting information relating to any resources that may be in the area. These letters contain a brief description of the planned project, reference maps, and a summary of the NAHC SLF and SCIC search results (Confidential Appendix B). To date, no responses to these outreach attempts have been received All NAHC and tribal correspondence has been included within the appendices of this report (Confidential Appendix B). Should any responses be received, this communication will be provided to the City. It is the responsibility of the City to conduct formal government to government consultation with Native American tribes.

2.6 Methods

Dudek Archaeologist Angela Pham, MA, RPA conducted an intensive pedestrian cultural survey of the of the project area on July 13, 2015. The project area of potential effect (APE) was subject to a 100% survey with transects spaced no more than 15 meters apart and oriented in cardinal directions. Tuchon Phoenix (Red Tail Monitoring and Research Inc.) was present for the entirety of the survey. No archaeological or built-environment resources were identified.

Visibility was largely obscured by vegetation, allowing for less than one-tenth of the ground surface to be directly viewed in many areas. Where topography was observed to be suitable to support archaeological material, vegetation and ground cover was scraped aside to allow for inspection of the ground surface and sediments. Surface exposures along trails and roads allowed for direct inspection of the ground surface along these features. Evidence for buried cultural deposits was opportunistically sought through inspection of natural or artificial erosion exposures and the spoils from rodent burrows. The standards for this survey exceeded the applicable Secretary of Interior Professional Qualifications Standards for archaeological survey and evaluation. Survey crew was equipped with a Global Positioning System (GPS) receiver with sub-meter accuracy. Location-specific photographs were taken using an Apple 3rd Generation IPAD equipped with 8 MP resolution and georeferenced PDF maps of the Project area. Accuracy of this device ranged between 3 meters and 10 meters.

Documentation of cultural resources complied with the Office of Historic Preservation (OHP) and Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation (48 FR 44716-44740) and the California Office of Historic

Preservation Planning Bulletin Number 4(a). While no resources were identified, crew had California Department of Parks and Recreation DPR 523 forms (Series 1/95) on hand.

2.7 Disturbances

While there appears to have been no prior development of the project property, disturbances to the project area include a number of minimal impacts from overland travel in the form of dirt paths, trails and roads. The dense vegetation noted during the current survey greatly inhibited the discovery of any potential additional disturbances in the project area. Natural disturbances throughout the area included bioturbation by vegetation and burrowing animals and erosion through aeolian and alluvial processes.

2.8 RESULTS

No previously recorded archaeological or built-environment resources have been identified within the Project APE. An intensive pedestrian survey was conducted of the project area on July 13, 2015 by Dudek Archaeologist Angela Pham and Red Tail Monitoring and Research Inc. representative Tuchon Phoenix. No archaeological or built-environment artifacts or features were observed.

The majority of the ground surface was obscured by a dense cover of coastal sage-scrub vegetation community plants. Organic ground cover was moved aside in areas with evident suitability to contain historical resources (i.e., of low-slope, visible soil formation, or within an area of suitable general natural or physical context) and inspection of natural subsurface exposures was conducted where possible. The Project area is bound by east-west travel routes connecting known coastal and inland habitation areas used by both Native American communities and Euro-American communities during different periods of the archaeological, ethnographic, and historical record. As this area has not been subject to previous clearing of vegetation, past technical studies within this area would have also encountered this restriction to ground surface visibility. Based on the general topographic suitability for this area to support archaeological resources, and considering the moderate density of prehistoric and historical-era resources in the surrounding vicinity, it is possible that unidentified historical resources may still be present in the Project APE.

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3.0 SUMMARY AND MANAGEMENT CONSIDERATIONS

3.1 Impact Analysis

CEQA Guidelines provide that a project that demolishes or alters those physical characteristics of an historical resource that convey its historical significance (i.e., its character-defining features) can be considered to materially impair the resource's significance. In order to best mitigate the effects of the proposed project on cultural resources, a reasonable, good faith effort must be applied to determining their archaeological character and eligibility for listing in the California Register of Historical Resources (Pub. Res. Code SS5024.1, Title 14 CCR, Section 4852).

While Phase I cultural resources inventory did not identify the presence of archaeological or built-environment resources within the Project APE; based on review of existing records, noted topographic suitability, and the low-visibility of the ground surface during pedestrian survey, there is a moderate potential for the inadvertent discovery of historical resources during initial Project-related ground disturbance. NAHC Sacred Lands File search results and subsequent tribal outreach letters have not identified tribal resources in the Project APE or surrounding area. SCIC records suggest that no archaeological sites have been recorded within the Project APE; however, high densities of prehistoric resources (n=74) have been identified in the surrounding one-mile area. At least three historical-era homesteads have also been previously recorded in the surrounding records search area. The Project area near east-west travel routes connecting known coastal and inland habitation areas used by both Native American communities and Euro-American communities during different periods of the archaeological, ethnographic, and historical record.

Based on the geographic and topographic suitability for this area to support the presence of archaeological resources, and considering the moderate density of prehistoric and historical-era resources in the surrounding vicinity, it is possible that yet unidentified historical resources may still be present in the Project APE. As archaeological sites that have not been previously evaluated for Local or CRHR listing are understood to be significant resources under Local and CEQA guidelines, impacts to unanticipated surface or subsurface cultural resources during construction activities could result in a significant impact to cultural resources. However, with proper implementation of an appropriate mitigation program, impacts may be reduced to less than significant.

3.2 Recommendations

In consideration of the results of this cultural study, Dudek recommends that a qualified archaeologist (Project Archaeologist), as defined by CEQA and the City of San Diego Guidelines, should be retained to manage the implementation of cultural resources monitoring. The City of San Diego will provided specific mitigation for this project.

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4.0 REFERENCES

16 U.S.C. 470–470x-6. National Historic Preservation Act of 1966, as amended.

36 CFR 60. National Register of Historic Places.

36 CFR 800.1–800.16 and Appendix A. Protection of Historic Properties.

48 FR 44720–44726. "The Secretary of the Interior's Standards and Guidelines for Federal Agency Historic Preservation Programs Pursuant to the National Historic Preservation Act." April 24, 1998.

Basgall, M.E., and M. Hall. 1990. "Adaptive Variation in the North-Central Mojave Desert." Paper presented at the 55th Annual Meeting of the Society for American Archaeology, Las Vegas, Nevada.

Basgall, M. E., L. Johnson, and M. Hale. 2002. "An Evaluation of Four Archaeological Sites in the Lead Mountain Training Area, Marine Corps Air Ground Combat Center, Twentynine Palms, California." Submitted to U.S. Army Corps of Engineers, Fort Worth, Texas.

Bean, L.J., and F.C. Shipek. 1978."Luiseño." In *Handbook of North American Indians*, Vol. 8, *California*, edited by Robert F. Heizer550–563. Washington, D.C.: Smithsonian Institution.

Boscana, G. 1846. "Chinigchinich; A Historical Account of the Origin, Customs, and Traditions of the Indians at the Missionary Establishment of St. Juan Capistrano, Alta California." In *Life in California*, by Alfred Robinson, 227–341. New York, New York: Wiley & Putnam.

Byrd, B.F., and S.N. Reddy. 2002. "Late Holocene Adaptations along the Northern San Diego Coastline: New Perspectives on Old Paradigms." In *Cultural Complexity on the California Coast: Late Holocene Archaeological and Environmental Records*, edited by J.M. Erlandson and T.L. Jones, 41–62. Los Angeles, California: University of California–Los Angeles Press.

CSP (California State Parks). 2009. "Preservation Matters." *The Newsletter of the California Office of Historic Preservation* 2(3):3–21.

Davis, E.L. 1978. *The Ancient Californians: Rancholabrean Hunters of the Mojave Lakes Country*. Los Angeles, California: Natural History Museum of Los Angeles County.

Fages, P. 1937.*A Historical, Political, and Natural Description of California* (1775). Translated by Herbert Ingram Priestly. Berkeley, California: University of California Press.

Gallegos, D.R. 1987. "San Dieguito-La Jolla: Chronology and Controversy." San Diego County Archaeological Society, Research Paper No. 1.

Gallegos, D., and C. Kyle. 1988. *Five Thousand Years of Maritime Subsistence at Ballast Point Prehistoric Site SDI-48 (W-164), San Diego, California*. San Diego, California: WESTEC Services.

Geiger, M. and C.W. Meighan. 1976.*As the Padres Saw Them: California Indian Life and Customs as Reported by the Franciscan Missionaries, 1813-1815*. Santa Barbara Mission Archive Library, Santa Barbara, California.

Golla, V. 2007. "Linguistic Prehistory." In *California Prehistory: Colonization, Culture, and Complexity,* edited by T.L. Jones and K.A. Klar, 71–82. New York, New York: Altamira Press.

Griset, S. 1996. "Southern California Brown Ware." Unpublished PhD dissertation; University of California, Riverside.

Gross, T.G and Ruth Alter. 1993.Phase One Testing of Archaeological Resources: SDI-203, Mission Trails Regional Park, San Diego, California. Affinis

Hale, M. 2001. "Technological Organization of the Millingstone Pattern in Southern California." Master's thesis; California State University, Sacramento.

Hale, M. 2009. "San Diego and Santa Barbara: Socioeconomic Divergence in Southern California." PhD dissertation; University of California, Davis.

Harrington, J.P. 1934. "A New Original Version of Boscana's Historical Account of the San Juan Capistrano Indians of Southern California." *Smithsonian Miscellaneous Collections* 92(4).

Hector, S.M. 1984. "Late Prehistoric Hunter-Gatherer Activities in Southern San Diego County." PhD dissertation; University of California, Los Angeles.

Hector, S.M. 2006. Cultural Resources Study for the Maintenance of Old Mission Dam, Mission Trails Regional Park, San Diego, California. Prepared for the City of San Diego.

Hector, S. M. 2007. *Archaeological Investigations at University House Meeting Center and Chancellor Residence, CA-SDI-4669 (SDM-W-12), University of California at San Diego, La Jolla, California*. ASM Affiliates.

Johnson, J.R., and J.G. Lorenz. 2006. "Genetics, Linguistics, and Prehistoric Migrations: An Analysis of California Indian Mitochondrial DNA Lineages." *Journal of California and Great Basin Anthropology* 26:33–64.

Kroeber, A. 1925 *Handbook of the Indians of California*. Washington D.C.: Smithsonian Institution.

Laylander, D. 1985. "Some Linguistic Approaches to Southern California's Prehistory." *San Diego State University Cultural Resource Management Center Casual Papers* 2(1):14–58.

Laylander, D. 2000. *Early Ethnography of the Californias, 1533-1825*. Salinas, California: Coyote Press Archives of California Prehistory.

Laylander, D. 2010. "Lingiuistic Prehistory." Research Issues In San Diego Prehistory. Accessed August 31, 2012. http://www.sandiegoarchaeology.org/Laylander/Issues /index.htm

Lightfoot, Kent J. 2005 Indians, Missionaries, and Merchants. Berkeley: University of California Press.

Luomala, K. 1978. "Tipai and Ipai." In *California*, edited by Robert F. Heizer, 592-609. *Handbook of the North American Indians*, Vol. 8, William C. Sturtevant, general editor. Washington, D.C.: Smithsonian Institution.

Meighan, C.W. 1959. "California Cultures and the Concept of an Archaic Stage." *American Antiquity* 24:289–305.

Meighan, C.W. and D.L. True. 1977. Additional Comments on Molpa Archaeological Site. The Journal of California Anthropology, 4(2).

NPS (National Park Service). 2009. Archeology and Historic Preservation: Secretary of the Interior's Standards and Guidelines [As Amended and Annotated]. Electronic document, http://www.nps.gov/ history/local-law/arch_stnds_0.htm, accessed on March 19, 2009.

NPS and ACHP (National Park Service and the Advisory Council on Historic Preservation). 1998. The Secretary of the Interior's Standards and Guidelines for Federal Agency Historic Preservation Programs Pursuant to the National Historic Preservation Act. Published jointly by the National Park Service of the U.S. Department of the Interior and the Advisory Council on Historic Preservation.

Office of Historic Preservation. 1995. "Instructions for Recording Historical Resources." California State Parks, Office of Historic Preservation. March 1995. http://ohp.parks.ca.gov/pages/1054/files/manual95.pdf.

Owen, R.C. 1965. "The Patrilineal Band: A Linguistically and Culturally Hybrid Social Unit." *American Anthropologist* 67:675–690.

Pigniolo, A.R. 2004. "Points, Patterns, and People: Distribution of the Desert Side-Notched Point in San Diego." *Proceedings of the Society for California Archaeology* 14:27–39.

Pigniolo, A.R. 2005. "Subsistence, Settlement, and Environmental Change at San Diego Bay." *Proceedings of the Society for California Archaeology* 18:255–259.

Pourade, R.F. 1960–1967. *The History of San Diego*. 6 vols. San Diego, California: Union-Tribune Publishing Company..

Rogers, M.J. 1929. "The Stone Art of the San Dieguito Plateau." *American Anthropologist* 31:454–467.

Rogers, M.J. 1945. "An Outline of Yuman Pehistory." *Southwestern Journal of Anthropology* 1:167–198.

San Diego County Board of Supervisors. 2007. County of San Diego CEQA Guidelines. San Diego: San Diego County.

Shipek, F.C. 1982. "Kumeyaay Socio-Political Structure." *Journal of California and Great Basin Anthropology* 4:296–303.

Shipek, F.C. 1985. "Kuuchamaa: The Kumeyaay Sacred Mountain." *Journal of California and Great Basin Anthropology* 7(1):67–74.

Spier, L. 1923. "Southern Diegueño Customs." *University of California Publications in American Archaeology and Ethnology* 20:295–358.

True, D.L. 1966. "Archaeological Differentiation of Shoshonean and Yuman Speaking Groups in Southern California." Unpublished PhD dissertation; University of California, Los Angeles.

True, D.L. 1980. "The Pauma Complex in Northern San Diego County: 1978." *Journal of New World Archaeology* 3(4):1–39.

Wallace, W.J. 1955. "A Suggested Chronology for Southern California Coastal Archaeology." *Southwestern Journal of Anthropology* 11:214–230.

Warren, C.N. 1964. "Cultural Change and Continuity on the San Diego Coast." Unpublished PhD dissertation; University of California, Los Angeles.

Warren, C.N. 1968. "Cultural Tradition and Ecological Adaptation on the Southern California Coast." In *Archaic Prehistory in the Western United States*, edited by C. Irwin-Williams, 1–14. Portales, New Mexico: Eastern New Mexico University Contributions in Anthropology.

Warren, C.N., G. Siegler, and F. Dittmer. 2004. "Paleoindian and Early Archaic Periods." In *Prehistoric and Historic Archaeology of Metropolitan San Diego: A Historic Properties Background Study*. Prepared for the Metropolitan Wastewater Department, City of San Diego. Encinitas, California: ASM Affiliates.

Wilken, M. 2012. "An Ethnobotany of Baja California's Kumeyaay Indians." Master's thesis; San Diego State University.

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APPENDIX A (CONFIDENTIAL)

SCIC Records Search Results

APPENDIX B (CONFIDENTIAL)

NAHC Sacred Lands Search and Tribal Correspondence

APPENDIX H

Geotechnical Investigation

November 11, 2015
Project No. 20162077.001A

Ms. Linda Hrenko
The Preserve at Torrey Highlands, LLC
3580 Carmel Mountain Rd., Ste. 460
San Diego, California 92130

Subject: Geotechnical Investigation
The Preserve at Torrey Highlands
San Diego, California

Dear Ms. Hrenko:

This report presents the results of our geotechnical investigation for the proposed Preserve at Torrey Highlands. The report provides a description of the site conditions and our recommendations for earthwork construction and foundation design.

We appreciate this opportunity to be of service and look forward to continue working with you in the future. If you have any questions about this report or need additional services please contact us at (619) 831-4600.

Respectfully submitted,

KLEINFELDER

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Senior Geotechnical Engineer

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Reviewed by:

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GEOTECHNICAL INVESTIGATION
THE PRESERVE AT TORREY HIGHLANDS
SAN DIEGO, CALIFORNIA
20162077.001A

NOVEMBER 11, 2015

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A Report Prepared for:

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The Preserve at Torrey Highlands, LLC
3580 Carmel Mountain Rd., Ste. 460
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GEOTECHNICAL INVESTIGATION
THE PRESERVE AT TORREY HIGHLANDS
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1 INTRODUCTION

1.1 BACKGROUND

This report presents the results of our geotechnical investigation for the proposed Preserve at Torrey Highlands in the western portion of the Rancho Peñasquitos area of San Diego, California. The purpose of our geotechnical investigation was to evaluate the subsurface conditions at the site, evaluate potential geologic/seismic hazards, perform geotechnical engineering evaluations, and provide geotechnical recommendations for project design. This report presents the results of our review of existing published geologic information and a previous geotechnical investigation by Geotechnics, Inc. (2000), geophysical survey and geologic mapping of the site, geotechnical analyses, and geotechnical conclusions and recommendations pertaining to the project site.

1.2 LOCATION

The project site is located on the west side of the future extension of Camino Del Sur approximately 1,000 feet south of State Route 56 as depicted in Figure 1, Vicinity Map. Specifically, it is located at 12902 1/3 Camino Del Sur within the AR-1-1 to IP-3-1 Zone in the Torrey Highlands and Del Mar Mesa Community Plan. An aerial photograph of the project site is presented as Figure 2, Site Aerial Photograph. The approximate latitude and longitude coordinates of the project site are:

Latitude: 32.9536°N

Longitude: 117.1540°W

1.3 SITE AND PROJECT DESCRIPTION

The site consists of approximately 11 acres of undeveloped property located in northern San Diego in the western portion of Rancho Peñasquitos. Specifically, the site is located within the southeast quarter of Section 14, Township 14 South, Range 3 West, San Bernardino Base and Meridian.

The topography at the site consists of an eroded mesa incised centrally by a drainage, dividing the property into western and eastern ridges, as presented in Figure 3, Site Plan and Geologic Map. The southern portion of the site is relatively flat-lying while the northern half descends northward into the eastern portion of Deer Canyon. Elevations range from approximately +415 feet Mean Sea Level (MSL) on the mesa near the southwestern corner of the site to +322 feet

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MSL in the central drainage along the northern boundary. We understand that several small shallow vernal pools are located in the southwest corner of the site. Drainages also exist east and west of the site. Minor trails and access roads exist on the southerly mesa and both ridges within the site. A steep and narrow trail descends into Deer Canyon along the eastern site boundary along the proposed extension of Camino Del Sur. The site contains a moderate to dense cover of chaparral-type vegetation and natural trees.

The adjacent property to the south is a National Wildlife Refuge managed by the US Department of the Interior, Fish and Wildlife Service. This land was not accessed during our site reconnaissance and investigation due to prohibited public entry in this area. The property to the west of the site is owned by the City of San Diego. The property to the north of the site is private land. The future extension of Camino Del Sur is located along the east property boundary.

The proposed project consists of an 11-acre office/commercial development with three office buildings (four to six stories), a six-level parking structure, a cafeteria building and associated surface pavement and landscaping. The currently planned development is presented in Figurte 4, Proposed Development Plan. Planned site grading and earthwork will essentially lower the east and west ridgelines as much as 40 to 50 feet toward the south property boundary and place up to 40 feet of fill in the central to north-central portion of the site. It is anticipated that excavated cut slopes may be as high as 20 feet with inclinations of 1½H:1V and 2H:1V. Excavations for underground parking below the three proposed office buildings will be less than 15 feet deep. However, excavations for the principal parking structure located adjacent to the south property boundary may be up to 50 feet deep. The south wall of this parking structure is expected to require a soil nail retaining wall.

Excavated materials will be used as compacted fill in the central drainage and along the north property boundary. A slightly concave 2H:1V compacted fill slope up to about 40 feet high is planned adjacent to the north-central property boundary. Site entrances will be located along the east property boundary adjacent to the proposed future extension of Camino Del Sur. Numerous low retaining walls less than 15 feet high consisting of conventional reinforced concrete cantilever walls, mechanically stabilized earth walls or other specialty wall system are planned.

We understand that storm water runoff will be collected and stored in buried tanks or lined basins prior to any treatment and released to an authorized storm drain or to Deer Creek Canyon adjacent to the north property boundary.

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1.4 EXISTING GEOTECHNICAL INFORMATION

A geotechnical investigation for the project site entitled "Geotechnical Investigation, Our Lady of Mount Carmel, Southwest of Proposed State Route 56 and Camino Ruiz, San Diego California", dated July 5, 2000 was prepared by Geotechnics, Inc. (Project No. 0068-002-01). This geotechnical investigation consisted of performing two large diameter bucket-auger borings and eight shallow test pit excavations. The two borings (B-1 and B-2) were located along the east and west ridgelines of the site and were drilled to depths of approximately 48 and 66 feet, respectively. The eight shallow test pits excavations (TP-1 to TP-8) were performed mainly along accessible locations along the two ridgelines to depth ranging from 3 ½ to 11 feet.

Geotechnics performed a laboratory testing program to substantiate field classifications and evaluate selected physical characteristics and engineering properties of the soils encountered. Moisture content, unit weight, plasticity index, sieve analyses, compaction (Modified Proctor), R-value, direct shear strength, expansion index, pH, electrical resistivity and sulfate content tests were performed in general accordance with the applicable ASTM or Caltrans test methods.

Based on a review of the field exploration logs and laboratory test results contained in this report, it is our opinion that this information is valid and applicable for use in our evaluation of geologic conditions and geotechnical characterization of the site.

Excerpts of pertinent geologic and geotechnical information; including key figures, borehole logs and laboratory test results information from this report are presented in Appendix A, Existing Relevant Geotechnical Information.

1.5 PURPOSE AND SCOPE OF SERVICES

Our scope of services for this project is based on our understanding of the proposed construction, our review of the referenced geotechnical report, the results of a geophysical survey, our engineering analyses, and our experience with similar projects. This geotechnical investigation report has been prepared in accordance with the following statutory requirements:

- California Code of Regulations (California Building Code), 2013
- City of San Diego, Guidelines for Geotechnical Reports, 2011
- City of San Diego, Info Bulletin 515, Geotechnical Study Requirements March 2009

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Our specific scope of services for this study includes the following:

- Review available geologic/geotechnical reports and historical aerial photographs.
- Perform surface geophysical surveys and geologic mapping of the site.
- This report includes the following:
    - Site plan showing approximate locations of prior subsurface explorations
    - Copies of the boring logs and laboratory test results performed by Geotechnics, Inc.
    - The locations and results of surface geophysical surveys
    - Discussion of the site and subsurface conditions
    - Geologic map and cross sections of the site
    - Discussion of potential geologic hazards
    - CBC Site Class and ground motion parameters for seismic design
    - Discussion of anticipated excavation conditions
    - Discussion of groundwater conditions
    - Temporary shoring for the parking structure excavation
    - Permanent slope inclinations and construction
    - Guidelines for earthwork construction, including recommendations for site preparation, removal depths of unsuitable soil, fill/backfill placement, and compaction
    - Discussion of the foundation types and geotechnical recommendations for design
    - Estimated foundation settlements
    - Lateral earth pressures for retaining structures
    - Recommendations for supporting concrete slabs-on-grade and exterior flatwork
    - Recommendations for flexible and rigid pavement design
    - Anticipated corrosion potential native soil which could affect concrete and steel.

The recommendations contained within this report are subject to the limitations presented in Section 6.

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2 INVESTIGATION METHODS

2.1 GEOLOGIC EVALUATION

Our geologic evaluation consisted of reviewing a previous geotechnical report prepared for the site by Geotechnics, Inc. (2000), reviewing historical aerial photographs and geologic maps, performing a geologic site reconnaissance on October 20, 2015 and analysis of these data to interpret the surface and subsurface geologic conditions.

The investigation performed by Geotechnics, Inc. (Geotechnics) consisted of advancing and geologic logging two large diameter borings to depths of approximately 48 and 66 feet and excavating and logging of 8 test pits ranging from approximately 3 ½ feet to 11 feet deep. The field work was conducted on May 17, 2000. Copies of the boring and test pit logs are included in Appendix A. The approximate location of these explorations are shown on the Geotechnics Site Plan, also included in Appendix A and on Figure 3, Site Plan and Geologic Map. It should be noted that the Geotechnics field investigation sufficiently covered the accessible portions of the site. Site accessibility at the time of our study is essentially the same as it was in 2000. Therefore, no additional subsurface explorations in unexplored areas of the site were performed. Likewise, pioneering and grading of access roads in native vegetation could have increased the risk of fire hazard during the current investigation period due the severe drought conditions in San Diego.

During our field reconnaissance, we were able to identify the two large diameter boring locations and several of the test pit locations made by Geotechnics in 2000. The borings were identified by the presence of a large spoil pile and backfill settlement at the location of boring penetration. At boring location B-1, the boring had settled up to 6 feet. We used a Trimble GPS to obtain positional readings of these locations with horizontal accuracy of up to approximately 2 feet. Of note, was a significant difference in the location of Boring B-1 from that shown on the Geotechnics site plan. Geotechnics had this boring located up to 150 feet north of the actual location.

It is recommended that additional explorations, laboratory testing and geologic mapping be performed under the direction of Kleinfelder before or during the clearing and grubbing phase of the planned construction. This will be of particular importance in the bottom of the alluvial drainage that bisects the site where the depth of poorly consolidated materials should be determined and subsequently removed before new compacted fill soils are placed therein. In

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addition, supplemental explorations may need to be performed in areas of planned building footprints and deep excavations.

2.2 GEOPHYSICAL SURVEY

Two seismic refraction surveys to evaluate compression wave velocity (P-wave) and two refraction microtremor (ReMi) surveys to evaluate shear wave velocity (S-wave) were performed along the crest of the east and west ridgelines of the project site. This work was performed by Southwest Geophysics, Inc. of San Diego, California on September 2, 2015. The geophysical report is dated September 21, 2015 and is presented in Appendix B, Geophysical Survey Results. Descriptions of the geophysical methods and results are presented therein.

In general, the results of the geophysical surveys indicate that the project area is underlain by undisturbed natural formational materials with a shear wave velocity ranging from about 1,000 to 2,000 ft/sec within the upper 50 feet from the ground surface. The shear wave velocity increases to about 2,000 to 3,000 ft/sec at a depth of about 50 to 100 feet. The average characteristic shear wave velocity for a depth of 100 feet (30 m) (Vs30) is on the order of 1,600 to 1,800 ft/sec. This shear wave velocity corresponds to a California Building Code (CBC) Site Class “C” (Very Dense Soil and Soft Rock).

The geophysical survey results also indicate that the upper 30 to 40 feet of the west and east ridgelines have compression wave velocities on the order of 3,000 to 6,000 ft/sec and 4,000 to 8,000 f/sec, respectively. These compression wave velocities correspond to rippable material using a Caterpillar D10 bulldozer with single- or multiple-shank rippers (Caterpillar, 2000).

In our opinion, the geophysical data corroborates and supports the findings and descriptions of the subsurface conditions presented in the Geotechnics report (2000).

2.3 LABORATORY TESTING

No new laboratory tests were performed for this investigation. It is recommended that supplemental field explorations and laboratory testing be performed under the direction of Kleinfelder before or during the clearing and grubbing phase of the planned construction.

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3 SITE CONDITIONS

3.1 REGIONAL GEOLOGIC SETTING

San Diego County resides within the Peninsular Ranges Geomorphic Province (California Geologic Survey (CGS), 2002; Norris and Webb, 1990). This geomorphic province encompasses an area that extends approximately 900 miles from the Transverse Ranges north of the Los Angeles Basin and south to the southern tip of Baja California, Mexico. It varies in width from approximately 30 to 100 miles (Norris and Webb, 1990) and is characterized by mountainous terrain on the east composed mostly of Mesozoic igneous and metamorphic rocks, and relatively low-lying coastal terraces (coastal plain) to the west underlain by late Cretaceous, Tertiary, and Quaternary age sedimentary rocks.

The coastal plain which encompasses the site ranges from approximately ¼ mile wide in northern San Diego County and up to approximately 14 miles wide in the central and southern county regions. It is underlain by relatively undeformed, near shore marine sedimentary rocks, deposited during intermittent intervals between late Mesozoic through Quaternary time. These sedimentary units are comprised of a westward thickening clastic wedge deposited on bedrock of Cretaceous to Jurassic age igneous and metamorphic rocks. They are divided into three packages of deposits based on their sequence and age of deposition. The oldest sequence consists of claystone, siltstone, sandstone, and conglomerate deposited during late Cretaceous time as an apparent submarine fan. These units crop out on Mt. Soledad in La Jolla, Point Loma and Carlsbad.

The second sequence of sediments was deposited during the Tertiary period (Eocene and Pliocene) within an embayment that stretched from at least northern San Diego County and into Mexico (Kennedy, 1975; Kennedy and Tan, 2008). The sediments consist of a variety of claystone, siltstone, sandstone and conglomerate. The third sequence is associated with Pleistocene marine terrace deposits and consists of weakly to moderately consolidate conglomerates, sandstone, siltstone and claystone.

The regional geologic map for the area by Kennedy (1975) shown on Figure 5, Regional Geologic Map, and information from the Geotechnics report (2000) indicates the project site is underlain by material of both early to middle Pleistocene age marine terrace deposits over Eocene age Stadium Conglomerate and Friars Formation. Thin colluvial deposits also occur within the bottom of the central drainage feature.

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The project site is located within Geologic Hazard Zones 51 and 53 as shown on the City of San Diego Seismic Safety Study (2008). Zone 51 is characterized by level mesas underlain by terrace deposits and bedrock having nominal risk. Zone 53 is characterized by level or sloping to steep terrain with unfavorable geologic structure having low to moderate risk. In general, Zones 51 and 53 may be differentiated by ground surface elevations above and below an elevations of approximately +410 feet MSL, respectively.

3.2 TECTONIC SETTING AND FAULTING

Southern California is cut by a system of numerous active faults associated with the San Andreas fault. The San Andreas fault delineates the boundary between two global tectonic plates consisting of the North American Plate on the east and the Pacific Plate on the west. The San Andreas fault stretches from the Gulf of California in Mexico along a northwest alignment through the desert region of Southern California up to Northern California, where it eventually trends offshore north of San Francisco. Right lateral slip movement along the plate boundary of the San Andreas fault is by far the most dominant factor controlling the seismicity throughout northern and southern California (Wallace, 1990; Weldon and Sieh, 1985). Within Southern California, the strain associated with the plate boundary movement extends well westward for up to 150 miles from the main San Andreas fault strand in the Imperial Valley to well offshore of San Diego (CDMG, 1999).

The major faults east of San Diego (from east to west) include the San Andreas fault, the San Jacinto fault and the Elsinore fault (see Regional Fault Map and Earthquake Epicenters, Figure 5). Major faults west of San Diego include the Palos Verdes-Coronado Bank fault, the San Diego Trough fault, and the Santa Clemente fault (Kennedy and Welday, 1980). The dominant zone of faulting within the San Diego region is several faults associated with the Rose Canyon Fault Zone (RCFZ).

Most of the seismic energy and associated fault displacement occurs along the fault structures closest to the plate boundary on the Elsinore, San Jacinto, and San Andreas faults, which account for up to 85 percent of the total displacement. The remaining 15 percent is accommodated across the various offshore faults and Rose Canyon fault. Studies within Rose Canyon east of Mt. Soledad have revealed fault strands that have clearly displaced Holocene soil horizons with slip rates from 1 to 2.4 mm/yr (Lindvall et al., 1990, Lindvall and Rockwell, 1995, Rockwell, 2010).

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The Rose Canyon fault may be part of a more extensive fault zone that includes the Offshore Zone of Deformation and the Newport-Inglewood fault to the north, and several possible extensions southward, both onshore and offshore (Treiman, 1993). The Rose Canyon fault zone is made of predominantly right-lateral strike-slip faults that extend southwest-southeast through the San Diego metropolitan area. Various fault strands display strike slip, normal, oblique, or reverse components of displacement (Treiman, 1993). The fault zone extends offshore at La Jolla and continues north-northwest subparallel to the coastline. To the south in the San Diego downtown area the fault zone appears to splay out into a group of generally right-normal oblique faults extending into San Diego Bay (Treiman, 1993; Kennedy and Clarke, 1999).

The local onshore portion of the RCFZ extends from La Jolla along a south-southeast alignment over Mt Soledad and along the general trend of Interstate I-5 into downtown San Diego. Through downtown, the fault appears to branch and is expressed southward across San Diego Bay as three faults consisting of the Silver Strand fault, the Coronado fault and the Spanish Bight fault. The California Geologic Survey has designated portions of the fault zone in the Mount Soledad, Rose Canyon, Port of San Diego, Coronado, and downtown San Diego areas as active Earthquake Fault Zones. Most of the onshore and offshore portions of the Rose Canyon are considered active. An active fault is a fault which has undergone movement within the last 11,000 years which spans the Holocene period. The closest section of the active Rose Canyon fault is within the offshore zone approximately 8.2 miles west of the project site.

The closest faults to the site are two unnamed structures located approximately 1.8 miles to the north and 0.9 miles to the east. These faults have been classified by the referenced City of San Diego Seismic Safety Study (2008) as “Potentially Active, Inactive, Presumed Inactive or Activity Unknown”. These faults are likely pre-Holocene in age and are likely related to an earlier incipient phase of development of the Rose Canyon Fault. Caltrans (2013) does not consider these faults as seismogenic for design purposes

Characterization of the hazard from strong ground shaking at the site is provided in Section 4.1 of this report. Regional Seismicity is shown on Figure 6, Regional Fault Map and Earthquake Epicenters.

3.3 SITE GEOLOGY AND SUBSURFACE CONDITIONS

Four geologic units have been identified at the project site based on review of the previous Geotechnics report and published geologic maps, and observations made during our site

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reconnaissance on October 20, 2015. From youngest to oldest, these units consist colluvial deposits, marine terrace deposits, Stadium Conglomerate, and Friars Formation. A brief description of these units is provided in the paragraphs below. Additional data can be reviewed on Geotechnics boring logs in Appendix A. Subsurface conditions and structure are depicted in the geologic cross-sections on Figures 7, 8 and 9.

3.3.1 Colluvial Deposits (Qc)

Colluvial deposits typically occur along the lower portions of existing hill slopes. They are primarily derived from sheet flow erosion during rainstorms that carries detrital material downslope where it typically accumulates along the side edges of slopes, along drainages or as fan-shaped masses at the base of slopes. Geotechnics encountered colluvial deposits in most of its explorations where it ranged from 1 ½ feet to 3 feet thick and consists mostly of brown to dark brown silty sand and sandy clay. Thicker accumulations of colluvial deposits that could range from 5 to 10 feet in thickness are anticipated within the bottom of the central, north-directed drainage feature. This material is anticipated to be compressible and should be removed prior to placement of fill soils.

3.3.2 Terrace Deposits (Qt)

Early to middle Pleistocene age marine terrace deposits outcrop on the upper mesa surface along the southern portion of the site. This unit is designated as the Lindavista Formation on the Kennedy geologic map (1975). Geotechnics describes this unit as ranging from silty to clayey sandstone and sandstone with gravel and cobble. The gravel layers may contain clasts up to 12 inches in size. However, the majority of the clasts are less than 6 inches in maximum size. It ranges from moderately to well cemented, and brown to reddish brown in color. The well cemented layers can present a challenge during grading, particularly for trench and footing excavations. We have mapped the approximate bottom elevation contact of this unit at slightly below +380 feet MSL based on review of the Geotechnics logs and our geologic mapping. The structure of this unit is anticipated to be relatively level across the site.

3.3.3 Stadium Conglomerate (Tst)

As presented in Figure 3, the Eocene-age Stadium Conglomerate occurs directly below the marine terrace deposits. This units consists of a cobble conglomerate with up to 70 percent gravel and cobble size clasts. The maximum sized clasts noted in the Geotechnics report and during our site reconnaissance were up to 10 inches, but based on experience, some occasional larger size clasts in excess of 12 inches can be anticipated. The soil matrix typically

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consists of a fine to medium grained sand in a moderately to strongly cemented condition. Geotechnics penetrated the bottom of this unit in Boring B-1 at a depth of 20 feet, which we corresponds to an elevation of approximately +356 feet MSL.

3.3.4 Friars Formation (Tf)

The Eocene-age Friars Formation was logged by Geotechnics below the Stadium Conglomerate at a depth of approximately 20 feet at the location Boring B-1, which corresponds to an elevation of approximately +356 feet MSL (Figure 3). This unit was penetrated to a maximum depth of 66 feet at this location which corresponds to an elevation of approximately +310 feet MSL. The upper seven feet of the Friars Formation at Boring B-1 consisted of clayey sandstone and interbedded siltstone and sandstone. The remainder consisted of silty sandstone to the bottom of the boring. This was the only location the Friars Formation was penetrated in any of the Geotechnics exploration locations. We observed this unit at two locations within the bottom of the central drainage and offsite of the property near the northeast corner. The material consisted of silty sandstone at both locations.

The Geotechnics boring logs do not note any structural attitudes on the Friars Formation or overlying Stadium Conglomerate. Additionally, they make no mention in their report of identifying the contact between these two formations at other locations on the site. The regional geologic map by Kennedy does not show any bedding structure nearby the site. In general, the Kennedy map shows regional contact lines of Eocene units following topographic contours which means that the bedding has a horizontal to low dipping structure. Because of this, Geotechnics mapped the contact as essentially horizontal. We have also done the same for our geologic map, based on the lack of additional data points on the contact. One of the important issues in regards to this is whether or not the Friars Formation will be exposed in the excavation for the parking structure wall on the south side of the site. In order to determine this, additional explorations at the south side of the site would be required.

3.3.5 Groundwater

Perched groundwater or a regional groundwater table was not observed within any of the Geotechnics explorations penetrated to a maximum elevation of +310 feet MSL. Seeps or springs were not observed on the site during our geologic reconnaissance, although an exhaustive observation was not performed. The majority of the excavated soils identified in the previous explorations were in a moist condition, well below saturation levels. Fluctuations of the groundwater level, localized zones of perched water, and variations in soil moisture content

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should be anticipated during and following periods of rainfall. Seepage into proposed excavations or holes for drilled piers may also occur after periods of rainfall or from irrigation on and adjacent to the site.

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4 DISCUSSIONS, ANALYSIS, AND RECOMMENDATIONS

Geotechnical engineering discussions, conclusions and recommendations presented herein are based on Kleinfelder's understanding of the project, the information provided to us, review of available maps, our site reconnaissance, field explorations and laboratory testing performed by Geotechnics, Inc. (2000), geophysical survey results, engineering evaluations and analyses, and our professional judgment.

It should be recognized that no new subsurface explorations or laboratory testing were performed for this investigation. It is recommended that supplemental field explorations and laboratory testing be performed under the direction of Kleinfelder before or during the clearing and grubbing phase of the planned construction in order to confirm actual site conditions.

4.1.1 POTENTIAL GEOLOGIC HAZARDS

We have assessed the potential geologic and seismic hazards for the project area. These hazards include; landslides, liquefaction and seismically induced settlement, fault surface rupture, seismic shaking, flooding and expansive soils. The City of San Diego Seismic Safety Study designates the project site within geologic hazard category zones 51 and 53. Zone 51 is a level mesa underlain by terrace deposits and bedrock of nominal geologic risk above an approximate elevation of +410 feet MSL. Zone 53 consist of level or sloping terrain with unfavorable geologic structure with low to moderate risk below and elevation of approximately +410 feet MSL. The following sections discuss these hazards and other geologic conditions and their potential risk at this site.

4.1.2 Landslides

Landslides are comprised of a variety of deep-seated ground failures (several tens to hundreds of feet deep) in which a large mass of a slope becomes unstable, decoupling from the underlying intact slope material and slides downhill. The most common landslide types in this region of San Diego are accurate shaped rotational failures, block failures and debris flows. Landslides are not to be confused with minor slope failures (slumps), which are usually limited to the upper topsoil zone (usually less than 10 feet thick) and can occur on slopes composed of almost any geologic material. Landslides can cause damage to structures both above and below the slide mass. Structures above the slide area are typically damaged by undermining of foundations. Areas below a slide mass can be damaged by being overridden and crushed by the failed slope material.

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Several geologic units within San Diego County are notorious for being prone to landslides, one of which is the Friars Formation that has been identified at the site. Much of the Friars Formation typically has a high clay content with weak strength parameters which makes it prone instability on moderate to steep slopes. The instability can be exacerbated where the geologic structure dips downward out of the face of the slope. The Friars Formation as observed at the project site does not have a significant portion of clay. Fine grained material of siltstone and some clayey sandstone was confined to only the upper 7 feet of the Friars Formation as encountered within Geotechnics Boring B-1. The Friars Formation was also observed at two additional localities during our site reconnaissance on October 20, 2015 and was comprised of silty sandstone. In general, the structure of the Friars Formation and overlying Stadium Conglomerate are relatively flat-lying as indicated by regional outcrop patterns, although no conclusive data was obtained at the site. Our review of aerial images and observation during our site reconnaissance did not reveal indication of past gross slope instability in form of deep-seated landslides. We did observe areas of likely surficial slumping, but this is a normal erosional process and may occur on slopes comprised of the on-site materials.

4.1.3 Fault Surface Rupture

The site does not lie within a California Geologic Survey (CGS) Earthquake Fault Zone. The closest mapped active fault to the site is the Rose Canyon fault which is located 8.2 miles west of the project site. The closest faults to the site are two unnamed structures located approximately 1.8 miles to the north and 0.9 miles to the east. Based on the location of the faults in proximity to the site, it is our opinion that the potential for ground rupture due to faulting at the subject site is low.

4.1.4 Seismic Shaking and CBC Seismic Design Parameters

The site is located in a seismically active region of southern California that is likely to experience ground shaking as a result of earthquakes on nearby or more distant faults. The Rose Canyon Fault Zone and Elsinore Fault Zone dominate the seismicity of the area. Based on the fault types and their locations, this site is expected to be affected by seismic shaking from earthquake events during its lifetime. The most significant seismic event likely to affect the project site would be an earthquake with a moment magnitude of approximately 7 (Petersen et al. 2008) resulting from the rupture on the Newport-Inglewood-Rose Canyon fault zone, which is located approximately 8.2 miles west of the site.

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Our recommendations for seismic design parameters are in accordance with the 2013 California Building Code (CBC) and ASCE 7-10 (July 2013 errata) Minimum Design Loads for Buildings and Other Structures.

Based on the geophysical surveys performed at the site, the average characteristic shear wave velocity for a depth of 100 feet (30 m) (Vs30) is on the order of 1,600 to 1,800 ft/sec. Therefore, following ASCE 7-10, Section 20.3.1, Table 20.3-1-Site Classification, the existing site in its natural state can be classified as Site Class C (Very Dense Soil and Soft Rock) with Vs30 within the upper 100 feet between 1,200 ft/sec to 2,500 ft/sec, average SPT N>50, or average undrained shear strength su ≥ 2,000 psf.

Based on the Site Class C designation and on the site location, the recommended seismic design parameters are summarized in Table 1. These parameters were generated using the U.S. Geological Survey's online Earthquake Hazards Program for Seismic Design Maps (http://earthquake.usgs.gov/designmaps/us/application.php).

Table 1

Recommended 2013 CBC Seismic Design Parameters

DESIGN PARAMETER	SYMBOL	RECOMMENDED VALUE	2013 CBC / (ASCE 7-10) REFERENCE(S)
Site Class	--	C	Section 1613.3.2 (Section 11.4.2)
Mapped MCE_R (5% damped) spectral acceleration for short periods (Site Class B)	S_s	0.939 g	Section 1613.3.1 (Section 11.4.1)
Mapped MCE_R (5% damped) spectral acceleration for a 1-sec period (Site Class B)	S_1	0.365 g	Section 1613.3.1 (Section 11.4.1)
Short Period Site Coefficient	F_a	1.024	Table 1613.3.3(1) (Table 11.4-1)
Long Period Site Coefficient (at 1-second period)	F_v	1.435	Table 1613.3.3(2) (Table 11.4-2)
MCE_R Peak Ground Acceleration adjusted for site class effects (S_M at T=0)	PGA_M	0.375 g	N/A
MCE_R (5% damped) spectral response acceleration for short periods adjusted for site class (F_a*S_S)	S_{MS}	0.962 g	Section 1613.3.3 / (Section 11.4.3)

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Table 1 (continued)

Recommended 2013 CBC Seismic Design Parameters

DESIGN PARAMETER	SYMBOL	RECOMMENDED VALUE	2013 CBC / (ASCE 7-10) REFERENCE(S)
MCE_R (5% damped) spectral response acceleration at 1-second period adjusted for site class (F_v*S_1)	S_{M1}	0.524 g	Section 1613.3.3 / (Section 11.4.3)
Peak Ground Acceleration	PGA	0.361 g	(Section 11.4.5)
Design spectral response acceleration (5% damped) at short periods (2/3*S_{MS})	S_{DS}	0.641 g	Section 1613.3.4 / (Section 11.4.4)
Design spectral response acceleration (5% damped) at 1-second period (2/3*S_{M1})	S_{D1}	0.349 g	Section 1613.3.4 / (Section 11.4.4)

Notes: *MCE_R: Risk-Targeted Maximum Considered Earthquake

In our opinion, properly compacted fill soils generated from the sand and gravel laden onsite marine terrace deposits and Stadium Conglomerate may have a shear wave velocity on the order of 800 to 1,200 ft/sec. In this respect, the CBC Seismic Design Parameters presented in Table 1 may be used for all building areas of the project site where properly compacted fill soil thickness will be less than 40 feet. The maximum anticipated compacted fill thickness at the site will be less than 40 feet.

4.1.5 Liquefaction and Seismic Settlement

Liquefaction is a phenomenon whereby a loose (unconsolidated) cohesionless saturated soil loses its shear strength (liquefies) during periods of oscillatory ground motion caused by an event such as an earthquake. Liquefied soils undergo significant loss in support capacity, which can result in settlement of structures. Soils prone to liquefaction consist of poorly consolidated sands and sandy silts in areas of high groundwater.

The project site is not designated within any liquefaction zone hazard zones on the City of San Diego Seismic Hazard maps. The central portion of the site is underlain by a narrow zone of clayey colluvial soils of relatively shallow depth. Based on the moist conditions of these soils and lack of groundwater, it is our opinion that there is negligible potential for liquefaction of this unit.

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Seismic compaction is a phenomenon in which loose, unsaturated sands tend to densify and settle during strong earthquake shaking. Once again, the only material which could be prone to this phenomena would be the colluvial soil. However, due to the relatively high clay content and lack of groundwater, it is our opinion that there is negligible potential for liquefaction of this unit. In addition, this material will be removed during grading. Based on the density of the formational soils, that the hazard with respects to seismic settlement is negligible.

4.1.6 Compressible Soils

The strip of colluvial material within the central drainage of the site is considered compressible and should be removed during earthwork operations prior to placement of fill or construction of buildings or walls. In general, the colluvial material may be reused as compacted fill. The majority of the geologic material at the site is comprised of very dense sandstone and conglomerate and is not prone to compressibility.

4.1.7 Tsunami, Flood and Seiche Hazards

A tsunami is defined as a sea wave generated by submarine earthquakes, landslides, or volcanic activity that displaces a relatively large volume of water in a very short period of time. Considering that the site lies approximately 6.5 miles from the ocean shoreline and at approximately +315 to +415 feet MSL, the potential for significant tsunami effects at the site is considered low.

Seiches are defined as oscillations in a closed body of water such as a lake or reservoir due to earthquake shaking or earthquake rupture. The hazard to the project posed by seiches is considered low due to the absence of nearby large surface water bodies.

Flooding occurs as a result of several factors in developed areas. These factors include rainfall rates that exceed an area's ability to absorb or control the runoff; impounded water retained behind a flood control structure (upstream-inundation), failure of a flood control structure (downstream-inundation), seiches, or tsunami.

The Federal Emergency and Management Administration (FEMA) maintains a collection of Flood Insurance Rate Maps (FIRM), which cover the entire United States. These maps identify those areas which may be subjected to 100-year and 500-year cycle floods. A set of these maps for the County of San Diego are available for viewing on the FEMA website (http://msc.fema.gov/webapp/wcs/stores/servlet/FemaWelcomeView). Based on our review of

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FEMA map panel 06073C1334G, the site is not within any designated flood zones and therefore the potential for flooding of the proposed development is considered low.

4.1.8 Expansive Soils

Expansive soils are characterized by their ability to undergo significant volume changes (shrink or swell/heave) due to variations in moisture content. Changes in soil moisture content can result from precipitation, landscape irrigation, utility leakage, concentrated drainage, perched groundwater, drought, or other factors and may result in unacceptable settlement or heave of structures or concrete slabs supported on grade.

Two Expansion Index (EI) tests were performed by Geotechnics during their study of the site. These test were performed on a clay layer within the terrace deposit and colluvial material from the central drainage area. The clay material from the terrace deposits yielded an expansion potential of 40 and the colluvial material was 0. This corresponds to a low to very low expansion potential. Most of the material at the site is composed of sandstone and conglomerate and based on this and the testing performed by Geotechnics, the hazard with respect to expansion potential of site soils is considered low. Notwithstanding, expansive soils may be encountered during grading.

4.2 EARTHWORK

4.2.1 General

Based on the results of our site reconnaissance, document review, previous field explorations, laboratory testing, and data analysis, it is our opinion that the construction of the proposed project is feasible from a geotechnical standpoint provided our recommendations are incorporated into the design and construction of the project.

Preliminary project development and grading are presented in Figure 4. Proposed site grading will consist of extensive. Planned site grading and earthwork will essentially lower the east and west ridgelines as much as 40 feet toward the south property boundary. It is anticipated that excavated cut slopes may be as high as 30 feet with inclinations of 2H:1V. Excavations for underground parking below the three proposed office building will be less than 15 feet deep. However, excavations for the principal parking structure located adjacent to the south property boundary may be up to 40 feet deep. The south wall of this parking structure is expected to require a specially designed retaining wall consisting of either soil nails or a conventional tie-back anchor wall.

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Excavated materials will be used as compacted fill in the central drainage and along the north property boundary. A slightly concave 2H:1V compacted fill slope up to about 40 feet high is planned adjacent to the north-central property boundary. Site entrances will be located along the east property boundary adjacent to the proposed future extension of Camino Del Sur. Several low retaining walls less than 15 feet high consisting of conventional reinforced concrete cantilever walls, mechanically stabilized earth walls or other specialty wall system are planned.

We understand that storm water runoff will be collected and stored in buried tanks or lined basins prior to any treatment and release to an authorized storm drain or to Deer Creek Canyon adjacent to the north property boundary.

The proposed multi-story office buildings and parking structure will have heavily loaded foundations. Finish floor elevations for these buildings will fall within the range of +360 and +380 feet MSL. These structures should be supported by foundations that derive their load bearing capacity from undisturbed natural very dense cemented sandstone and conglomerate material of the Stadium Conglomerate. The north office building will be situated such that it straddles the infilled central drainage at the site. Building foundation elements in this area should consist of conventional drilled pier foundations that penetrate the compacted fill soils and extend a specified minimum embedment depth into competent formational soils. The single-story café building will be lightly loaded and may be founded directly upon properly compacted fill soils. Foundations design recommendations are presented in Section 4.6 of this report.

Grading and foundation plans should be reviewed by Kleinfelder prior to plan finalization. The plans should be reviewed for conformance to the recommendations presented herein and the grading guidelines of the City of San Diego. Prior to the start of the grading operations, a pre-construction conference should be held with representatives of owner, developer, grading contractor, civil engineer, and Kleinfelder. Specific earthwork issues can be discussed at that time.

All site preparation and earthwork operations should be performed in accordance with applicable codes. All reference to maximum dry density is established in accordance with American Society for Testing and Materials (ASTM) D 1557. We recommend that site earthwork and construction be performed in accordance with the following recommendations.

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4.2.2 Excavation Characteristics

The project site is underlain by colluvial deposits (Qc), marine terrace deposits (Qt), Stadium Conglomerate (Tst) and Friar Formation (Tf). Anticipated excavations and grading will be within virgin undisturbed ground. There are no known existing fill soils at the site.

The majority of planned excavations will be in the terrace deposits and Stadium Conglomerate. It has been our experience that excavations in these materials may be accomplished with medium to very strong ripping effort using conventional heavy-duty grading equipment. Highly cemented zones with significant gravel and cobble (including possible concretions) may be encountered in both the terrace deposits and Stadium Conglomerate which could result in locally difficult excavation. Utility trench and footing excavations in cemented zones and cobblely material will be more problematic than open cut grading. This material can also cause difficulty in achieving clean foundation excavations at the specified elevation and in achieving vertical cuts for temporary shoring at the specified location. Oversized materials generated from excavations will require extra handling and screening to meet recommended maximum sizes for fill and backfill material or disposed offsite.

Colluvial deposits and other surficial soils within the root zone of native vegetation may be accomplished with medium to strong ripping effort using conventional heavy-duty grading equipment.

4.2.3 Construction Observation

The recommendations presented in this report are based on our understanding of the proposed project and anticipated site conditions. The interpolated subsurface conditions should be evaluated by Kleinfelder in the field during construction. Final project drawings and specifications should be reviewed by Kleinfelder prior to the commencement of construction. Kleinfelder should continuously observe the clearing/grubbing, earthwork/grading, foundation excavation/preparation, retaining wall construction (including soil nails and tie-back anchors) and wall/trench backfilling operations. Such observations are considered essential to identify field conditions that differ from those anticipated, to adjust designs to actual field conditions and to determine that the grading is accomplished in general accordance with the recommendations of this report. Recommendations presented herein are contingent on Kleinfelder performing such services. Our personnel should perform sufficient testing of fill during grading to support our professional opinion as to compliance with earthwork recommendations.

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4.2.4 Site Preparation

To prepare the site for grading, all surficial vegetation, deleterious material and colluvial deposits that exists in proposed improvement areas should be stripped and completely removed. The stripping operation should expose a firm, non-yielding subgrade that is free of large voids, organics, and deleterious materials. The subgrade exposed at the bottom of excavations should be observed by Kleinfelder prior to the placement of any fill to observe that potentially unsuitable soils have been removed. Additional removals may be required as a result of observation and testing of the exposed subgrade soils. The excavation of unsuitable materials should be conducted in a manner that minimizes the disturbance of competent materials.

4.2.5 Keyways and Benching

Keyways should be excavated at the base of fill slopes under the observation of Kleinfelder. The width and depth/elevation of each keyway should be provided by Kleinfelder based on an evaluation of the actual observed site conditions. The minimum key width is 15 feet. The entire key width should be excavated into competent formational material and tilted downward away from the slope toe at an inclination of at least 2 percent. The exposed keyway should be scarified to a minimum depth of 12 inches, brought to slightly above the optimum moisture content and recompacted prior to placing additional fill. The need for scarification should be evaluated at the time of grading by Kleinfelder and potentially waived in cemented and conglomeratematerial.

4.2.6 Subsurface Drainage

To reduce the potential for water related distress to the proposed improvements, it is recommended that a canyon subdrain be installed along the bottom of the central drainage at the site. Typical canyon subdrain details are presented in Figure 3 of Appendix A. Generally, the location and lateral extent of subsurface drains should be determined in the field based on conditions observed by Kleinfelder during site grading.

4.2.7 Engineered Fill

The majority of onsite materials may be used as engineered fill, provided that they are free of oversized rock, organic materials, expansive clay, and deleterious debris. Oversize material in excess of 12 inches in diameter should not be used in structural fill. This should be limited to a maximum size of 6 inches in the upper foot below building floor areas. Although the optimum lift

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thickness for fill soils will be dependent on the type of compaction equipment utilized, fill should generally be placed in uniform lifts not exceeding approximately 12 inches in loose thickness. Based on the volume of export, it is highly recommended that the contractor stockpile good fill from excavations into the terrace deposits for use in trench backfill and wall backfill, rather than utilize the lower excavations into Stadium Conglomerate which contain a high quantity of cobble.

The onsite soil placed as engineered fill should be moisture conditioned to between optimum and 2 percent above optimum moisture content, and compacted to a minimum of 90 percent of the ASTM D 1557 maximum dry density. We recommend that engineered fill below building areas be compacted to at least of 95 percent within building footprint areas. An adjustment to the maximum dry density and optimum moisture content should be performed when there is more than 5 percent oversize particles (larger than ¾ inch) in the fill material. The adjustment should follow ASTM D4718.

4.2.8 Bulking and Shrinkage

Excavation of the onsite undisturbed formational materials for reuse as compacted fill will results in some bulking. Shrinkage may occur in loose surficial soils including colluvial deposits. The estimated bulking of the formational materials may be on the order of 5 to 15 percent. The estimated shrinkage of surficial soils including colluvial deposits may be on the order of 0 to 10 percent. Screening of oversize cobbles would impact these estimated values.

4.2.9 Expansive Soils

In general, expansive soils are not anticipated at the project site. Notwithstanding, if encountered in cut areas at finish grade in building areas, we recommend that these materials be overexcavated below finish grade and replaced with soils of negligible to low expansion potential. The expansive materials may be disposed of in deeper fills. Placement of the expansive materials in the deeper fills may require extra handling and stockpiling during remedial grading. We recommend that the formational materials in cut areas be checked during grading for expansive material near finish grade. Overexcavation depths should be at least 5 feet below building pads and 2 feet below exterior flatwork. Select replacement material should consist of clean, granular material with a very low to low expansion index (expansion index of 50 or less) as evaluated by ASTM D 4829.

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4.2.10 Import Materials

Import materials (if any) should have an expansion index less than 30, a minimum R-value of 20, no greater than 30 percent of the particles passing the No. 200 sieve, and no particles greater than 3 inches in dimension.

4.2.11 Pavement and Slab-on-Grade Subgrade Preparation

In pavement areas and slab-on-grade for walkways or other flatwork areas, the upper 12 inches of subgrade soils should be moisture conditioned between optimum to 2 percent above optimum content, and compacted to at least 95 percent relative compaction of the maximum laboratory dry density, as evaluated by ASTM D 1557. The maximum size clast in this zone should be limited to 3 inches in size.

4.2.12 Pipe Bedding and Trench Backfill

Pipe bedding should consist of sand or similar granular material having a Sand Equivalent of not less than 30. The sand should be placed in a zone that extends a minimum of 6 inches below and 12 inches above the pipe for the full trench width. The bedding material should be compacted to a minimum of 90 percent of the maximum dry density. Trench backfill above pipe bedding may consist of approved, onsite or import soils placed in lifts no greater than 8 inches loose thickness and compacted to 90 percent of the maximum dry density. Backfill should not contain rocks over 6 inches in size.

4.2.13 Temporary Excavations

Temporary utility trench excavations are anticipated for installation, and potential removal, of utility lines. If very steep or vertical-sided excavations in excess of five feet deep are necessary, we recommend the sidewalls be supported in accordance with OSHA standards to provide temporary trench stability during construction or sloped based on the soil type classifications as discussed below. The contractor should be responsible for the structural design and safety of the temporary shoring system and we recommend that this design be submitted to Kleinfelder for review and comment.

For preliminary planning of OSHA sloping and shoring requirements, we recommend that formational soils be considered as Type B soils. Compacted fill soils may be considered as Type C soils. With restrictions such as seepage or flowing sands, temporary excavations up to 20 feet deep in Type B and C soils should be sloped at 1H:1V and 1½H:1V, respectively. The

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actual OSHA soil type should be determined by the contractor's "competent person" based on conditions exposed in the field. Temporary excavations that encounter seepage or other potentially adverse conditions should be evaluated by Kleinfelder. Remedial measures may include shoring or reducing slope inclinations.

Heavy construction loads, such as those resulting from stockpiles and heavy machinery, should be kept a distance on the order of the depth of the excavation away from the top of the excavation to prevent unanticipated surcharge loading. All surface water should be diverted away from excavations.

4.2.14 Estimated Settlement of Deep Fill

In general, deep fills are expected to settle with time due to their self-weight and changing moisture conditions. The magnitude of such settlement may range from 0.2 to 0.4 percent of the initial thickness of the fill, depending on the specific material characteristics, proximity to fill slopes and actual compaction conditions. Since the proposed fill depths over the site may range from zero to about 40 feet, it is our opinion that up to 1 to 2 inches of long-term surface settlement may be anticipated. This estimated maximum fill settlement would likely occur beneath the middle portion of the north building which will straddle the existing central drainage at the site.

Differential settlement due to this mechanism will vary across the site but should be greatest where the fill thickness gradient is the greatest. Differential settlement in should not exceed about ½ to 1 inch over a horizontal distance of 25 feet. If this anticipated differential settlement is not acceptable, we can provide recommendations for remedial measures. As an example, placement of proposed deep fills at a higher compaction effort (e.g., at least 95 percent relative compaction) may reduce the post-construction settlement by 25 to 50 percent. This settlement may take 5 to 10 years (or longer to complete).

In general, long-term fill settlements would likely manifest in the form of a gentle tilt across the affected area. Such an occurrence should not adversely affect properly designed and constructed structures where the placed fill thickness does not vary greatly. However, due to the steep side walls of the existing central drainage at the site, settlement of fill soils below the northwest corner of east building and the central portion of the northern building could be significant and not tolerable.

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4.2.15 Erosion Prevention and Sedimentation Control

The potential for soil erosion is largely impacted by local soil characteristics, vegetative cover, topographic relief, and the frequency and intensity of rainfall and wind. Removal of vegetation and disturbance to surficial soils by construction activities may result in local increases of erosion rates in unprotected areas. As a result, sedimentation may increase in local drainages at site perimeters and slope intersections. Uncontrolled diversion of storm water runoff from the site to unlined drainage channels could result in erosion of the drainage channels due to concentrated flow. This is particularly true during and immediately following site grading.

Site development normally increases the amount of impervious area, thus increasing the volume of storm water runoff. Concentration of flow in drainage structures can result in increased flow velocities and erosion potential. Soils on slopes exposed by site development will be subject to erosion by wind and water. This can result in increased turbidity of runoff to the downstream area.

Erosion prevention and sedimentation control is a complex issue and is usually best addressed by sound planning and the use of Best Management Practices (BMPs). Erosion control BMPs are the “best” available technologies that are consistent with conventional local control practices. Implementation is dependent on site conditions and applicability of proven cost-effective methods. The selection and implementation of construction BMPs is dependent on what existing features need to be protected or mitigated.

BMPs for erosion and sediment control are selected to meet the specific objectives based on site conditions, serviceability, and cost. Various BMPs in combination or succession may be needed for a given area. Selection of erosion control BMPs should be based on minimizing disturbed areas, stabilizing disturbed areas, and protecting slopes and channels. It also should be based on retaining sediment on-site and controlling the site perimeter. All implemented BMPs should be regularly monitored and controlled after initial installation, as well as during and after any storm generating runoff, to determine maintenance requirements and the general condition of the installed system.

To reduce soil erosion and sediment transport, protective material such as gravel, crushed stone, pavement, and other effective erosion control materials should be used to stabilize exposed soils. Slopes should be provided with temporary drainage and erosion control measures during construction until permanent measures can be installed. Storm water runoff from construction areas should be conveyed to temporary diked detention areas for sediment

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deposition, then discharged to the existing natural drainage courses with velocities slow enough to prevent further erosion in the drainage courses.

Control of erosion and sedimentation on recently graded construction sites require both vegetative and structural measures. Vegetative species used to control erosion should be selected to accommodate the soil characteristics and climate at the site. Storm runoff control should be provided during and after completion of site grading by using diversion dikes and permanent drainage facilities. Sediment retention structures such as sediment basins, sediment traps or silt fences should be used to keep eroded material on the site. Straw bales used alone, or in combination with geotextiles, can be effective sediment retention structures when properly installed and maintained.

We recommend the following practices be part of the project:

- Use temporary plant cover, mulching, and/or structures to control runoff and protect areas subject to erosion during construction.
- Minimize soil exposure during the rainy season by proper timing of grading and construction and be prepared to shut down all earthwork if heavy precipitation occurs.
- Have erosion control equipment and materials onsite if needed in an emergency to quickly construct temporary collectors, diversion channels, intercept drains, berm, dikes, or filters.
- Accommodate the surface runoff from all disturbed areas. Prepare drainage-ways that handle concentrated or increased runoff from disturbed areas by using riprap or other lining materials to control erosion.
- Trap sediment-laden runoff in basins to allow soil particles to settle out before flows are released to receiving waters.
- Reduce erosion by limiting the area and time of exposure, and by the provision of diversion channels.

4.2.16 Site Drainage

Final elevations at the site should be planned so that positive drainage is established around structures such that surface water runoff is directed away from building foundations, floor slabs, pavements, top of slopes and other proposed elements of the project. Positive drainage is defined as a slope of 2 percent or more for a distance of 5 feet or more away from structure foundations. Roof gutters and downspouts should be installed on structures. Downspouts

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should discharge to controlled drainage systems. Planters should be built so that water exiting from them will not seep into the foundation areas or beneath slabs and pavement.

In any event, the maintenance personnel should be instructed to limit irrigation to the minimum actually necessary to properly sustain the landscaping plants. Should excessive irrigation, waterline breaks, or unusually high rainfall occur, saturated zones and perched groundwater may develop. Consequently, the site should be graded so that water drains away readily without saturating the foundation or landscaped areas. Potential sources of water, such as water pipes, drains, garden ponds, and the like, should be frequently examined for signs of leakage or damage. Any such leakage or damage should be repaired promptly.

4.2.17 Stormwater Infiltration

The feasibility of a stormwater infiltration system is dependent on the geologic, hydrogeologic and geotechnical conditions of a site. In general, formational soils at the site are dense to very dense, moderately to strongly cemented with very low permeability. For practical purposes, the Stadium Conglomerate may be considered impermeable. Based on our evaluation and experience with site materials, both properly compacted fill and formational soils are expected to have an infiltration rate less than 0.5 in/hr. Based on our understanding of the overall site conditions and planned construction, the use of a stormwater infiltration system which would permit uncontrolled wetting and saturation of both compacted fill soils and natural undisturbed formational soils should not be utilized in the project design and construction. It is our opinion the site is not suitable for stormwater infiltration and that further evaluation by field testing is not warranted.

In our opinion, purposely allowing compacted fill soils at the site to become wetter than their controlled placed moisture content is not recommended. Wetting of compacted fill soils would increase the potential risks related to site settlement (hydro-consolidation), heaving of expansive soils, instability of the 40-foot high fill slope adjacent to the north property boundary and hydrostatic pressure build up behind basement and other retaining walls. In our opinion, no appreciable amount of stormwater infiltration is physically feasible without negative consequences that can be reasonably mitigated. If bioswales or bioretention systems are used, we recommend that they be lined with an impermeable geosynthetic to mitigate the potential for undesirable infiltration.

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4.3 SLOPE STABILITY

The existing slopes at the project site primarily include natural vegetated slopes capped with surficial soils and slopewash. We understand that the proposed site grading will produce both permanent excavated cut and compacted fill slopes as shown on Figure 4, Proposed Development Plan and Figure 7, 8 and 9, Geologic Cross Sections A-A' through F-F'.

We understand that proposed cut and fill slopes will have maximum heights on the order of about 20 and 50 feet, respectively. In general, the cut slopes will be made within the terrace deposits in the central and southern portions of the site. Fill slopes will be located in the central and northern portions of the site. It should be noted that the southern wall of the proposed parking structure is planned to have a significant vertical excavation with a maximum height of approximately 40 feet which will require the design and construction of a permanent retaining wall system. Design recommendations for retaining walls are presented in Section 4.4.

For our study, we have performed slope stability analyses for the maximum height cut and fill slopes anticipated using the computer program Slope/W (Geo-Slope International, 2013). Our results are based on the Spencer method-of-slices for circular moment-equilibrium stability analyses. The primary material expected in cut slopes consist of natural undisturbed terrace deposits and to some degree the Stadium Conglomerate. Fill slopes will consist of recompacted soils derived from the site excavations in the same material. Based on the field explorations and laboratory test results presented in the Geotecnics report (2000), our recent geophysical survey of the site, correlations with published information and our experience with similar formational soils in the general area, we have used the following geotechnical parameters in our analyses.

Table 2

Geotechnical Strength Parameters

MATERIAL	UNIT WEIGHT (PCF)	COHESION (PSF)	INTERNAL FRICTION ANGLE (DEGREES)	MODULUS OF SUBGRADE REACTION (TCF)
Compacted Fill	120	100	32	150
Terrace Deposits	125	200	34	200

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Table 2 (continued)

Geotechnical Strength Parameters

MATERIAL	UNIT WEIGHT (PCF)	COHESION (PSF)	INTERNAL FRICTION ANGLE (DEGREES)	MODULUS OF SUBGRADE REACTION (TCF)
Stadium Conglomerate	135	300	38	300
Friars Formation	130	400	30	250

The results of deep-seated stability analyses, assuming no potential sources of weaker material and using the above parameters for the proposed slopes indicate calculated Safety Factors in excess of 1.5 for static conditions for the cases analyzed. A conventional seismic (pseudo-static) analyses of slopes consisted of the application of a coincident peak lateral acceleration of Kh=0.18g which is equivalent to ½ of the estimated Peak Ground Acceleration (PGA = 0.361g in Table 1). In our opinion, this value is reasonable for seismic analyses of slopes in the project area. The results of our analyses indicate that for the assumed seismic conditions, the Safety Factor against deep-seated slope failure is in excess of 1.1. The results of slope stability analyses and calculated Safety Factors are presented Table 3 and in Appendix C.

Table 3

Slope Stability Analyses Summary

SLOPE DESCRIPTION	CONDITION	SAFETY FACTOR
Cut 20' high @ 2H:1V	Static	2.42
	Seismic 0.18g	1.67
Cut 20' high @ 1 ½ H:1V	Static	2.07
	Seismic 0.18g	1.49

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Table 3 (continued)

Slope Stability Analyses Summary

SLOPE DESCRIPTION	CONDITION	SAFETY FACTOR
Fill 50' high @ 2H:1V	Static	1.62
	Seismic 0.18g	1.14

Slope stability analyses require using geotechnical parameters selected form a wide range of possible values. There is a finite possibility that slopes having calculated Safety Factors as indicated above could become unstable. In our opinion, the probability of slopes having a calculated Safety Factor greater than 1.5 (static) and 1.1 (seismic) becoming unstable is low.

Conditions of proposed slope excavation and construction should be further evaluated during mass grading by a representative from Kleinfelder. Additional investigation and analyses may be required if adverse geologic conditions such as perched groundwater, adversely oriented bedding, or weak soils are encountered.

Fill slopes are particularly susceptible to shallow slope sloughing in periods of rainfall, heavy irrigation and upslope runoff. Period slope maintenance may be required including rebuilding the outer one to two feet of fill slopes. Sloughing of fill slopes can be reduced by overbuilding and cutting back to the desired slope. To a lesser extent, sloughing can be reduced by backrolling slopes at frequent intervals during grading. A minimum, we recommend that all fill slopes be trackwalked so that a dozer track covers all surfaces at least twice. We recommend that all cut and fill slopes be planted, drained and maintained with a minimum amount of surface irrigation in accordance with the recommendations of the project landscape architect.

All slopes are subject to some creep movement, whether the slopes are natural or man-made. Slope creep is a very slow, down-slope movement of the near surface soil along the slope face. The degree and depth of the movement is influenced by the soil type and moisture conditions. This movement is typical in slopes and is not considered a geologic hazard. However, it may affect structures built on or near the slope face/crest. We recommend that structures not be located within 10 feet of the top of slopes, unless specific evaluations of the structure's foundation is conducted by both the geotechnical consultant and structural engineers.

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4.4 RETAINING WALLS

Various conventional types of retaining walls of heights are planned for the project. Cantilevered masonry, cast-in-place concrete (CIP) and mechanically stabilized earth (MSE) walls are considered suitable for site retaining walls. We recommend that the walls be designed and constructed in accordance with the recommendations presented below. In the case of proprietary walls systems (e.g., Reinforced Earth™ or Keystone™), their design should be in accordance with the manufacturer's requirements.

4.4.1 Foundations

Short masonry and CIP concrete site retaining walls may be supported on shallow continuous footings founded entirely on either undisturbed in-place formational soils or properly compacted fill. Shallow foundations should be designed in accordance with the recommendations presented in Section 4.5.1 of this report.

Retaining wall foundations should have a minimum width determined based on the structural and stability analyses performed by the wall designer. Retaining wall foundations should be embedded at least two feet below the lowest adjacent grade or to the depth necessary to provide adequate factors of safety against sliding and overturning as determined by the retaining wall designer, whichever is greater. Reinforcement should be provided as required by the Regional Standard Drawings (if used) or as directed by the wall designer for load carrying purposes.

All footing excavations should be observed by a representative of Kleinfelder prior to placing reinforcing steel or concrete to verify proper subgrade conditions. Estimated total settlements for retaining walls constructed in accordance with the recommendations contained herein are anticipated to be less than ½ inch. Differential settlements are expected to be less than ¼ inch within 50 feet.

4.4.2 Active and At-Rest Lateral Earth Pressures

The following lateral earth pressure values (Table 2) for level or sloping backfill are provided for walls backfilled with select granular, free-draining materials. For retaining wall design, select backfill material may be assumed to have a unit weight of 120 pcf and internal friction angle of 34 degrees. The geotechnical strength parameters for the retained material behind the backfill zone and below the foundation zone may be taken from Table 4.

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Table 4
Equivalent Fluid Weight for Retaining Wall Design

CONDITIONS	LEVEL	2:1 SLOPE
Active	35 pcf	55 pcf
At-Rest	55 pcf	85 pcf

Unrestrained (yielding) cantilever walls should be designed for the active equivalent fluid weight values provided above. At-rest earth pressures should be used in the design of restrained (non-yielding) walls where the top of the wall is not expected to move laterally more than 0.001H (where H is the unbalanced wall height). Examples of restrained walls are generally walls for subterranean building levels, buried vaults and loading docks. These values assume: a triangular distribution; backfill with on-site or imported, non-expansive sandy soils (SP, SM, SC); and that the backfill is well drained. Thirty percent of any uniform area surcharge placed at the top of the wall may be assumed to act as a uniform horizontal pressure over the entire wall for unrestrained retaining walls. This value should be increased to 50 percent for restrained retaining walls such as basement walls.

In addition to the recommended earth pressures, walls adjacent to vehicular traffic should be designed to resist a uniform lateral earth pressure of 120 psf acting as a result of normal mixed traffic loads behind the wall. The above lateral earth pressures assume no hydrostatic pressures. All walls should be provided with an adequate internal drainage system to reduce the likelihood of hydrostatic pressures.

4.4.3 Passive Pressures

Resistance to lateral loads (including those due to wind or seismic forces) may be provided by frictional resistance between the bottom of concrete foundations and the underlying soil, and by passive soil pressure against the sides of the foundations. An ultimate coefficient of friction of 0.40 may be used between cast-in-place concrete foundations and the underlying soil. Allowable passive pressure available in engineered fill may be taken as equivalent to the pressure exerted by a fluid weighing 350 pounds per cubic foot (pcf). Passive pressure and base friction can be combined without reduction to resist lateral loads.

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4.4.4 Earthquake Loading

The walls should be designed to resist earthquake loading utilizing the following recommendations for design. Based on ½PGA of 0.18g discussed in Section 4.1.3, the resultant seismic force (in pounds) for each linear foot of wall can be estimated as 10*H2 where H is the height of the wall (in feet) above its base. The resultant seismic force acts at 0.4*H above the wall base. For restrained walls, this force should be added to the active earth pressure rather than at rest pressure.

Allowable bearing pressure values described in previous sections of this report can be increased by one-third when calculating resistance caused by loads of short duration, such as earthquake loads. Restraining passive pressure and friction values should not be increased by this amount, but a lower factor of safety than is normally applied to static loads could be used. The factor of safety for dynamic load conditions should not be less than 1.1.

4.4.5 Wall Drainage

The recommended earth pressures do not include lateral pressures due to hydrostatic water pressures generated by infiltrating surface water that may accumulate behind the walls. Therefore, wall backfill materials should be free draining and provisions should be made to collect and remove excess water that may accumulate behind earth retaining structures.

Wall drainage may be provided by free-draining gravel surrounded by non-woven synthetic filter fabric or by prefabricated, synthetic drain panels. In either case, drainage should be collected by perforated pipes at the base of the wall and directed to a sump, storm drain, weep hole(s), or other suitable location for disposal. Note that the City of San Diego requires that the actual drainage location be shown on the as-built plans by the civil engineer and that the geotechnical engineer also observe and document the location.

The drainage should not be permitted to discharge over soil in a manner that would cause erosion. If utilized, we recommend that drainage gravel consist of durable stone having 100 percent passing the 1-inch sieve and zero percent passing the No. 4 sieve. Synthetic filter fabric should have an equivalent opening size (EOS), U.S. Standard Sieve, of between 40 and 70, a permeability of at least 0.02 centimeters per second, a minimum flow rate of 50 gallons per minute per square foot of fabric, and a minimum puncture strength of 50 pounds. The geotextile manufacturer's recommendations should be followed for installation of a drainage fabric system.

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4.4.6 Backfill Placement

All backfill should be placed and compacted in accordance with recommendations provided for engineered fill. During grading and backfilling adjacent to any walls, heavy equipment should not be allowed to operate within a lateral distance of 5 feet from the wall, or within a lateral distance equal to the wall height, whichever is greater, to avoid overstressing of the wall. Within this zone, only hand operated equipment ("whackers", vibratory plates or pneumatic compactors) should be used to compact backfill soils.

4.4.7 Mechanically Stabilized Earth Walls

We understand that Mechanically Stabilized Earth (MSE) retaining walls up to 15 feet in maximum height may be considered for the project. Typical MSE retaining walls consist of steel or geogrids internal reinforcing attached to precast, segmental blocks, panels or geocells. The walls are infilled with granular soil while retaining the backfill soil. Reinforcement placed in horizontal layers throughout the height of the wall provides the tensile strength to hold the soil together. The reinforced soil mass, along with the facing, forms the wall. The main advantages of MSE walls compared to conventional reinforced concrete walls are their ease of installation and quick construction. They do not require formwork or curing and each layer is structurally sound as it is laid, reducing the need for support, scaffolding or cranes.

In general, MSE retaining walls have three zones which include the reinforced, retained and foundations zones. The wall should be supported by properly compacted fill soil or undisturbed formational soils. The geotechnical strength parameters presented in Table 2 should be used for design of MSE retaining walls in the retained zone and foundation zones. Properly compacted select granular fill soil should be used in the reinforced zone. The cohesionless reinforced zone may be designed assuming a unit weight of 120 pcf and minimum internal friction angle of 35 degrees.

We recommend that internal reinforcement for all MSE retaining walls be at least 70 percent of the wall height even though minimum length calculations may be computed to be less. This recommendation is provided to limit overall deformation during construction and the effect of "first-time wetting". The minimum embedment below lowest adjacent grade should be 12 inches of 10 percent of the wall height, whichever is greater. We recommend that the foundation leveling material consist of ¾-inch crushed rock and be at least 6 inches think. The stone may be tamped in place in order to ensure tight interlocking. Compaction testing need not be performed on the leveling stone.

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All MSE retaining walls should be designed with redundant measures of internal and external drainage control. Surface drainage control should be provided by the use of tightly compacted ground surface and incorporation of a brow ditch along the top of the wall. Internal drainage should consist of crushed stone which extends at least 1 foot behind the back edge of the wall facing unit. A non-woven filter fabric (i.e., Mirafi 140N of equivalent) should be provide between the crushed stone and the select soil of the reinforced zone. A perforated drain pipe should be provided behind the lowest level of the MSE retaining wall and directed to drain to an appropriate outlet.

4.4.8 Soil Nail Walls

We understand that the south wall of the proposed parking structure may be constructed using a soil nail wall. Soil nailing is a construction technique that involves the systematic insertion of reinforcing elements consisting of steel rebar and cement grout. Reinforcing bars installed using drilling techniques are usually fully grouted and installed at a slight downward inclination with bars installed at regularly spaced points across the slope face. A rigid concrete facing (i.e., shotcrete) with isolated soil nail head plates is often used at the wall face. The design and construction of a soil nail wall should be performed by a structural engineer and contractor, respectively, with at least 5 years of experience with soil nail walls.

Design considerations include wall layout, soil nail vertical and horizontal spacing, pattern on wall face, reinforcement inclination, reinforcement length and distribution, material properties, etc. Soil nail length, diameter and spacing typically control external and internal stability of the wall. These parameters can be adjusted during design until all external and internal stability requirements are met. The soil nail wall must be designed for external and internal failure modes, seismic considerations and aesthetic qualities.

The subject wall may be up to 40 feet high and set back only 30 feet from the southern property line. This wall may have both level and inclined back-slope conditions. It is anticipated that the retained zone of this wall will consist primarily of undisturbed formational soil consisting of terrace deposits. The geotechnical strength parameters presented in Table 2 should be used for design of soil nail walls. The ultimate bond strength between the pressure grouted soil nail and terrace deposits may be taken as 1,000 psf for design purposes. We recommend that the soil nail wall be designed using an equivalent pseudo-static horizontal acceleration of 0.18g for seismic design.

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The wall should be designed with redundant measures of internal and external drainage control. Surface drainage should be provided by use of a concrete brow ditch along the top of the wall. Internal drainage control should consist of uniformly spaced composite drainage panels and provided with facial outlets at regular intervals (e.g., every 5 top 10 feet on-center). We recommend that the soil nail wall reinforcement and anchor connections be designed for corrosive soil conditions.

Inspection activities play a vital role in the production of high-quality soil nail walls because conformance to project plans and specifications should result in a soil nail wall that will perform its intended duty for its designed duration. Inspections usually involve evaluation and conformance of system components to material specification, construction methods to execution specifications, short-term performance specifications and long-term monitoring. Short-term performance specifications are checked with loads tests, which utilize hydraulic jacks and pumps to perform several load applications. Three common load tests for short-term performance are verification or ultimate load tests, proof tests and creep tests. Verification or ultimate load tests are conducted to verify the compliance of the soil nails with pullout capacity and strengths resulting from the contractor's installation method. Proof tests are intended to verify that the contractor's construction procedure has been consistent and that the nails have not been drilled and grouted in a soil zone not tested in the verification stage. Creep tests are performed to ensure that the nail design loads can be safely carried throughout the structure's service life.

Long-term performance monitoring is used to collect data to ensure adequate performance and refine future design practices. Parameters to be measured include vertical and horizontal movement of the wall face, local movements or deterioration of facing elements, drainage to the ground, loads, load distribution and load changes in the nails, temperature and rainfall. These parameters are measured using several specific tools including inclinometers, load cells and strain gauges.

4.5 FOUNDATIONS

Based on the presence of formational soils (cut) or compacted fill soils within the footprint the proposed buildings, we recommend that each structure be supported on the foundation systems presented in Table 5.

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Table 5
Recommended Foundation Systems

BUILDING	FINISH FLOOR ELEVATION (FEET, MSL)	LOWER LEVER FLOOR ELEVATION (FEET, MSL)	LOWER LEVEL SUBGRADE CONDITION	FOUNDATION SYSTEM
Building 1	+385.0	+373.5	Cut / Fill	Shallow Footings
Building 2	+380.0	+368.5	Cut / Fill	Shallow Footing / Drilled Piers
Building 3	+389.9	+377.5	Cut	Shallow Footings
Parking Structure	+387.0	+375.5	Cut	Shallow Footings
Cafeteria	+387.0	NA	Fill	Shallow Footings

In order to minimize the possibility of adverse differential settlement, it is recommended that shallow footings in the northwest corner of Building 1 be deepened to extend into undisturbed formational soils such that no foundations is directly supported by fill soils. All footings should penetrate at least 2 feet into undisturbed formational soil. The estimated maximum footing depth at the northwest corner of Building 1 may be on the order of 6 to 8 feet.

In order to minimize the possibility of adverse differential settlement of Building 2, it is recommended that shallow footings founded in undisturbed formational soil be used in the southeast corner and western 1/3 of the building footprint. All shallow footings should penetrate at least 2 feet into undisturbed formational soil. It is recommended that foundations for the remaining central and eastern portions of the building consist of cast-in-drilled-hole (CIDH) foundations which extend through the fill soils and penetrate into undisturbed formational soils. Due to the proximity to a planned fill sloe along the northern side of the building, all foundations which penetrate fill soils should be integrated with reinforced concrete grade beams in order to limit any potential lateral movement. The project structural engineer should determine if the lower level parking area floor slab should be designed as a grade beam supported structural mat or a conventional slab-on-grade floor depending on the tolerance for ground movement due to potential fill soil compression.

It is recommended that Building 3 and the parking structure be founded on shallow footings that are embedded at least 2 feet into undisturbed formational soils. It is recommended that the cafeteria building be founded on shallow footings that are embedded at least 2 feet into properly compacted fill soils.

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Design recommendations for shallow and deep foundations are presented in the following sections.

4.5.1 Shallow Foundations

Shallow foundations founded on properly compacted fill soils and undisturbed formational soils may be designed using a maximum allowable bearing pressure of 3,000 psf and 5,000 psf, respectively. These design values can be increased by one-third for short term loads such as those due to wind and seismic forces. Total settlements may be on the order of ½ inch and 1 inch, respectively.

Resistance to horizontal loadings can be developed by passive earth pressure on the sides of footings and frictional resistance developed along the footing bottoms. Passive resistance to lateral earth pressure may be calculated using an equivalent fluid unit weight of 300 pcf and 350 pcf for shallow footing embedded in properly compacted fill soils and undisturbed formational soils, respectively. A frictional coefficient of 0.35 and 0.40 may be applied to vertical dead loads supported on properly compacted fill soils and undisturbed formational soils, respectively. The passive pressure and frictional resistance can be combined to resist lateral loads if the larger of the two values is reduced by 50 percent.

Footings may experience a reduction in bearing capacity, or an increased potential to settle, when located in close proximity to existing or future utility trenches. Furthermore, stresses imposed by the footings on the utility lines may cause cracking, collapse, and/or loss of serviceability. To reduce the risk, utility excavations should not extend below a 2H:1V plane projected downward from 1 foot above the bottom of the outside edge of the footing. Also, no parallel utility excavations should be made within a lateral distance of 2 feet outside the footing.

Prior to placing reinforcing steel or concrete, footing excavations should be cleaned of all debris, loose or soft soil, and water. All footing excavations should be observed by the project geotechnical engineer or an engineering technician under the direction of the project geotechnical engineer prior to placement of reinforcing steel and concrete to check that the recommendations contained herein are implemented during construction.

4.5.2 Deep Foundations

It is recommended that portions of Building 2 be supported on structural elements consisting of CIDH foundations that fully penetrate fill soils and sufficiently extend into undisturbed formational soils. CIDH foundations should have a minimum diameter of 36 inches and a

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minimum penetration of 10 feet into the underlying formational material. CIDH foundations may be designed with a maximum allowable tip soil bearing pressure of 10,000 psf (dead plus live loads). The CIDH foundations may designed with an allowable shaft friction of 2,000 psf (dead plus live loads) in formational material. Shaft friction should be discounted in fill soils due to potential long-term compression and settlement. The downward capacity of CIDH foundations may be increased by up to one-third for loads that include wind and seismic forces. However, no additional increase should be allowed for uplift loading conditions. Full length reinforcement should be provided for uplift loads. The weight of the CIDH foundations may be added to the calculated uplift capacity. Estimate settlement of CIDH foundations that are designed as recommended herein should not exceed 1 inch.

Belled CIDH foundations may also be used. Bell diameters should be no larger than 3 times the shaft diameter. No reinforcement is required in the flared portion of the belled CIDH foundation. For belled CIDH foundations, the surface generating the uplift resistance may be assumed to have a diameter equal to the bell diameter or the by the annular soil bearing against the bell in the upward direction. For the latter case, available uplift resistance of the annular portion of the CIDH bell may be taken as 5,000 psf. The allowable uplift resistance should be governed by the lesser of either the 1) upward annular bearing resistance plus concrete/soil friction plus foundation weight or 2) soil/soil friction of a cylinder projected upward from the outer edge of the bell plus soils weight plus pier weight. Further evaluation of design parameters may be possible based on the results of load testing of individual shafts.

The analyses of CIDH foundations for lateral conditions is highly dependent on the shaft dimensions, structural restraints, loading combinations, subsurface soil conditions and tolerable stresses/deformations. Typically it is desired to limit ground-line deformations to less than ¼ inch. We recommend that lateral load analyses and design of CIDH foundations be performed using finite element computer modeling that utilize the P-y resistance methodology and the geotechnical strength parameters presented in Table 2. A computer program such as LPILE (Ensoft) may be used for analyses and design. Kleinfelder can assist the project structural engineer with the analyses and design of the CIDH foundations upon request.

In addition, the allowable bending moment resistance of CIDH foundations may also govern in the selection of allowable loads. In most cases, a closely spaced cluster of shafts has a total axial and lateral capacity that is less than the sum of the capacity of individual shafts in a group. We recommend that CIDH shafts be designed with a center-to-center spacing of no closer than 3 times the shaft diameter. Group efficiencies for CIDH shafts are presented in Table 6.

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Table 6
CIDH Foundation Group Efficiencies

CENTER-TO-CENTER SPACING (B = SHAFT DIAMETER)	AXIAL GROUP EFFICIENCY	LATERAL GROUP EFFICIENCY (INLINE W/ GROUP)	LATERAL GROUP EFFICIENCY (PERPENDICULAR TO GROUP)
3B	0.70	0.80	1.00
4B	0.75	0.84	1.00
5B	0.85	0.88	1.00
6B	0.90	0.92	1.00
7B	0.95	0.96	1.00
8B	1.00	1.00	1.00

Boulders and cemented which could hinder the drilling may be present in the undisturbed portions of the Stadium Conglomerate. If encountered during drilling, the oversized material may have to be jackhammered and removed. We recommend that an engineer from our firm observe the CIDH excavations and check the embedment into the formational material and bottom cleanliness prior to the placement of steel and concrete. The end bearing surfaces of the CIDH foundations are designed for high contact pressures. The bottom of the excavation should be cleaned of all loose or softened materials, debris or other substances which may cause settlement or affect the concrete strength. In our opinion, there should be no more than ½ inch of loose material at the bottom of the excavation.

Concrete should be placed in a manner that precludes segregation of particles or other occurrence that may decrease the strength of concrete. Free-fall concrete may be used provided it is directed through a hopper, or equivalent, such that the fall is vertical down the center of the drilled hole without hitting the sides of reinforcing. The maximum allowable free fall of concrete should not exceed 20 feet. The reinforcement cage must be able to withstand the forces of fresh concrete and not be allowed to twist of deform during placement of the concrete or extraction of casing (if used). Caving soils should not be allowed to mix with the fresh concrete. It is recommended that a tremmie pipe be used during concrete placement. The bottom of the tremie pipe should be located below the top of surface of the concrete during placement. The concrete should be vibrated to allow for consolidation while it is being placed. The drilling, cleaning, observation and concrete placement should be carried out as quickly as practical.

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4.6 CONCRETE SLABS-ON-GRADE

Subgrade fill soils supporting concrete slabs should be scarified to a depth of 12 inches, moisture conditioned to within optimum and to 2 percent above optimum and compacted to at least 95 percent relative compaction per ASTM D 1557. We recommend that formational soils consisting of Stadium Conglomerate be over-excavated a minimum depth of 12 inches and recompacted with material having a maximum rock size of 3 inches.

If required, a vertical modulus of subgrade reaction (k) of 150 pounds per cubic inch (pci) can be used to design floors, pavements, and walkways on the compacted fill subgrades. Floor slabs should be designed by the project structural engineer. However, we recommend a minimum thickness of 5 inches and a minimum reinforcement of No. 4 rebars with 24-inch horizontal spacing in both directions. The reinforcement should be placed near the center of the concrete slab.

Special precautions should be taken during the placement and curing of all concrete slabs. Excessive slump (high water-cement ratio) of the concrete and/or improper curing procedures used during either hot or cold weather conditions could lead to excessive shrinkage, cracking, or curling of the slabs. High water-cement ratio and/or improper curing may also greatly increase the water vapor permeability of concrete. We recommend a maximum water-cement ratio of 0.45 for floor slab concrete. We recommend that all concrete placement, joint spacing, and curing operations be performed in accordance with the recommended guidelines of the American Concrete Institute (ACI).

Provided that the subgrade is prepared as described above, an aggregate subbase is not required for structural support of the floor slab. In cases where the floor may have a vapor/moisture sensitive covering (e.g. tile, linoleum, carpet, wood), may be in a humidity controlled environment, or may likely have one or both of these conditions in the future, we recommend a polyolefin vapor barrier membrane be utilized between the prepared subgrade and the bottom of the floor slab.

Subsurface moisture and moisture vapor naturally migrate upward through the soil and, where the soil is covered by a building or pavement, this subsurface moisture will collect and transmit through the concrete slab-on-grade. Traditional Visqueen vapor barriers may be considered marginally effective and eventually disintegrate with time. To reduce the impact of this subsurface moisture and the potential impact of future introduced moisture (such as landscape irrigation or precipitation) we recommend utilizing a polyolefin vapor barrier membrane between

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the subgrade and slab-on-grade. This vapor barrier membrane should consist of a polyolefin sheeting at least 15 mil in thickness, have a water vapor permeance less than 0.01 perms (ASTM F 1249), a puncture resistance of at least 2200 grams (ASTM D 1709), and a tensile strength of at least 45 lbf/in (ASTM D 882).

The material specified above should be highly resistant to tearing, cracking, flaking, or puncturing during construction and should not disintegrate with time. A granular subbase below the membrane or a sand or gravel layer on top of the membrane is not required. In accordance with recommendations in ACI guidelines and many flooring companies, placement of the concrete slab may be directly on the vapor barrier. This eliminates the potential for water to be trapped in the blotter layer that could later be transmitted through the slab and adversely affect the flooring system. However, a reduced joint spacing, slab reinforcement, a low shrinkage mix design, and/or other measures to reduce the potential for slab curl should be implemented by the concrete slab designer.

We recommend that the vapor barrier be installed in accordance with ASTM E 1643, "Standard Practice for Installation of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs". Some salient features of ASTM E 1643 are discussed below. All joints and seams should have a minimum 6-inch overlap and be taped. The area of tape adhesion should be free from dust, dirt and moisture. All penetrations must be sealed using a combination of membrane, tape and mastic. The tape and mastic used should conform to the vapor barrier manufacturer's recommendations. Care should be taken at the lateral terminations so that vapors do not go around the membrane. This may be accomplished by placing the membrane on top of the footing and against the vertical wall so that the membrane will be sandwiched between the footing, vertical wall and poured concrete floor slab. If damaged, the membrane should be repaired prior to placing concrete.

It is emphasized that we are not floor moisture proofing experts. We make no warranty or guarantee, nor provide any assurance that the recommendation above will reduce concrete slab-on-grade floor moisture penetration to any specific rate or level. The designers should consider all available measures for slab moisture protection. Exterior grading and/or adjacent landscaping have an impact on the potential moisture beneath floor slabs. Exterior grading and/or adjacent landscaping should be designed to address the potential for increased moisture below moisture sensitive slabs and should at least reference the recommendations contained in the Site Drainage section of this report.

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4.7 EXTERIOR CONCRETE FLATWORK

Flatwork and exterior concrete should be supported on at least 12 inches of compacted, low to very low expansive engineered fill or undisturbed formational material. To mitigate the potential for localized point loads of cobble on concrete, we recommend a maximum particle size of 3 inches within the upper 12 inches. The concrete slabs for walkways and sidewalks should have a nominal thickness of 4 inches thick. Concrete slabs should be designed by the structural engineer but minimally should be reinforced with welded wire mesh placed at mid depth. To reduce the potential manifestation of distress due to movement of the underlying soil, we recommend that such flatwork be constructed with crack-control joints at appropriate spacing as designed by the structural engineer.

Subgrade should be prepared in accordance with the earthwork recommendations presented earlier in this report but generally consist of scarifying the upper 6 inches, uniformly moisture conditioning to between optimum and 2 percent above optimum moisture content, and compacting to at least 95 percent relative compaction as per ASTM D 1557. Loose or yielding subgrade identified during earthwork operations may require additional remedial measures. Positive drainage should be established and maintained adjacent to flatwork.

4.8 PAVEMENTS

Pavements are planned for various area of the project site. Pavement sections are provided herein for preliminary planning purposes, as the actual material present at pavement subgrade is not known at this time. Final pavement design should be based on R-value test results from samples of the finished subgrade soils in pavement areas. Flexible pavement sections consisting of asphalt concrete (AC) over aggregate base (AB) were evaluated in general accordance with Chapter 600 of the Caltrans Highway Design Manual (Caltrans, 2014) method for flexible pavement design with subgrade design R values of 10, 20, 30 and 40. For planning and budgeting purposes, we recommend utilizing an R-value of 20. Flexible pavement sections are based on Traffic Indexes (TI's) of 4.0, 5.0, and 6.0. An R-value of 78 was used for Caltrans Class II AB in our design. Preliminary flexible pavement sections are presented in Table 7.

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Table 7
Flexible Pavement Sections

SUBGRADE DESIGN R-VALUE	TRAFFIC INDEX					
	4.0		5.0		6.0	
	ASPHALT CONCRETE (INCHES)	CLASS 2 AGGREGATE BASE (INCHES)	ASPHALT CONCRETE (INCHES)	CLASS 2 AGGREGATE BASE (INCHES)	ASPHALT CONCRETE (INCHES)	CLASS 2 AGGREGATE BASE (INCHES)
20	3	5	3 ½	6	4	8 ½

The AC and AB should conform to and be placed in accordance with current Caltrans Specifications. The AB and the upper 12 inches of subgrade should be compacted to a minimum of 95 percent relative compaction as obtained by the ASTM D 1557 test procedure.

We recommend that all pavement areas conform to the following criteria:

1. All trench backfill should be properly placed and adequately compacted to provide a stable subgrade. Trench backfill below the 18 inches of pavement soil subgrade should be compacted to a minimum of 90 percent relative compaction (ASTM D 1557).
2. An adequate drainage system should be provided to prevent surface water from saturating the subgrade soil.
3. A periodic maintenance program should be incorporated to include sealing cracks and other measures.
4. Concrete curbs, if utilized, should extend below the bottom of adjacent aggregate base materials.

If it is desired to use cement treated base (CTB) instead of AB, we recommend that pavement sections be designed in accordance with Schedule “J” of the Pavement Design Standards from the City of San Diego Standard Drawings.

At locations where heavily loaded vehicles start, turn and stop frequently, the useful service life of AC pavement sections may be shortened significantly. At these locations, we recommend the use of Portland Cement Concrete (PCC) pavement section in lieu of a flexible AC pavement section. The PCC pavement section should consist of at least 6 inches of PCC (Class A) over at least 8 inches of compacted Class 2 AB over prepared subgrade. We recommend that concrete pavements be provided with expansion joints at regular intervals. Expansion joints

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and construction control joints (if required) are recommended at regular intervals and should be provided with load transfer devices, such as keys of dowels.

4.9 SOIL AGGRESIVITY

Two soil samples were collected by Geotechnics during their original field study which were tested for preliminary corrosion screening. Laboratory test results for pH, minimum electrical resistivity, and soluble sulfate content are provided in Table 8, and included in Appendix A. No testing for water soluble chlorides were performed. Additional testing of the finish subgrade soils is recommended during the construction phase of the project.

Table 8

Corrosion Test Results

BORING	DEPTH (ft)	MINIMUM RESISTIVITY (ohm-cm)	PH	WATER SOLUBLE SULFATES (%)
B-2	7 to 8	307	5.1	0.04
TP-8	10 to 11	NT	NT	0.02

NT = Not Tested

Although Kleinfelder does not practice corrosion engineering, resistivity values less than 1,000 ohm-cm are normally considered severely corrosive to buried ferrous metals. The minimum resistivity value obtained for the sample tested was 307 ohm-cm, and therefore, representative of an environment that is considered severely corrosive to unprotected metals.

Caltrans (2003) defines a “corrosive site” as one where one or more representative soil and/or water samples contain concentrations of soluble chloride of 0.05 percent (by weight) or greater, soluble sulfate concentrations of 0.2 percent or greater or the pH is 5.5 or less. Based on the laboratory test results, the sampled material is considered “corrosive” by the Caltrans definition.

The Portland Cement Association (PCA, 1988) defines concrete exposure to sulfate attack as negligible for soil with a water soluble sulfate content of 0.00 to 0.10 percent (by weight), moderate for a sulfate content of 0.10 to 0.20 percent, severe for a sulfate content of 0.2 to 2.00 percent, and very severe for a sulfate content over 2.00 percent. Based on the results of the corrosivity testing, the exposure of concrete to sulfate attack from the onsite soils is considered to be negligible by the PCA standards. We recommend that Type II or V cement should be used for concrete structures in contact with soil.

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The corrosion tests are preliminary in nature. Additional sampling and testing should be performed during supplemental drilling by Kleinfelder and after completion of grading. We recommend that a qualified corrosion engineer be retained to evaluate the general corrosion potential with respect to construction materials at this site and review the proposed design.

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5 ADDITIONAL STUDIES

The review of plans and specifications, and the observation and testing by Kleinfelder of earthwork related construction activities, are an integral part of the conclusions and recommendations made in this report. If Kleinfelder is not retained for these services, the client will be assuming our responsibility for potential claims that may arise during or after construction. The required tests, observations, and consultation during construction includes, but are not limited to:

- Supplemental subsurface explorations and laboratory testing prior to construction
- Review of plans and specifications (i.e., erosion control, civil, structural and architectural)
- Observation and density testing of compacted fill material, trench backfill, retaining wall backfill, subgrade, base and asphalt concrete
- Observation and testing of soil nails and/or tie-back anchors for retaining walls
- Observation of foundation excavations and foundation construction

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6 LIMITATIONS

Recommendations contained in this report are based on our field observations and subsurface explorations, laboratory tests, and our present knowledge of the proposed project. It is possible that soil conditions could vary between or beyond the points explored. If soil conditions are encountered during construction, which differ from those described herein, we should be notified immediately in order that a review may be made and any supplemental recommendations provided. If the scope of the proposed project, including the proposed foundation systems or structural locations, changes from that described in this report, our recommendations should also be reviewed and a response issued. We have not reviewed the grading plans or foundation plans for the project. References to elevations and locations provided within this report were based upon general information provided for our use. Kleinfelder, Inc. did not provide surveying services.

Our corrosion recommendations are preliminary in general. Kleinfelder is not a corrosion engineering consultant. Specific recommendations for corrosion protection should be obtained from a corrosion specialist.

Other standards or documents referenced in any given standard cited in this report, or otherwise relied upon by the authors of this report, are only mentioned in the given standard; they are not incorporated into it or "included by reference", as the latter term is used relative to contracts or other matters of law.

We have strived to prepare the findings, conclusions, and recommendations in this report in a manner consistent with the standards of care and skill ordinarily exercised by members of this profession practicing under similar conditions in the geographic vicinity and at the time the services were performed. No warranty or guarantee, express or implied, is made. The recommendations provided in this report are based on the assumption that Kleinfelder will be retained to provide a program of tests and observations during the construction phase in order to evaluate compliance with our recommendations and to evaluate the site conditions exposed. Information and recommendations presented in this report should not be extrapolated to other areas or be used for other projects without our prior review and response.

This report may be used only by The Preserve at Torrey Highlands, LLC and only for the purposes stated, within a reasonable time from its issuance. Land use, site conditions (both on site and off site) or other factors may change over time, and additional work could be required with the passage of time. Any party other than The Preserve at Torrey Highlands, LLC who

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Kleinfelder will assume no responsibility or liability whatsoever for any claim, damage, or injury which results from pre-existing hazardous materials being encountered or present on the project site, or from the discovery of such hazardous materials.

Additional important information about this report is presented in the attached Geotechnical Business Council insert in Appendix D.

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7 REFERENCES

American Concrete Institute, 1991a, Guidelines for Concrete Floor and Slab Construction (ACI 302.1R).

American Concrete Institute, 1991b, Guidelines for Residential Cast-in-Place Concrete Construction (ACI 332R).

American Public Works Association (APWA), 2012, "Greenbook," Standard Specifications for Public Works Construction.

California Building Code (2010), California Code of Regulations Title 24, Part 2, Volume 2, California Building Standards Commission, Based on 2006 Uniform Building Code.

Caterpillar (2000), Handbook of Ripping, 12th Edition.

Electrical Power research Institute (EPRI), 1990. Manual on Estimating Soil Properties for Foundation Design, L-600, Research Project 1493-6.

FEMA, 2010, Flood Insurance Rate Maps (FIRMs), Panel 06073C1334G, (http://msc.fema.gov/webapp/wcs/stores/servlet/FemaWelcomeView).

Kennedy, M.P., and Peterson, G.L., 1975, Geology of the San Diego Metropolitan Area, California: California Division of Mines and Geology, Bulletin 200.

Lindvall, S.C., Rockwell, T.K., and Lindvall, C.E., 1990, The seismic hazard of San Diego revised: New evidence of Magnitude 6+ Holocene earthquakes on the Rose Canyon Fault Zone, in Proceedings of U.S. National Conference on Earthquake Engineering, Palm Springs, California, vol. 1: Earthquake Engineering Research Institute, p. 679-688.

Lindvall, S.C., and Rockwell, T.K., 1995, Holocene activity of the Rose Canyon fault zone in San Diego, California, Journal of Geophysical Research, vol. 100, no. B12, pp. 24,121-24-132.

Norris, R.M., and Webb, R.W., 1990, Geology of California, 2nd Edition: John Wiley & Sons, Inc.

Portland Cement Association (PCA), 1988, Design and Control of Concrete Mixtures, Portland Cement Association, Skokie, Illinois.

United States Department of Agriculture, 1953, Aerial Photographs, Flight AXN-3M-216 and AXN -3M-217, scale approximately 1:20,000, dated March 31.

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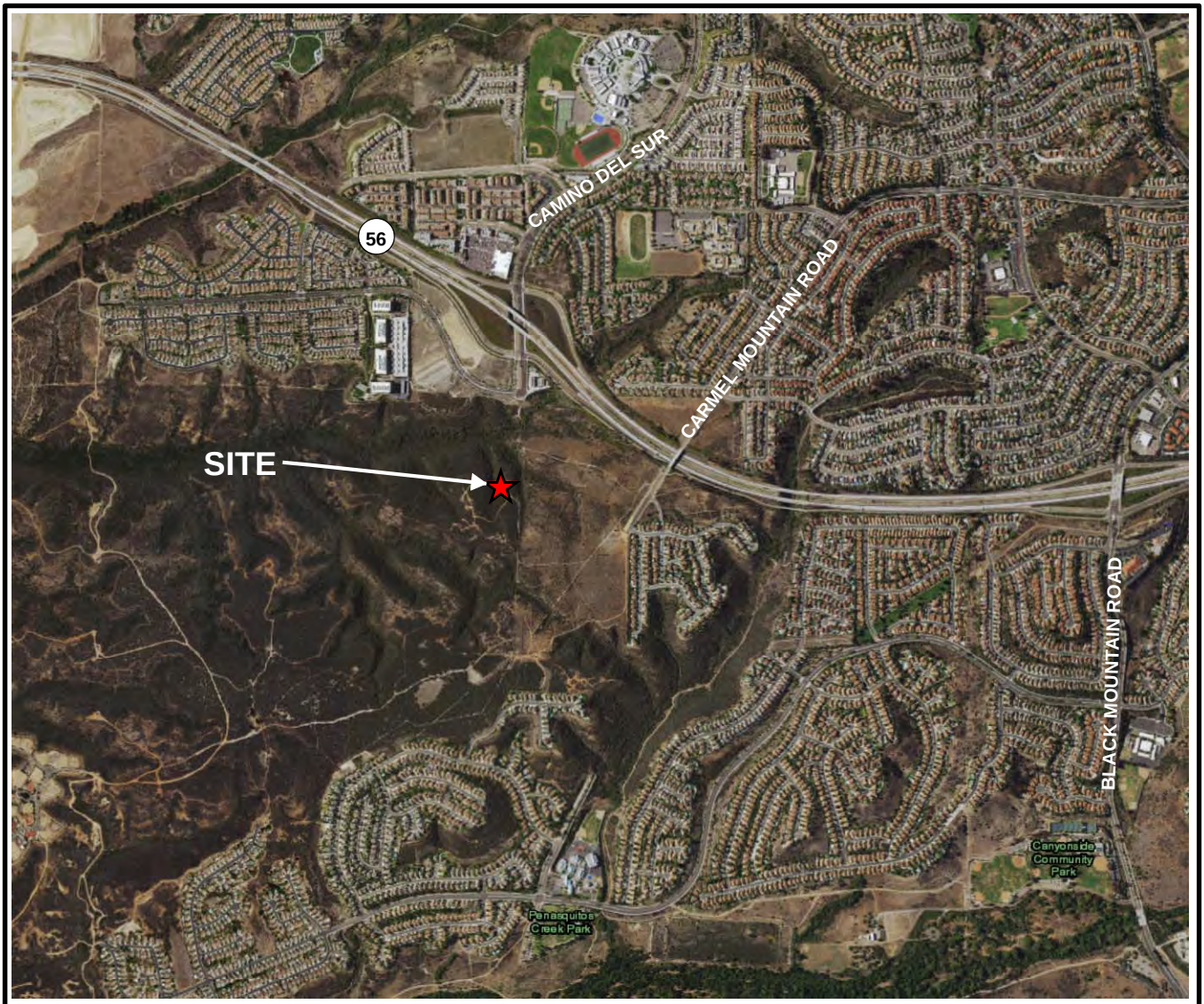
FIGURES



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VICINITY MAP

THE PRESERVE AT TORREY HIGHLANDS
SAN DIEGO, CALIFORNIA

FIGURE

1

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SITE AERIAL PHOTOGRAPH

THE PRESERVE AT TORREY HIGHLANDS
SAN DIEGO, CALIFORNIA

FIGURE

2

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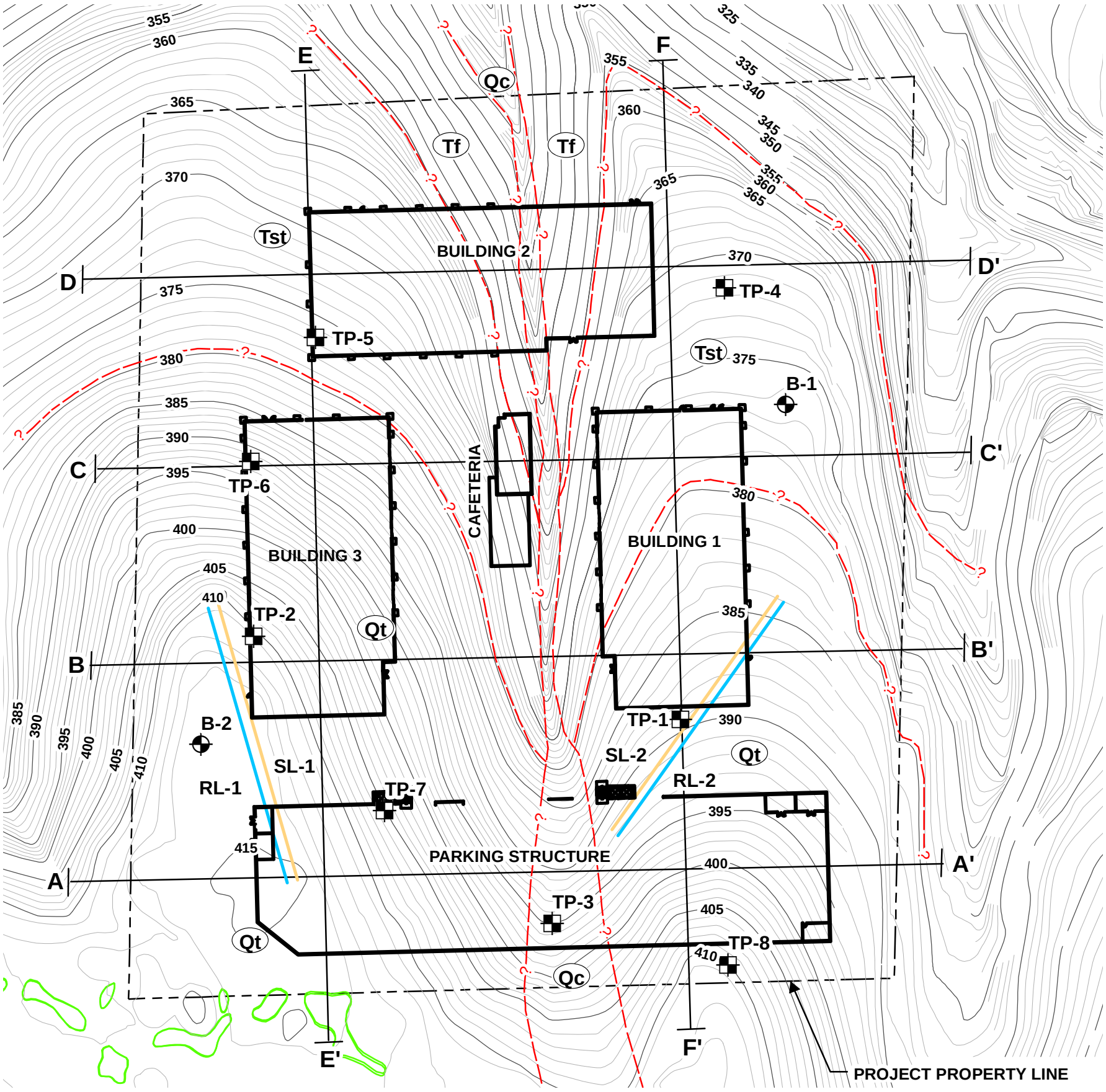

LEGEND

Qc	COLLUVIUM
Qt	TERRACE DEPOSITS
Tst	STADIUM CONGLOMERATE
Tf	FRIARS FORMATION
	APPROXIMATE LOCATION OF ReMi LINE
	APPROXIMATE LOCATION OF SEISMIC LINE
B-2	APPROXIMATE LOCATION OF BORING (GEOTECHNICS, INC. 2000)
TP-8	APPROXIMATE LOCATION OF TEST PIT (GEOTECHNICS, INC. 2000)
?— — —	APPROXIMATE GEOLOGIC CONTACT
F—F'	CROSS SECTION LOCATION
	VERNAL POOL

N

0 50 100 200 Feet

1 FOOT ELEVATION CONTOUR INTERVAL

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SITE PLAN AND GEOLOGIC MAP

THE PRESERVE AT TORREY HIGHLANDS
SAN DIEGO, CALIFORNIA

FIGURE
3

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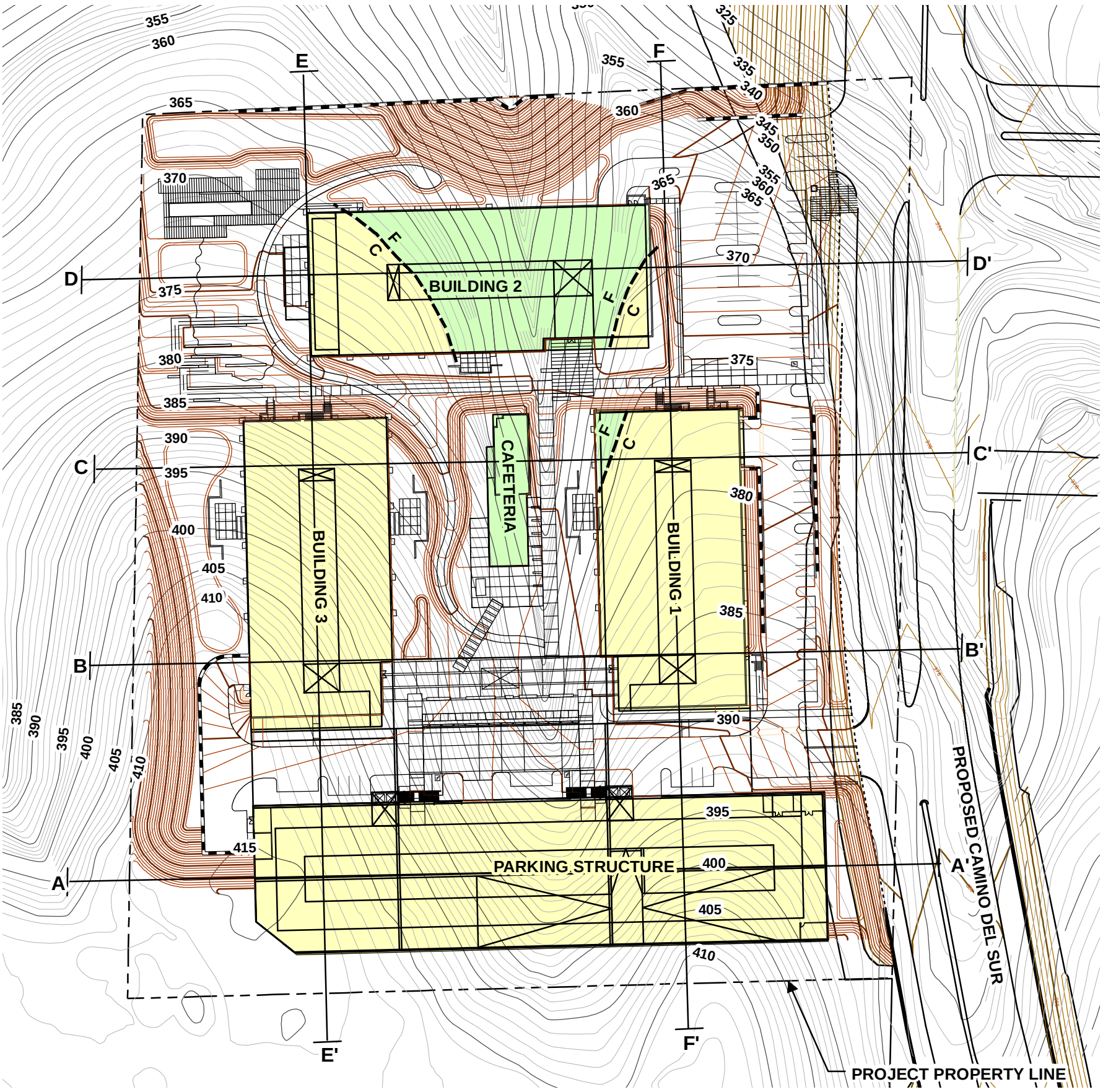

BUILDING ELEVATIONS AND SUBGRADE			
BUILDING	FINISH FLOOR	LOWER LEVEL	SUBGRADE
1	+ 385'	+ 373.5'	CUT/FILL
2	+ 380'	+ 368.5'	CUT/FILL
3	+ 389'	+ 377.5'	CUT
PARKING STRUCTURE	+ 387'	+ 375.5'	CUT
CAFETERIA	+ 387'	NA	FILL

LEGEND

- EXISTING TOPOGRAPHIC CONTOUR
- PROPOSED GRADING CONTOUR
- PROPOSED CURB, SIDEWALK, IMPROVEMENT
- PROPOSED RIGHT-OF-WAY
- PROPOSED WALL
- F—F' CROSS SECTION LOCATION
- C / F PROPOSED DAYLIGHT LINE WITHIN BUILDINGS C = CUT, F = FILL

N

0 50 100 200 Feet

1 FOOT ELEVATION CONTOUR INTERVAL

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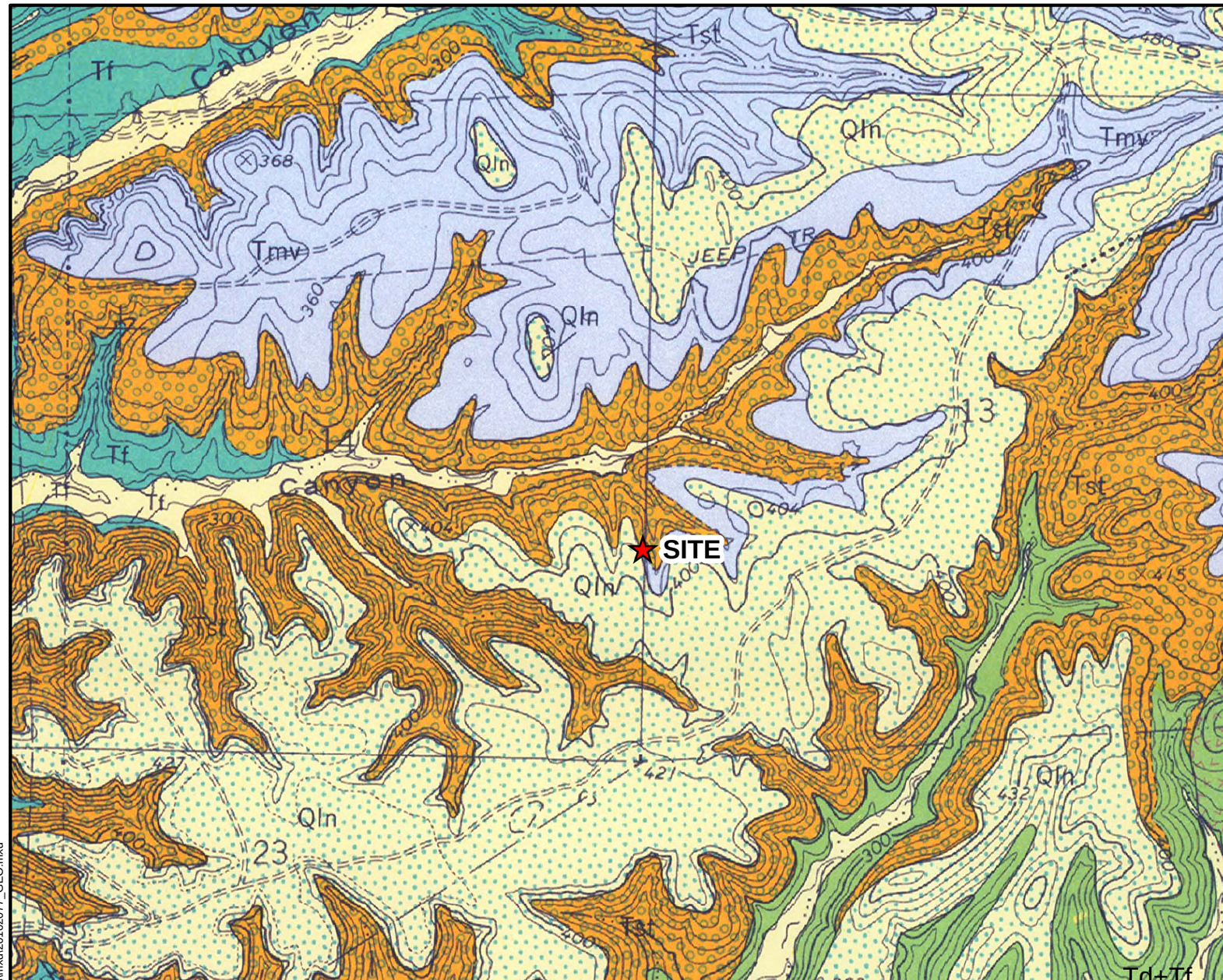
PROPOSED SITE DEVELOPMENT

THE PRESERVE AT TORREY HIGHLANDS
SAN DIEGO, CALIFORNIA

FIGURE
4

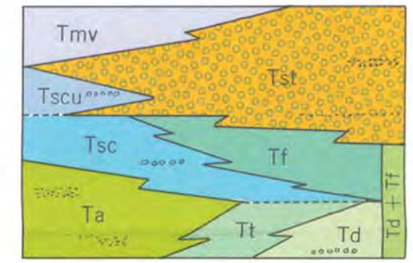


LEGEND

Qln / Qlb

Lindavista Formation

Qln, nearshore deposits; Qlb, beach deposits.



Poway and La Jolla Groups

Tmv, Mission Valley Formation; Tst, Stadium Conglomerate; Tf, Friars Formation; Tscu, Scripps Formation (upper tongue); Tsc, Scripps Formation; Ta, Ardath Shale; Tf, Torrey Sandstone; Td, Delmar Formation; Td & Tf, Delmar and Friars Formation undifferentiated. Conglomerate marked by circle pattern, sandstone marker bed shown by dot pattern.

Fault, showing dip

(dashed where approximately located; dotted where concealed; U, upthrown side; D, downthrown side; shear zone).

0 500 1,000 2,000 Feet

N

SOURCE:
BULLETIN 200, CALIFORNIA DIVISION OF MINES AND GEOLOGY, KENNEDY, 1975.

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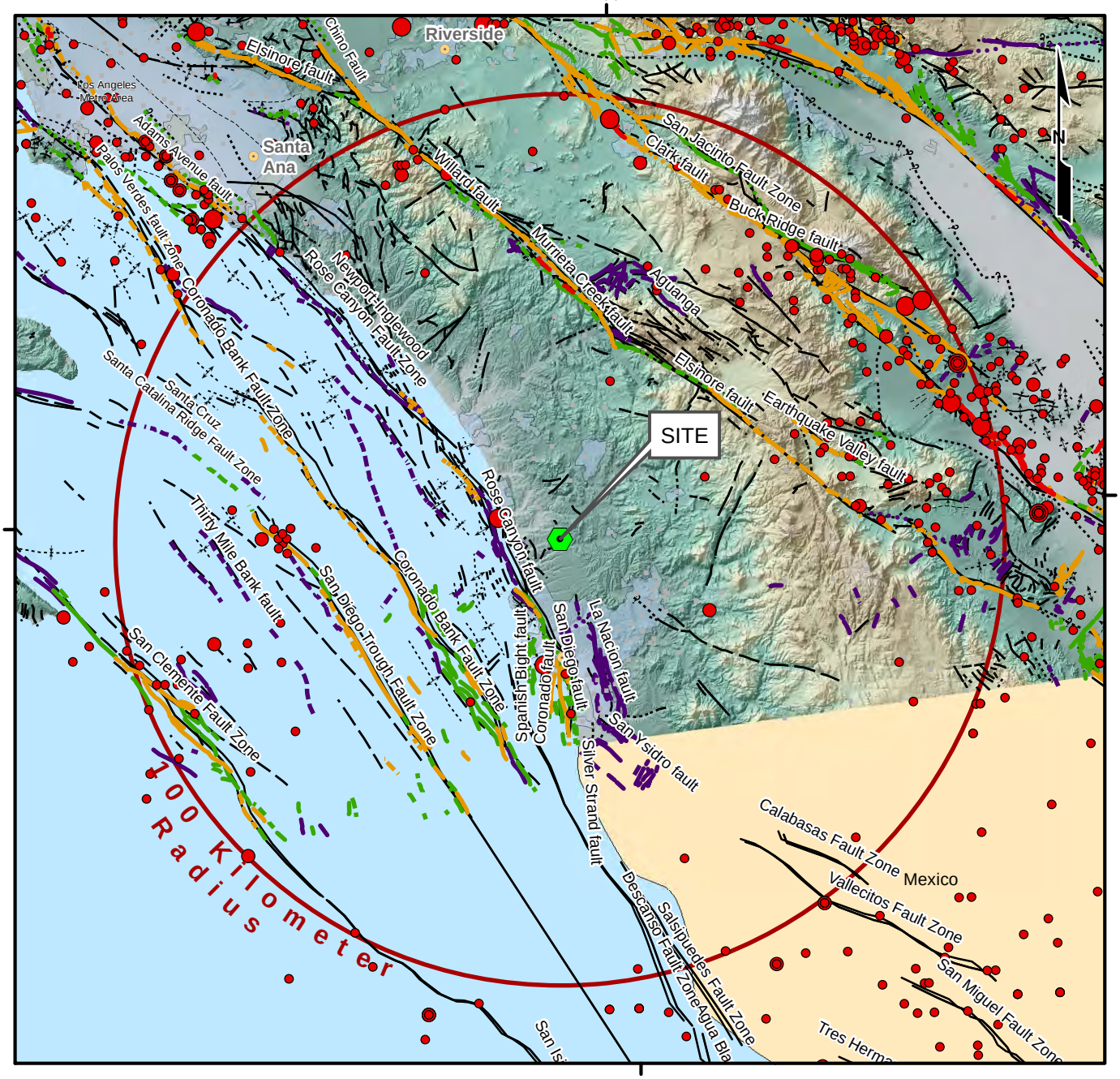
FILE NAME:	20162077_GEO.mxd

REGIONAL GEOLOGIC MAP

THE PRESERVE AT TORREY HIGHLANDS
SAN DIEGO, CALIFORNIA

FIGURE
5



Faulting Legend

Quaternary Faults (Bryant, 2005; USGS, 2009)

Historic displacement (< 200 years)
- Mapped Fault Location
- Dashed were Approximated
- Concealed

Holocene displacement (< 11,000 years)
- Mapped Fault Location
- Dashed were Approximated
- Concealed

Late Quaternary displacement (< 750,000 years)
- Mapped Fault Location
- Dashed were Approximated
- Concealed

Quaternary displacement (< 1,600,000 years)
- Mapped Fault Location
- Dashed were Approximated
- Concealed

Pre-Quaternary Geologic Structures (CGS, 2000)
- fault, approx. located
- fault, approx. located, queried
- fault, certain
- fault, concealed
- fault, concealed, queried
- fault, inferred, queried

ANSS Earthquakes

Magnitude
- 4.0 - 4.9
- 5.0 - 5.9
- 6.0 - 6.9
- 7.0 - 7.9
- 8.0 - 8.9

35 17.5 0 35 Kilometers

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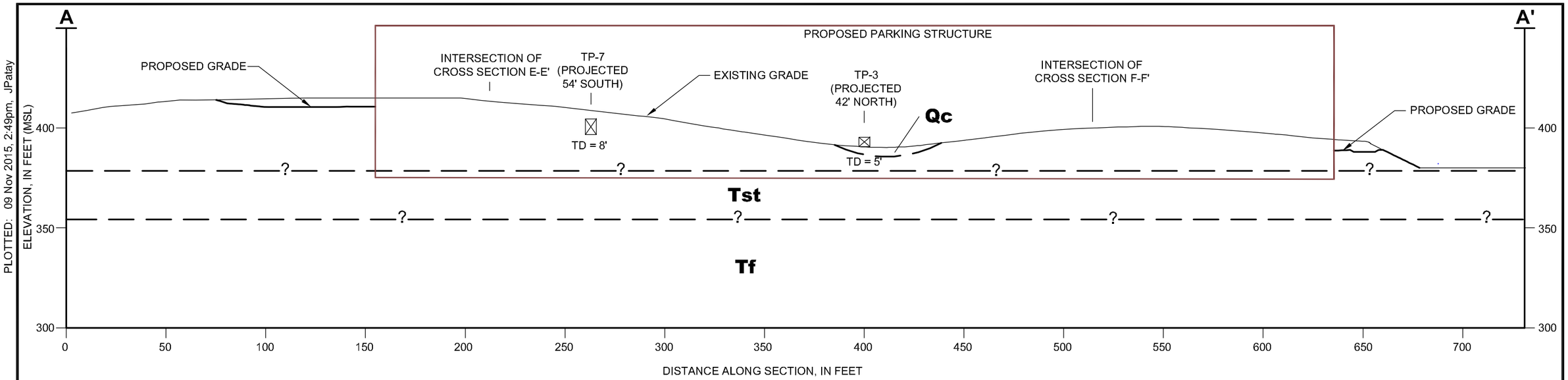
FILE NAME:	20162077_EQ.MXD

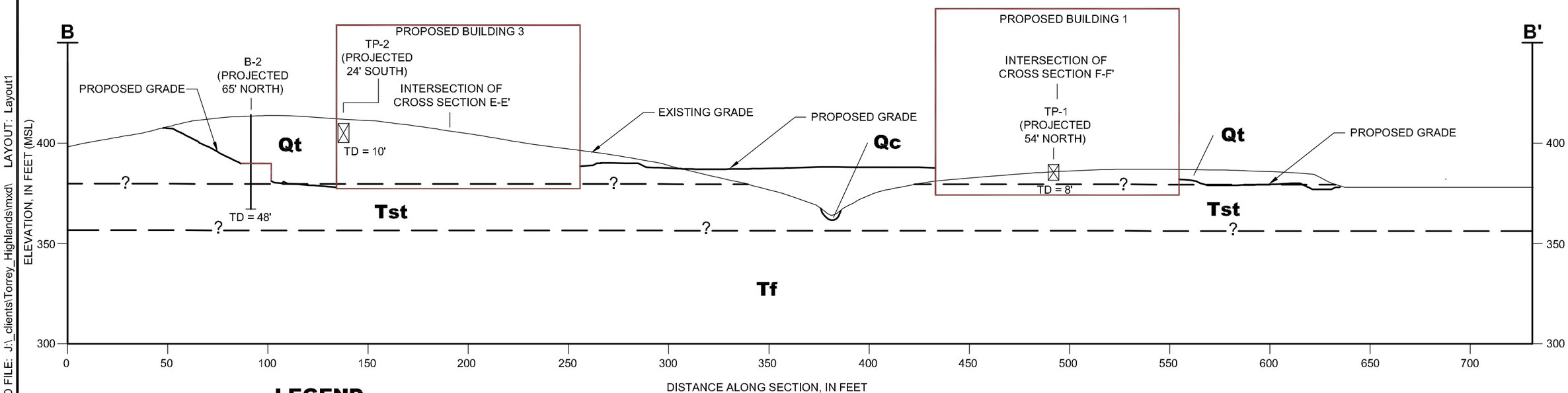
REGIONAL FAULT MAP AND EARTHQUAKE EPICENTERS (1800 - JUNE 2015)

THE PRESERVE AT TORREY HIGHLANDS
SAN DIEGO, CALIFORNIA

FIGURE 6

J:_clients\Torrey_Highlands\mxd\20162077_EQ.mxd





LEGEND

Qc	COLLUVIUM	B-2 ⊥ TD = 48'	APPROXIMATE LOCATION OF BORING SHOWING PROJECTION, AND TOTAL DEPTH IN FEET
Qt	TERRACE DEPOSITS		
Tst	STADIUM CONGLOMERATE	TP-8 ⊠ TD = 8'	APPROXIMATE LOCATION OF TEST PIT SHOWING PROJECTION, AND TOTAL DEPTH IN FEET
Tf	FRIARS FORMATION		
—?—	APPROXIMATE LOCATION OF GEOLOGIC CONTACT, QUERIED WHERE UNCERTAIN		

50 25 0 50
APPROXIMATE SCALE (feet)

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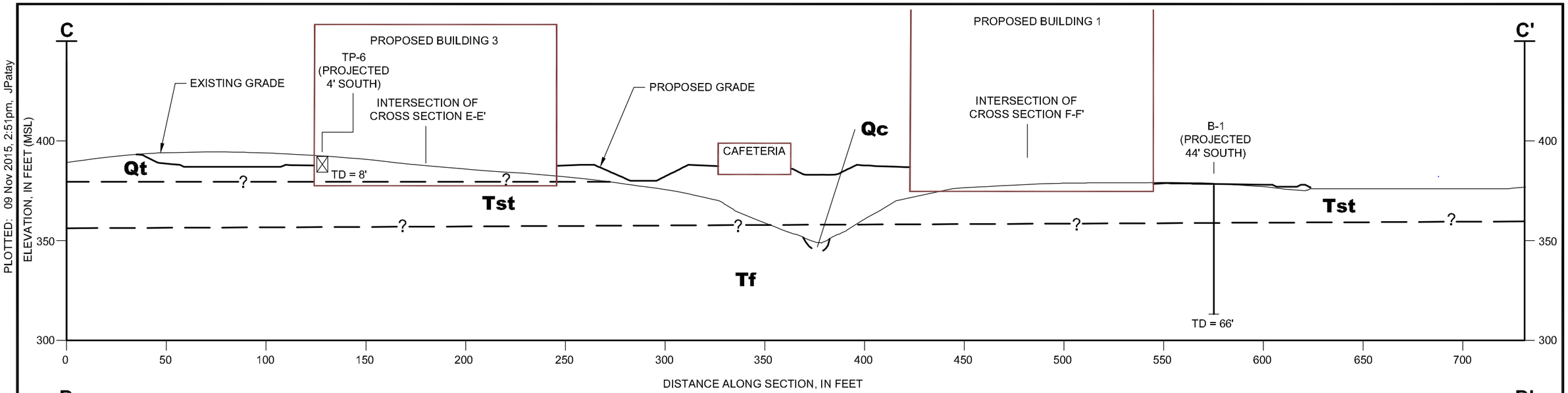
FILE NAME:	20162077_Sections.dwg

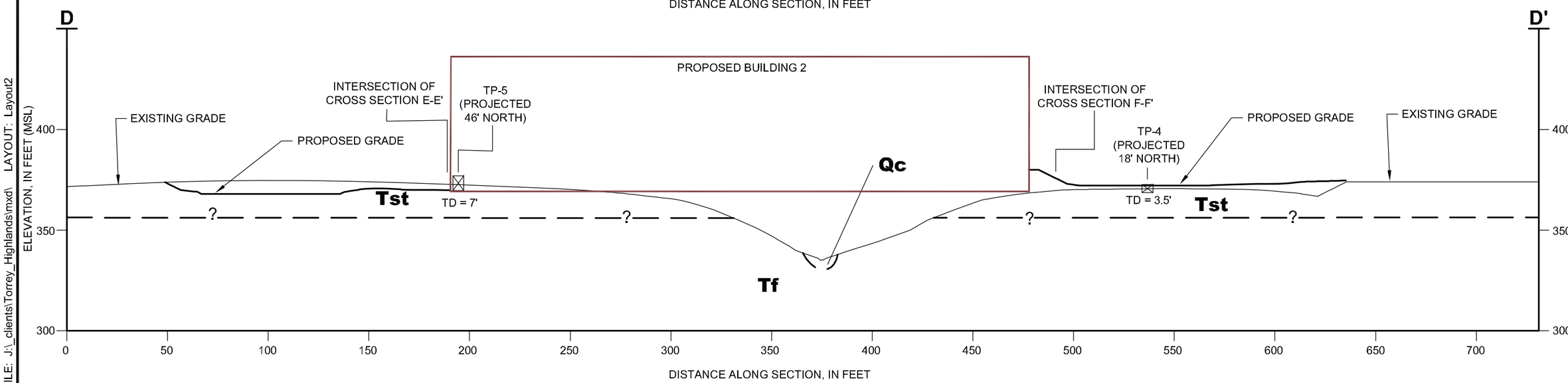
GEOLOGIC CROSS SECTIONS A-A' AND B-B'

THE PRESERVE AT TORREY HIGHLANDS
SAN DIEGO, CALIFORNIA

FIGURE
7

PLOTTED: 09 Nov 2015, 2:49pm, JPatay
LAYOUT: Layout1
CAD FILE: J:_clients\Torrey_Highlands\mxd\
san diego, ca





LEGEND

Qc	COLLUVIUM	B-2 TD = 48'	APPROXIMATE LOCATION OF BORING SHOWING PROJECTION, AND TOTAL DEPTH IN FEET
Qt	TERRACE DEPOSITS		
Tst	STADIUM CONGLOMERATE	TP-8 TD = 8'	APPROXIMATE LOCATION OF TEST PIT SHOWING PROJECTION, AND TOTAL DEPTH IN FEET
Tf	FRIARS FORMATION		
?	APPROXIMATE LOCATION OF GEOLOGIC CONTACT, QUERIED WHERE UNCERTAIN		

50 25 0 50
APPROXIMATE SCALE (feet)

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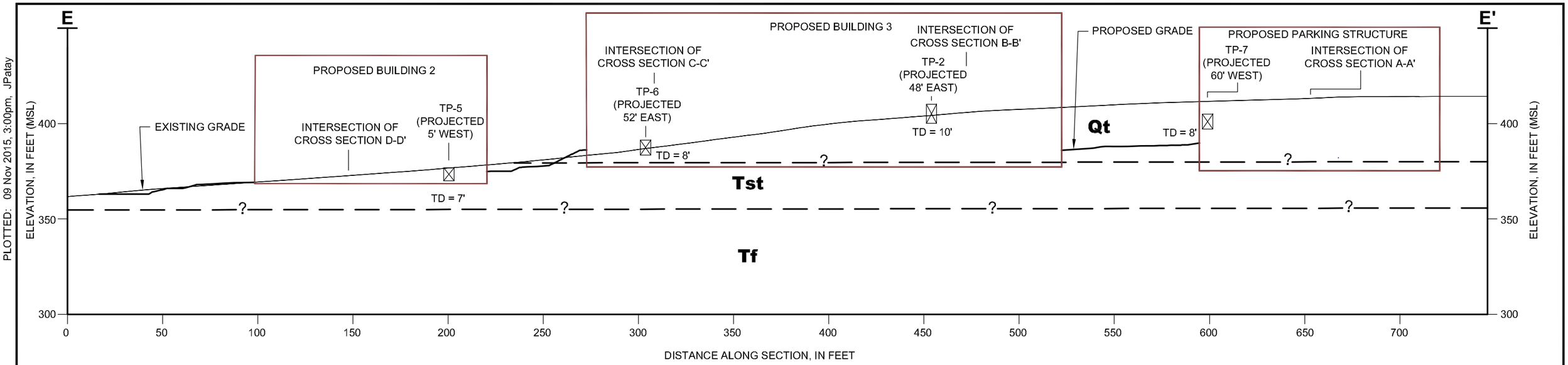
FILE NAME:	20162077_Sections.dwg

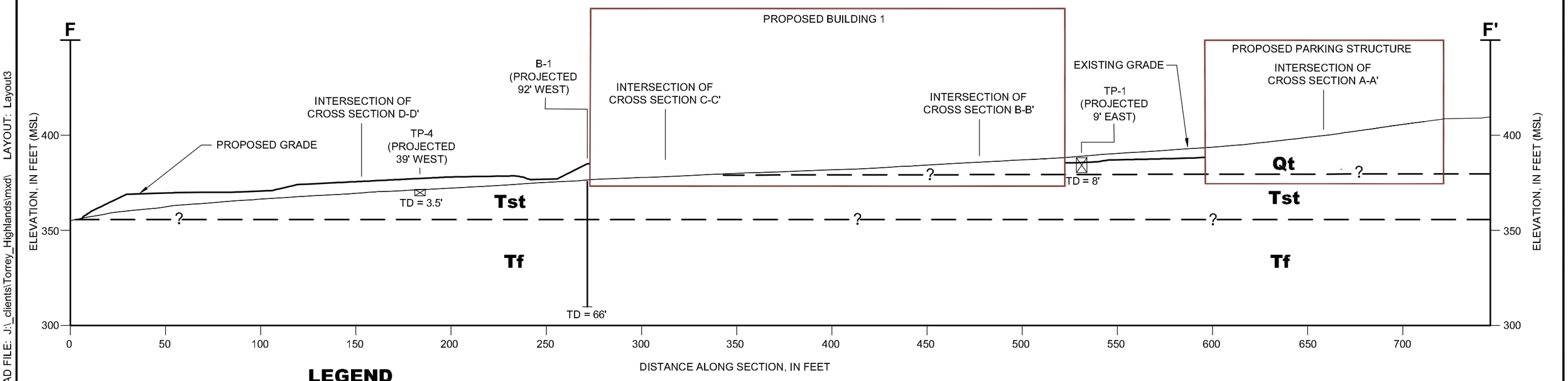
GEOLOGIC CROSS SECTIONS C-C' AND D-D'

THE PRESERVE AT TORREY HIGHLANDS
SAN DIEGO, CALIFORNIA

FIGURE
8

PLOTTED: 09 Nov 2015, 2:51pm, JPatay
CAD FILE: J:_clients\Torrey_Highlands\mxd\ LAYOUT: Layout2
san diego, ca





LEGEND

Qc	COLLUVIUM	B-2 / TD = 48'	APPROXIMATE LOCATION OF BORING SHOWING PROJECTION, AND TOTAL DEPTH IN FEET
Qt	TERRACE DEPOSITS		
Tst	STADIUM CONGLOMERATE	TP-8 / TD = 8'	APPROXIMATE LOCATION OF TEST PIT SHOWING PROJECTION, AND TOTAL DEPTH IN FEET
Tf	FRIARS FORMATION		
?	APPROXIMATE LOCATION OF GEOLOGIC CONTACT, QUERIED WHERE UNCERTAIN		

50 25 0 50
APPROXIMATE SCALE (feet)

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FILE NAME:	20162077_Sections.dwg

GEOLOGIC CROSS SECTIONS E-E' AND F-F'

THE PRESERVE AT TORREY HIGHLANDS
SAN DIEGO, CALIFORNIA

FIGURE
9

PLOTTED: 09 Nov 2015, 3:00pm, JPatay
CAD FILE: J:_clients\Torrey_Highlands\mxd\ LAYOUT: Layout3
san diego, ca

APPENDIX A

Existing Relevant Geotechnical Information

TH6102-16100
LEC COPY

Geotechnics
Incorporated

Principals:
Anthony F. Belfast
Michael P. Imbriglio
W. Lee Vanderhurst

GEOTECHNICAL INVESTIGATION
OUR LADY OF MOUNT CARMEL
SOUTHWEST OF
PROPOSED STATE ROUTE 56
AND CAMINO RUIZ
SAN DIEGO, CALIFORNIA

prepared for:

Diocese of San Diego
P.O. Box 85728
San Diego, CA 92186

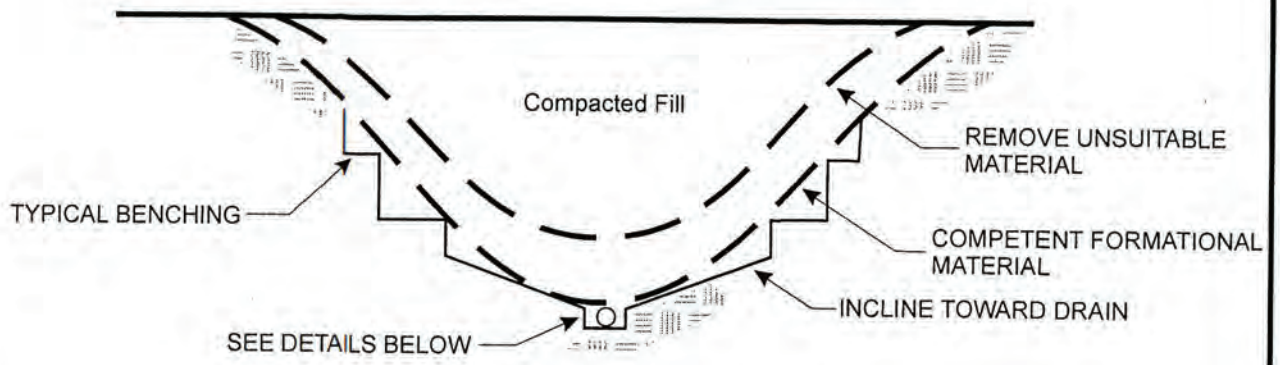
by:

GEOTECHNICS INCORPORATED
Project No. 0068-002-01
Document No. 0-0458

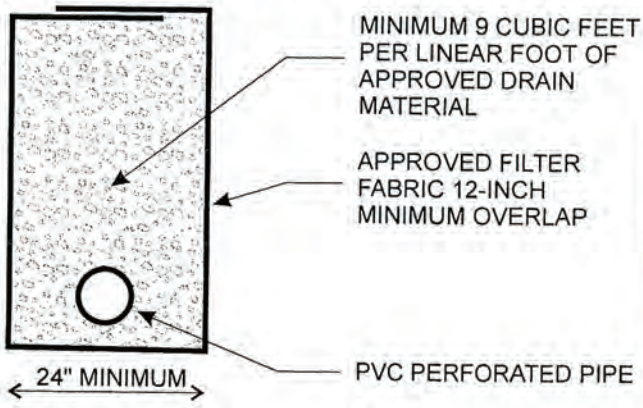
July 5, 2000

9245 Activity Rd., Ste. 103 • San Diego, California 92126
Phone (858) 536-1000 • Fax (858) 536-8311

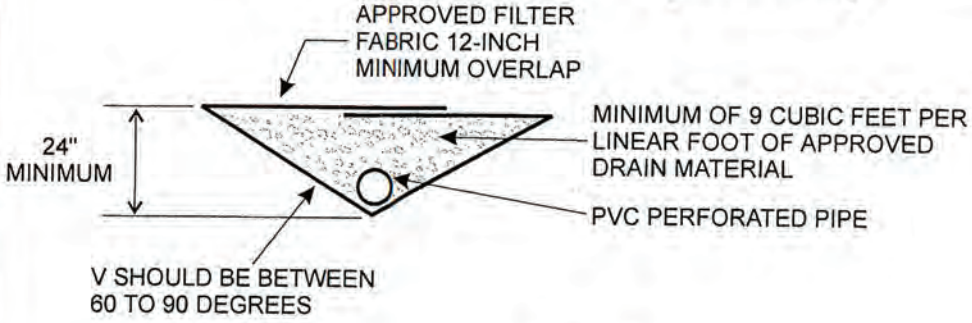
CANYON SUBDRAIN DETAILS



DRAIN DETAIL



OPTIONAL V-DITCH DETAIL



NOTES

1) The need for perforated pipe and pipe diameter to be determined by geotechnical consultant based on field conditions.
2) Perforated pipe should outlet through a solid pipe to a free gravity outfall. Perforated pipe and outlet pipe should have a fall of at least 1%.
3) Filter fabric should consist of Mirafi 140N, Supac 5NP, Amoco 4599, or similar approved fabric. Filter fabric should be overlapped at least 12-inches.
4) Drain material should consist of minus 1½-inch, minus 1-inch, or minus ¾-inch crushed rock.
5) Drain installation should be observed by the geotechnical consultant prior to backfilling.

Geotechnics Incorporated

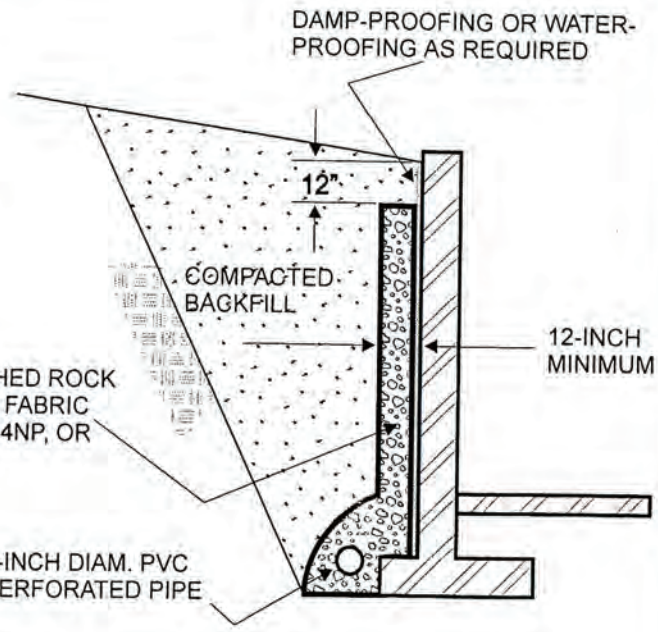
SUBDRAIN DETAIL

Project No. 0068-002-01
Document No. 0-0458

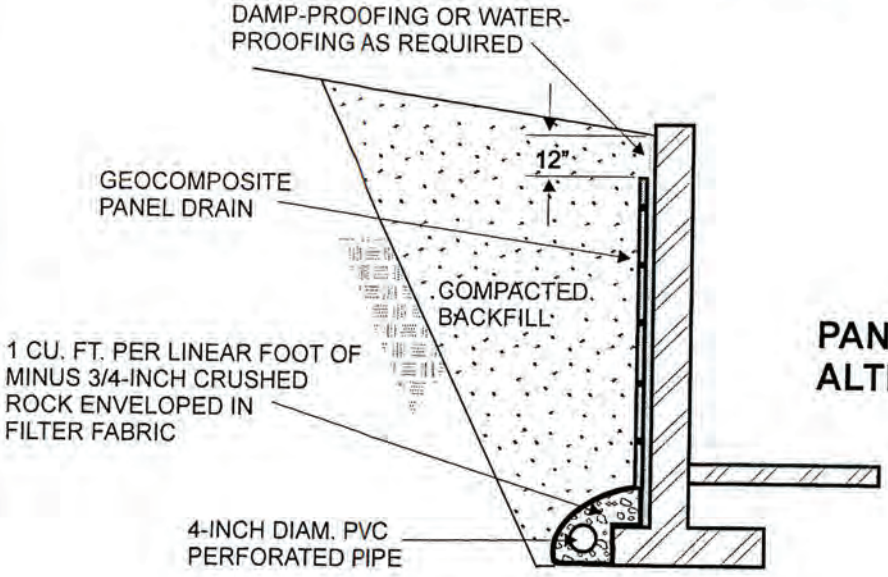
FIGURE 3

Rev. 6/00

ROCK AND FABRIC ALTERNATIVE



PANEL DRAIN ALTERNATIVE



NOTES

1) Perforated pipe should outlet through a solid pipe to a free gravity outfall. Perforated pipe and outlet pipe should have a fall of at least 1%.
2) As an alternative to the perforated pipe and outlet, weep holes may be included in the bottom of the wall. Weepholes should be at least 2 inches in diameter, and be spaced no greater than 8 feet.
3) Filter fabric should consist of Mirafi 140N, Supac 5NP, Amoco 4599, or similar approved fabric. Filter fabric should be overlapped at least 6-inches.
4) Geocomposite panel drain should consist of Miradrain 6000, J-DRain 400, Supac DS-15, or approved similar product.
5) Drain installation should be observed by the geotechnical consultant prior to backfilling.

Geotechnics Incorporated

WALL DRAIN DETAILS

Project No. 0068-002-01
Document No. 0-0458

FIGURE 5

Rev. 6/99

APPENDIX B

FIELD EXPLORATION

Field exploration consisted of a visual reconnaissance of the site, two 30-inch diameter borings, and 8 test pit excavations. Explorations were conducted on May 17 and 18, 2000. The test pits were excavated using a John Deere 710D backhoe mounted with a 24-inch wide bucket. The borings were drilled with a truck-mounted, bucket-auger drilling rig. The approximate locations of the borings and test pits are shown on the Geotechnical Map, Plate 1. Logs describing the subsurface conditions encountered are presented in Figures B-1 through B-13, Logs of Exploration Borings and Test Pits.

The materials encountered in our explorations were visually classified in the field. Relatively undisturbed and bulk samples were obtained at selected intervals for laboratory testing. The sample locations are indicated on the logs with shading.

Bulk samples were sealed in plastic bags, labeled, and returned to the laboratory for testing. Relatively undisturbed samples were collected using a modified California (CAL) sampler . The CAL sampler is a ring-lined tube with an inside diameter of 2 $^3/_8$ inches and an outside diameter of 3 inches. Ring samples were sealed in plastic bags, placed in rigid plastic containers, labeled, and returned to the laboratory for testing. The hammer used to drive the CAL sampler weighed 4,500 pounds (from 0 to 27 feet), 3,700 pounds (from 27 to 52feet), and 2,700 pounds (from 52 to 80 feet). A free fall of 12 inches was used to drive the sampler. The number of blows needed to drive the CAL sampler 12 inches is shown on the boring logs.

The boring and test pit locations shown on the Geotechnical Map were determined by measuring distances from landmarks shown on the map. The locations shown should not be considered more accurate than is implied by the method of measurement used and the scale of the map. The lines designating the interface between differing soil materials on the logs may be abrupt or gradational. Further, soil conditions at locations between the excavations may be substantially different from those at the specific locations explored. It should be recognized that the passage of time can result in changes in the soil conditions reported in our logs.

LOG OF EXPLORATION BORING NO. 1

Logged by: JAA | **Date: 5/17/00**

Method of Drilling: 30-inch Diameter Bucket | **Elevation: 368' MSL**

DEPTH (FEET)	BLOWS PER FT.	DRIVE SAMPLE	BULK SAMPLE	DENSITY (PCF)	MOISTURE %	DESCRIPTION	LAB TESTS
1						**COLLUVIUM (Qcol):** Silty sand (SM), reddish brown, dry, fine grained, nonplastic, subrounded to rounded cobble clasts.	
2						**STADIUM CONGLOMERATE (Tst):** Cobble conglomerate, light reddish brown, dry to moist, fine grained, moderately cemented, nonplastic, approximately 70% clasts matrix supported, silty sand, rounded to subrounded cobble clasts to 10 inches.	
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19						Abrupt sub-horizontal contact	
20						**FRIARS FORMATION (Tf):** Clayey sandstone, light brown to grayish brown, moist, fine grained, low plasticity, weakly cemented, friable, massive. (LL = 32, PI = 15)	Atterberg Limits, Maximum Density, Direct Shear
21							
22						Wet, iron stains, few subrounded cobble clasts to 6 inches.	
23						Approximate 6 inch thick concretionary zone.	
24	5	CAL		115	17.1	Siltstone with interbedded sandstone, light gray to reddish brown, moist, fine grained, nonplastic, well indurated, iron stains, interbeds of sandstone, weakly cemented, to 1/2 inch thick.	
25							
26							
27						Silty sandstone, light gray, moist, fine grained, nonplastic, moderately cemented, friable, massive.	
28							
29							
30							

LOG OF EXPLORATION BORING NO. 1 (CONT.)

Logged by: JAA **Date: 5/17/00**

Method of Drilling: 30-inch Diameter Bucket **Elevation: 368' MSL**

DEPTH (FEET)	BLOWS PER FT.	DRIVE SAMPLE	BULK SAMPLE	DENSITY (PCF)	MOISTURE %	DESCRIPTION	LAB TESTS
31	7	CAL		119	10.3	**FRIARS FORMATION (Tf) (Continued):** Silty sandstone, light gray, moist, fine to medium grained, weakly cemented, very friable, massive.	Direct Shear
32							
33							
34							
35						Approximate 1/2 inch thick siltstone bed, greenish gray, moist, low plasticity, well indurated, EW 5° S	
36						Light gray to yellowish gray, carbonate cementation.	
37							
38							
39							
40	7	CAL		114	9.0		
41							
42						(18% passing No. 200 sieve)	Percent Passing No. 200 Sieve
43							
44							
45							
46							
47							
48							
49							
50	10	CAL		115	6.7		
51						Approximate 4 inch thick gravel bed, subrounded to rounded gravels to 3 inches.	
52							
53							
54							
55							
56							
57							
58							
59							
60							

LOG OF EXPLORATION BORING NO. 1 (CONT.)

Logged by: JAA | **Date: 5/17/00**

Method of Drilling: 30-inch Diameter Bucket | **Elevation: 368' MSL**

DEPTH (FEET)	BLOWS PER FT.	DRIVE SAMPLE	BULK SAMPLE	DENSITY (PCF)	MOISTURE %	DESCRIPTION	LAB TESTS
61	15	CAL		115	7.5	**FRIARS FORMATION (Tf) (Continued):** Silty sandstone, light gray, moist, fine to medium grained, weakly cemented, very friable, massive.	
62							
63							
64						Silty sandstone with interbedded siltstone, greenish gray, moist, fine grained, well cemented, nonplastic, interbeds of siltstone, well indurated, to 1/2 inch thick. (27% passing No. 200 sieve)	
65							Percent Passing No. 200 Sieve
66						Total depth: 66 feet No groundwater encountered Backfilled 5/17/00	
67							
68							
69							
70							
71							
72							
73							
74							
75							
76							
77							
78							
79							
80							
81							
82							
83							
84							
85							
86							
87							
88							
89							
90							

LOG OF EXPLORATION BORING NO. 2

Logged by: JAA | **Date: 5/17/00**

Method of Drilling: 30-inch Diameter Bucket | **Elevation: 412' MSL**

DEPTH (FEET)	BLOWS PER FT.	DRIVE SAMPLE	BULK SAMPLE	DENSITY (PCF)	MOISTURE %	DESCRIPTION	LAB TESTS
1						**COLLUVIUM (Qcol):** Silty sand (SM), reddish brown, dry, fine grained, nonplastic, subrounded to rounded cobble clasts to 8 inches, few roots.	
2						**TERRACE DEPOSITS (Qt):** Silty sandstone, light reddish brown to light brown, moist, fine to medium grained, moderately cemented, nonplastic, friable, few subrounded gravels to 3 inches.	
3							
4							
5							
6							
7						Approximate 1 foot thick zone subrounded to rounded cobbles, to 8 inches.	pH, Resistivity, Sulfate
8						Weakly cemented.	
9							
10	4	CAL		109	10.3		Direct Shear
11							
12						Approximate 8 inch thick lens clayey sand (SC), moist, dark reddish brown, fine grained sand, low plasticity, dense.	
13							
14							
15							
16						Approximate 6 inch thick lens siltstone, dark greenish gray, moist, moderately indurated, low plasticity, horizontal to subhorizontal.	
17							
18							
19							
20	6	CAL		138	4.1		
21						Abrupt, subhorizontal contact.	
22						**STADIUM CONGLOMERATE (Tst):** Cobble conglomerate, light reddish brown, dry to moist, fine grained, moderately cemented, nonplastic, approximately 70% clasts matrix supported, silty sand, rounded to subrounded cobble clasts to 8 inches.	
23							
24							
25							
26							
27							
28							
29							
30							

LOG OF EXPLORATION BORING NO. 2 (CONT.)

Logged by: JAA **Date:** 5/17/00
Method of Drilling: 30-inch Diameter Bucket **Elevation:** 412' MSL

DEPTH (FEET)	BLOWS PER FT.	DRIVE SAMPLE	BULK SAMPLE	DENSITY (PCF)	MOISTURE %	DESCRIPTION	LAB TESTS
31						**STADIUM CONGLOMERATE (Tst) (Continued):** Cobble conglomerate, light reddish brown, dry to moist, fine grained, moderately cemented, nonplastic, approximately 70% clasts matrix supported, silty sand, rounded to subrounded cobble clasts to 8 inches.	
32							
33							
34							
35							
36							
37							
38							
39							
40							
41						Approximate 1 foot thick lens silty sand with gravel (SM), light reddish brown to light gray, moist, fine grained, nonplastic, very dense.	
42							
43							
44							
45							
46							
47							
48						Total depth: 48 feet No groundwater encountered Backfilled 5/17/00	
49							
50							
51							
52							
53							
54							
55							
56							
57							
58							
59							
60							

LOG OF EXPLORATION TEST PIT NO. 1

Logged by: DP | **Date Excavated: 5/17/00**

Equipment Use JD 710D with 24-inch bucket | **Elevation: 392' MSL**

DEPTH (FT)	BULK SAMPLE	DESCRIPTION	LAB TESTS
1		**COLLUVIUM (Qcol):** Sandy clay (CL), brown, dry, fine grained sand, low plasticity, appears firm, few subrounded cobble clasts to 6 inches.	
2			
3		**TERRACE DEPOSITS (Qt):** Silty sandstone, light brown to light reddish brown, dry, fine to medium grained, nonplastic, moderately cemented.	
4			
5			
6			
7		Gravel with sand (GP), light reddish brown, dry, fine to medium grained sand, appears dense, subrounded gravel to 3 inches, few subrounded cobble clasts to 4 inches.	Particle Size Analysis
8			
9		Total depth: 8 feet No groundwater encountered Backfilled 5/17/00	
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			

LOG OF EXPLORATION TEST PIT NO. 2

Logged by: DP | **Date Excavated: 5/17/00**

Equipment Use JD 710D with 24-inch bucket | **Elevation: 410' MSL**

DEPTH (FT)	BULK SAMPLE	DESCRIPTION	LAB TESTS
1		**COLLUVIUM (Qcol):** Gravel with sand (GP), light brown, dry, fine to medium grained sand, appears loose, nonplastic, subrounded gravels to 3 inches.	
2			
3		**TERRACE DEPOSITS (Qt):** Sand with gravel (SW), light brown to light reddish brown, dry, fine to coarse grained, appears dense, nonplastic, subrounded gravels to 3 inches.	
4			
5		Sand with gravel (SP), light reddish brown, moist, fine to medium grained, appears dense, nonplastic, few subrounded cobble clasts to 6 inches.	
6			
7			
8			
9	▒	Clay (CL), grayish brown, dry to moist, appears hard, moderate plasticity, few fine to medium sand. (LL = 43, PI = 17)	Expansion Index
10			
11		Total depth: 10 feet No groundwater encountered Backfilled 5/17/00	
12			
13			
14			
15			
16			
17			
18			
19			
20			

LOG OF EXPLORATION TEST PIT NO. 3

Logged by: DP | **Date Excavated: 5/17/00**

Equipment Use JD 710D with 24-inch bucket | **Elevation: 400' MSL**

DEPTH (FT)	BULK SAMPLE	DESCRIPTION	LAB TESTS
1, 2, 3		**COLLUVIUM (Qcol):** Sandy clay (CL), brown, dry, fine grained sand, low plasticity, appears firm, few subrounded cobble clasts to 6 inches.	
4, 5	▒	**TERRACE DEPOSITS (Qt):** Silty sand with gravel (SM), light brown to light reddish brown,. moist, fine to medium grained, appears dense, nonplastic, subrounded gravels to 3 inches.	Particle Size Analysis
6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20		Total depth: 5 feet No groundwater encountered Backfilled 5/17/00	

PROJECT NO. 0068-002-01 **GEOTECHNICS INCORPORATED** **FIGURE B-8**

LOG OF EXPLORATION TEST PIT NO. 4

Logged by: DP | **Date Excavated: 5/17/00**

Equipment Use JD 710D with 24-inch bucket | **Elevation: 360' MSL**

DEPTH (FT)	BULK SAMPLE	DESCRIPTION	LAB TESTS
1		**COLLUVIUM (Qcol):** Silty sand (SM), brown, dry, fine grained sand, low plasticity, appears medium dense, few subrounded gravels to 3 inches.	
2		**STADIUM CONGLOMERATE (Tst):** Cobble conglomerate, light reddish brown, dry, fine grained, moderately cemented, nonplastic, approximately 70% clasts matrix supported, silty sand, subrounded to rounded cobble clasts to 10 inches.	
3			
4		Total depth: 3.5 feet No groundwater encountered Backfilled 5/17/00	
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			

LOG OF EXPLORATION TEST PIT NO. 5

Logged by: DP | **Date Excavated: 5/17/00**

Equipment Use JD 710D with 24-inch bucket | **Elevation: 375' MSL**

DEPTH (FT)	BULK SAMPLE	DESCRIPTION	LAB TESTS
1		**COLLUVIUM (Qcol):** Silty sand (SM), brown, dry, fine grained sand, low plasticity, appears medium dense, few subrounded gravels to 3 inches.	
2		**STADIUM CONGLOMERATE (Tst):** Clayey sand (SC), reddish brown, moist, appears dense, low plasticity, few subrounded to rounded gravel and cobble clasts to 6 inches.	
3			
4		Silty sandstone, light reddish brown, moist, fine to medium grained, weakly cemented, nonplastic, subrounded gravels to 2 inches.	
5			
6		Well cemented.	
7		Refusal at 7 feet.	
8		Total depth: 7 feet No groundwater encountered Backfilled 5/17/00	
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			

LOG OF EXPLORATION TEST PIT NO. 6

Logged by: DP | **Date Excavated: 5/17/00**

Equipment Use JD 710D with 24-inch bucket | **Elevation: 391' MSL**

DEPTH (FT)	BULK SAMPLE	DESCRIPTION	LAB TESTS
1		**COLLUVIUM (Qcol):** Sandy clay (CL), brown, moist, fine grained sand, low plasticity, appears stiff, few subrounded gravels to 3 inches.	
2			
3		**TERRACE DEPOSITS (Qt):** Silty sandstone, light brown to light reddish brown, dry, fine to medium grained, nonplastic, weakly cemented.	
4			
5			
6			
7	▒	Moderate to well cemented. (13% passing No. 200 sieve)	Percent Passing No. 200 Sieve
8			
9		Total depth: 8 feet No groundwater encountered Backfilled 5/17/00	
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			

LOG OF EXPLORATION TEST PIT NO. 7

Logged by: DP | **Date Excavated: 5/17/00**

Equipment Use JD 710D with 24-inch bucket | **Elevation: 400' MSL**

DEPTH (FT)	BULK SAMPLE	DESCRIPTION	LAB TESTS
1	▒	**COLLUVIUM (Qcol):** Silty sand (SM), brown, dry, fine grained sand, nonplastic, appears dense, few subrounded gravels to 3 inches.	Atterberg Limits, Expansion Index, R-Value
2			
3		**TERRACE DEPOSITS (Qt):** Sand with gravel (SP), light brown to light reddish brown, moist, fine to medium grained, appears dense, nonplastic, subrounded gravels to 3 inches.	
4			
5		Silty sandstone, light reddish brown, moist, fine to medium grained, nonplastic, weakly cemented, few subrounded gravels to 3 inches.	
6		Moderately cemented.	
7			
8		Well cemented.	
9		Total depth: 8 feet No groundwater encountered Backfilled 5/17/00	
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			

LOG OF EXPLORATION TEST PIT NO. 8

Logged by: DP | **Date Excavated: 5/17/00**

Equipment Use JD 710D with 24-inch bucket | **Elevation: 410' MSL**

DEPTH (FT)	BULK SAMPLE	DESCRIPTION	LAB TESTS
1		**COLLUVIUM (Qcol):** Silty sand (SM), brown, dry, fine grained sand, nonplastic, appears dense, few subrounded gravels to 3 inches.	
2			
3		**TERRACE DEPOSITS (Qt):** Silty sandstone, light reddish brown, moist, fine to medium grained, nonplastic, weakly cemented, few subrounded gravels to 3 inches.	
4			
5		Moderate to well cemented.	
6		Clayey sandstone, brown to reddish brown, moist, fine grained, low plasticity, moderately cemented.	
7			
8			
9		Silty sandstone, light reddish brown to brownish gray, moist, nonplastic, moderately cemented,	
10			Sulfate
11			
12		Total depth: 11 feet No groundwater encountered Backfilled 5/17/00	
13			
14			
15			
16			
17			
18			
19			
20			

PROJECT NO. 0068-002-01 **GEOTECHNICS INCORPORATED** **FIGURE B-13**

APPENDIX C

LABORATORY TESTING

Laboratory testing was conducted in a manner consistent with that level of care and skill ordinarily exercised by members of the profession currently practicing under similar conditions and in the same locality. No other warranty, expressed or implied, is made as to the correctness or serviceability of the test results or the conclusions derived from these tests. Where a specific laboratory test method has been referenced, such as ASTM, Caltrans, or AASHTO, the reference applies only to the specified laboratory test method and not to associated referenced test method(s) or practices, and the test method referenced has been used only as a guidance document for the general performance of the test and not as a "Test Standard." A brief description of the tests performed follows:

Atterberg Limits: The liquid limit, plastic limit, and plasticity index of selected fine-grained soil samples were estimated in general accordance with the laboratory procedures outlined in ASTM D4318. The results are shown on the boring and test pit logs in Appendix B.

Classification: Soils were classified visually according to the Unified Soil Classification System as established by the American Society of Civil Engineers. Visual classification was supplemented by laboratory testing of selected soil samples and classification in general accordance with the laboratory soil classification tests outlined in ASTM D2487. The resultant soil classifications are shown on the logs in Appendix B.

Direct Shear: The shear strengths of selected soil samples were assessed through direct shear testing performed in general accordance with ASTM D3080. Bulk samples were remolded to 90 percent of the maximum dry density determined by ASTM D 1557-91. The results are presented on Figures C-3.1 through C-3.3.

Expansion Index: The expansion potential of selected soils was evaluated in general accordance with the laboratory procedures outlined in ASTM D4829. Figure C-2.2 provides the results of the tests.

In-Situ Moisture/Dry Density: The in-place moisture content and dry unit weight of selected soil samples were determined using relatively undisturbed samples from the liner rings of a CAL sampler. The dry unit weight and moisture content are shown on the boring logs in Appendix B.

Maximum Density/Optimum Moisture: The maximum density and optimum moisture of a selected soil sample were determined in general accordance with test method ASTM D1557-91, modified Proctor. The test results are summarized in Figure C-2.3.

APPENDIX C

LABORATORY TESTING (continued)

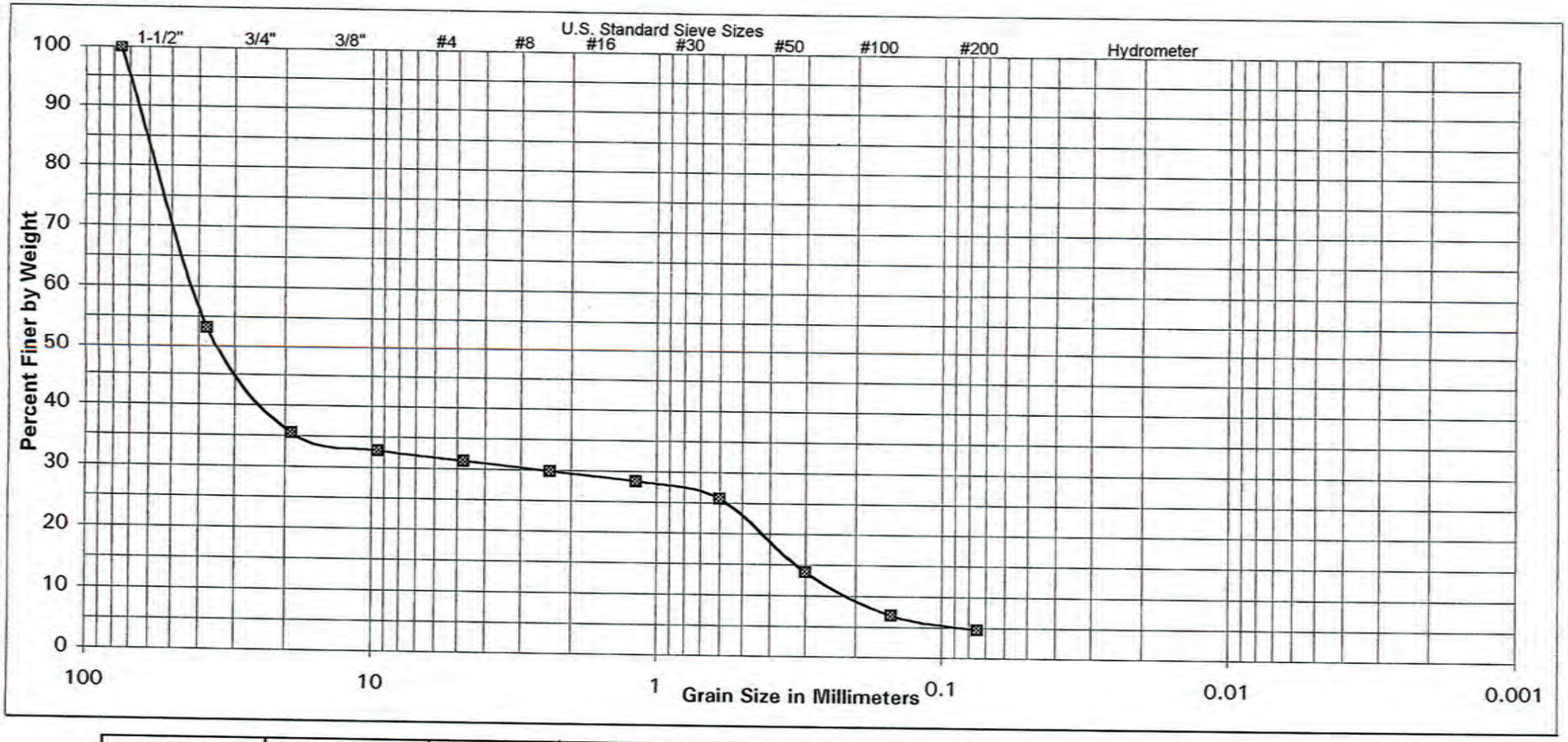
Particle Size Analysis: Particle size analyses were performed in general accordance with the laboratory procedures outlined in ASTM D422. The grain size distribution was used to estimate presumptive soil strength parameters and foundation design criteria. The results are given in Figures C-1.1 and C-1.2.

Percent Passing the No. 200 Sieve: The fine fraction of selected soil samples was determined using guidelines of ASTM D1140. The test results, shown as a percent of dry soil weight, are shown on the logs of Appendix B.

pH and Resistivity: To assess the potential for reactivity with buried metal pipe and below grade ferrous materials, selected soil samples were tested for pH and resistivity in general accordance with procedures outlined in Caltrans test method 643. The results are shown on Figure C-2.1.

R-Value: To assess the potential strength of the on-site soils as pavement subgrade materials, R-value testing was performed on a selected bulk sample of the near-surface materials in accordance with Caltrans Test Method 301. The results are presented in Figure C-2.3.

Sulfate Content: To assess the potential for reactivity with below grade concrete, selected soil samples were tested for water-soluble sulfate content. The water soluble sulfate was extracted under vacuum from the soil using a 20:1 (water to dry soil) dilution ratio. The extracted solution was then tested for water soluble sulfate in general accordance with ASTM D516. The results are presented on Figure C-2.1.



COARSE	FINE	COARSE	MEDIUM	FINE	SILT AND CLAY
GRAVEL		SAND			

SAMPLE	
EXPLORATION NUMBER:	TP1
SAMPLE LOCATION:	7' - 8'

UNIFIED SOIL CLASSIFICATION: GP

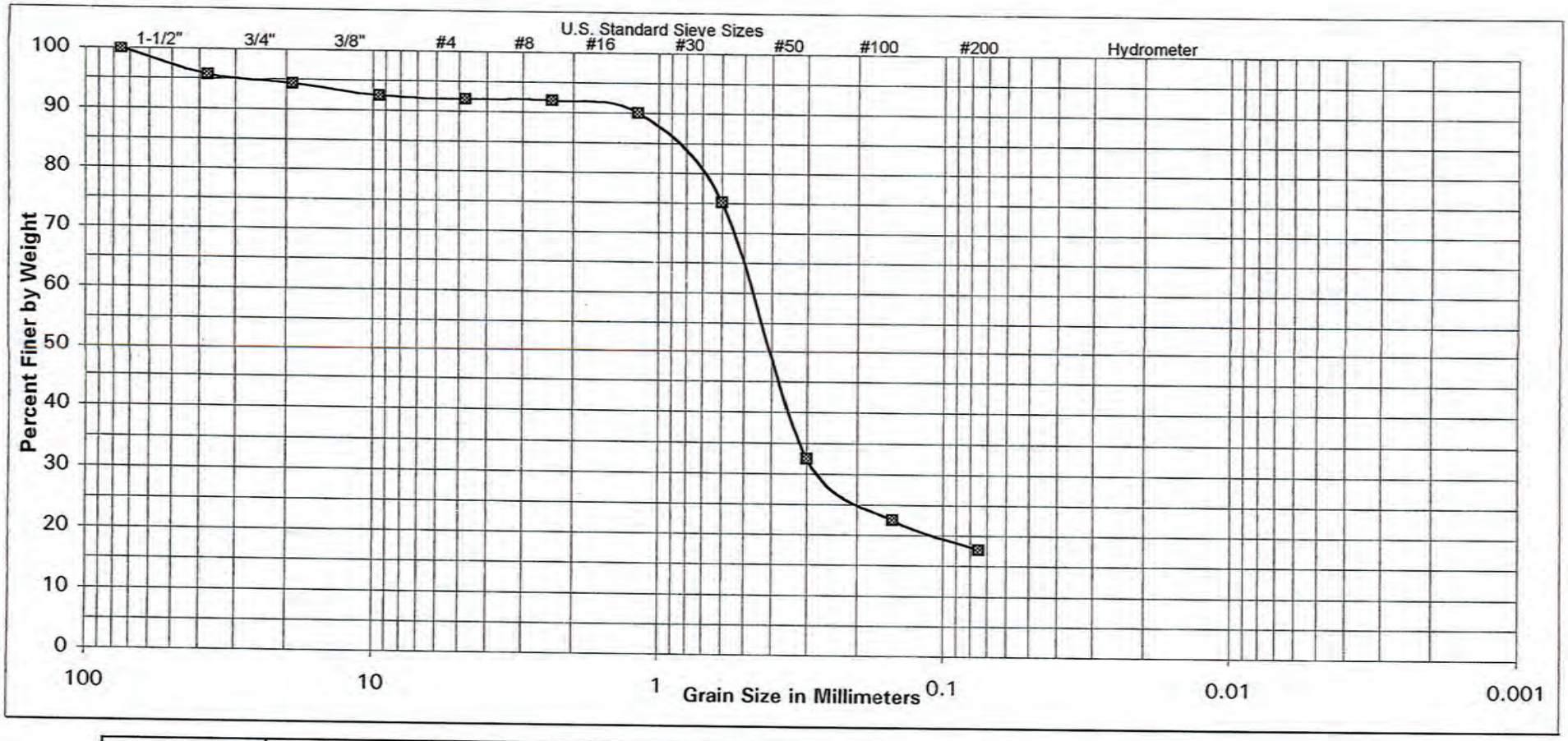
DESCRIPTION: POORLY GRADED GRAVEL WITH SAND

ATTERBERG LIMITS	
LIQUID LIMIT:	NT
PLASTIC LIMIT:	NT
PLASTICITY INDEX:	NT

Geotechnics Incorporated

SOIL CLASSIFICATION

Project No. 0068-002-01
Document No. 0-0458
FIGURE C-1.1



COARSE	FINE	COARSE	MEDIUM	FINE	SILT AND CLAY
GRAVEL		SAND			

SAMPLE	
EXPLORATION NUMBER:	TP3
SAMPLE LOCATION:	4' - 5'

UNIFIED SOIL CLASSIFICATION: SM

DESCRIPTION: SILTY SAND WITH GRAVEL

ATTERBERG LIMITS	
LIQUID LIMIT:	NT
PLASTIC LIMIT:	NT
PLASTICITY INDEX:	NT

Geotechnics Incorporated

SOIL CLASSIFICATION

Project No. 0068-002-01
Document No. 0-0458
FIGURE C-1.2

SULFATE, pH, and RESISTIVITY

SAMPLE	SULFATE CONTENT (% of Dry Soil Weight) (modified ASTM D516)	pH (CALTRANS 643)	RESISTIVITY (ohm-cm) (CALTRANS 643)	
			As-Received	Saturated
B2 @ 7' - 8'	0.04	5.1	- -	307
TP8 @ 10' - 11'	0.02	NT*	NT	NT

NT - not tested.

Soil Resistivity in ohm-cm	General Degree of Corrosivity to Ferrous Metal
0 to 1,000	Very Corrosive
1,000 to 2,000	Corrosive
2,000 to 5,000	Moderately Corrosive
5,000 to 10,000	Mildly Corrosive
Greater than 10,000	Slightly Corrosive

Water Soluble Chloride (Cl) Content in % of Dry Soil Weight	General Degree of Corrosivity to Metal
over 0.15%	Severely Corrosive
0.15 % to 0.03%	Corrosive
0.03 % to 0.00%	Negligible

Water Soluble Sulfate (SO_4) Content in % of Dry Soil Weight	General Degree of Reactivity with Concrete
over 2.00 %	Very Severely Reactive
2.00 % to 0.2 %	Severely Reactive
0.20 % to 0.10 %	Moderately Reactive
0.10 % to 0.00%	Negligible

Reference: Table 19-A-4, 1997 Uniform Building Code.

EXPANSION TEST RESULTS
(ASTM D4829)

SAMPLE	DESCRIPTION	EXPANSION INDEX
TP2 @ 9' - 10'	Greyish brown clay (CL)	49
TP7 @ 0' - 1'	Brown silty sand (SM)	0

UBC TABLE 18-I-B, CLASSIFICATION OF EXPANSIVE SOIL

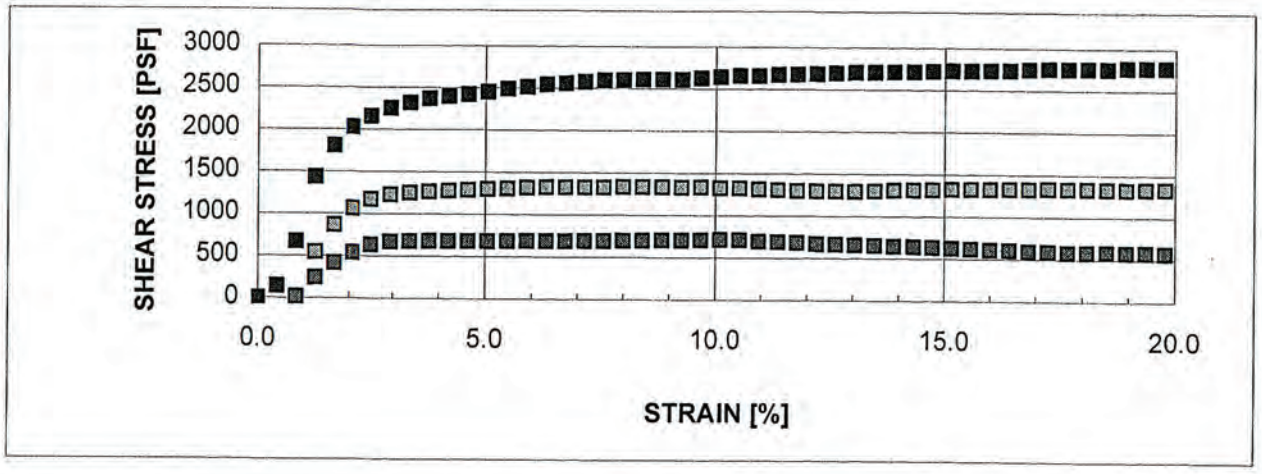
EXPANSION INDEX	POTENTIAL EXPANSION
0-20	Very low
21-50	Low
51-90	Medium
91-130	High
Above 130	Very high

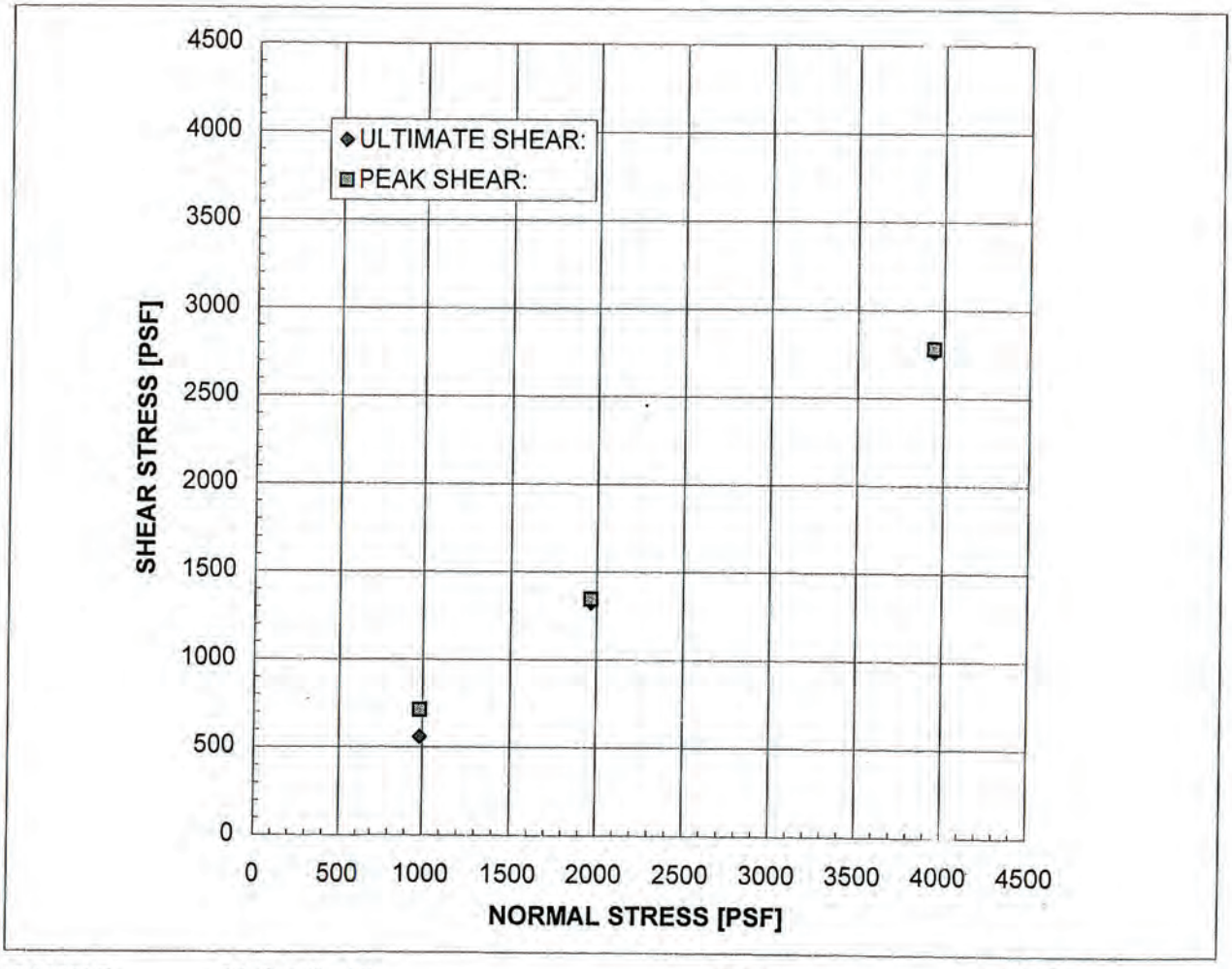
MAXIMUM DENSITY/OPTIMUM MOISTURE CONTENT
(ASTM D1557-91)

SAMPLE	SAMPLE DESCRIPTION	MAXIMUM DENSITY (pcf)	OPTIMUM MOISTURE CONTENT (%)
B1 @ 20' - 21'	Light brown clayey sand (SC)	124	11

R-VALUE
(Caltrans Test Method 301)

SAMPLE	DESCRIPTION	R-VALUE
TP7 @ 0' - 1'	Brown silty sand (SM)	64





SAMPLE: B1 @ 20' - 21'

FRIARS FORMATION (Tf): Light brown clayey sandstone (remolded).

STRAIN RATE: 0.0100 IN/MIN
(Sample was consolidated and drained)

	PEAK	ULTIMATE
ϕ'	32 °	32 °
C'	100 PSF	0 PSF

	IN-SITU	AS-TESTED
γ_d	111.5 PCF	111.5 PCF
w_c	11.1 %	21.0 %

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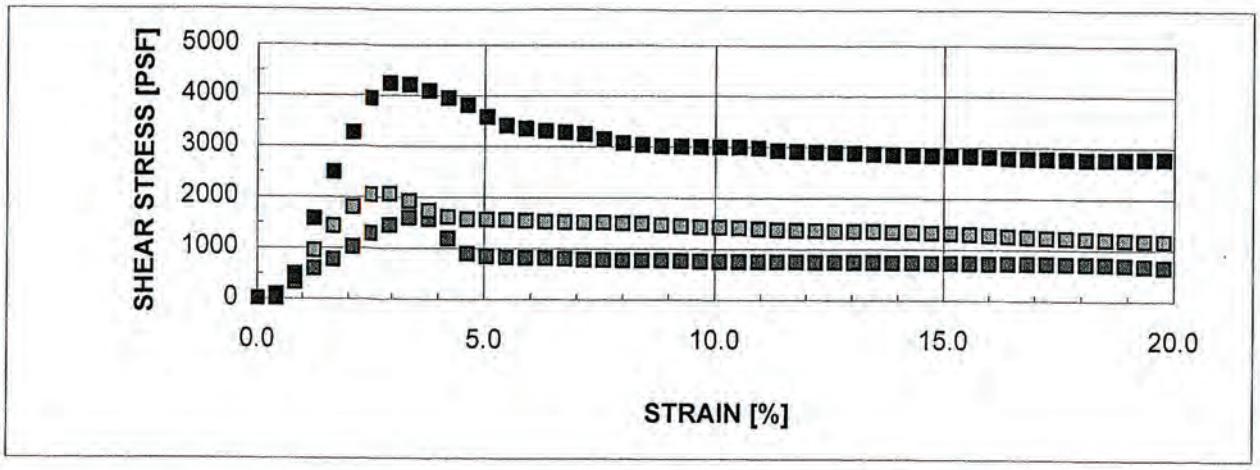
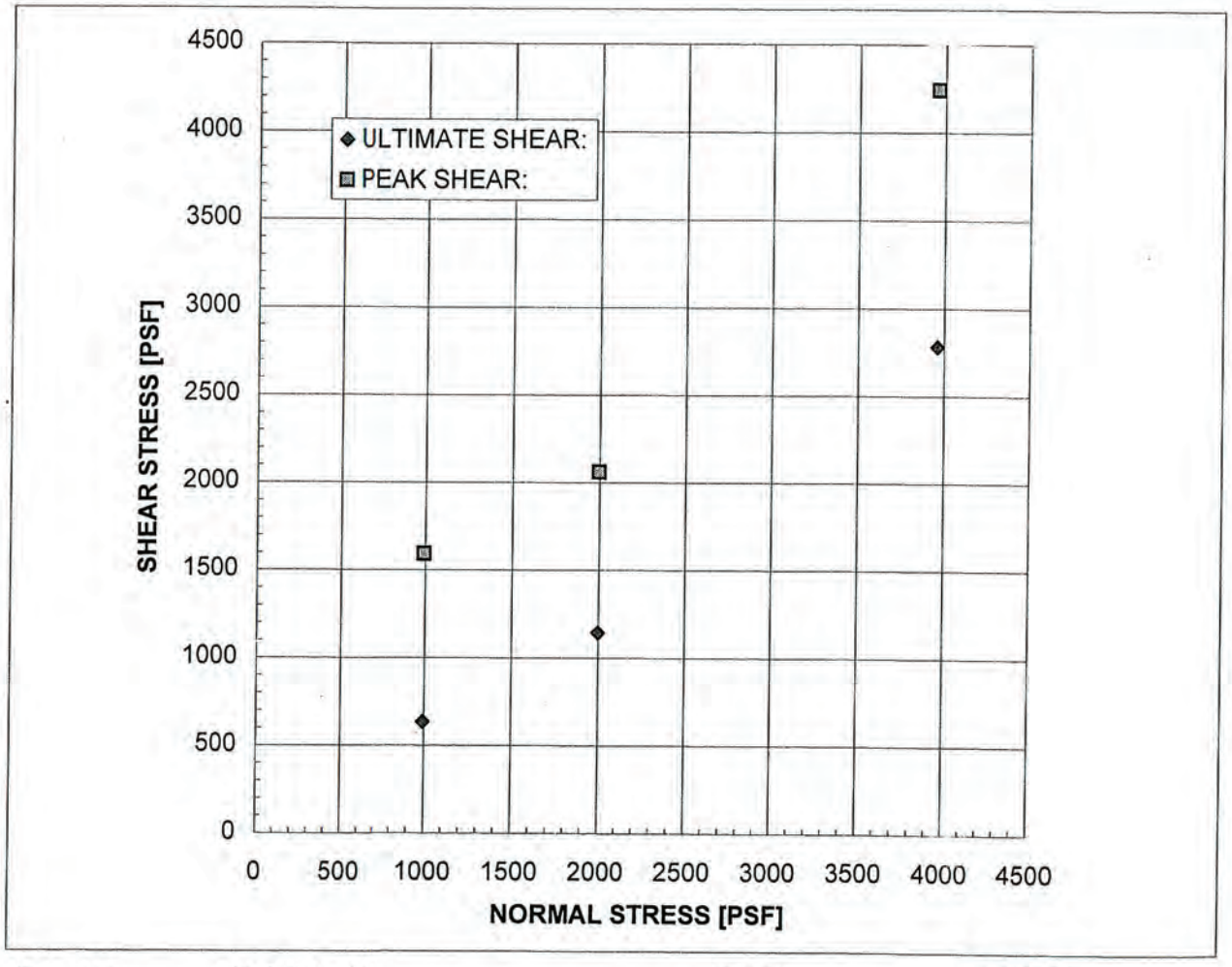
DIRECT SHEAR TEST RESULTS

Project No. 0068-002-01
Document No. 0-0458

FIGURE C-3.1





SAMPLE: B1 @ 30' - 31'

FRIARS FORMATION (Tf): Light grey silty sandstone.

STRAIN RATE: 0.0100 IN/MIN
(Sample was consolidated and drained)

	PEAK	ULTIMATE
ϕ'	36 °	30 °
C'	400 PSF	100 PSF

	IN-SITU	AS-TESTED
γ_d	119.1 PCF	119.1 PCF
w_c	10.3 %	20.4 %

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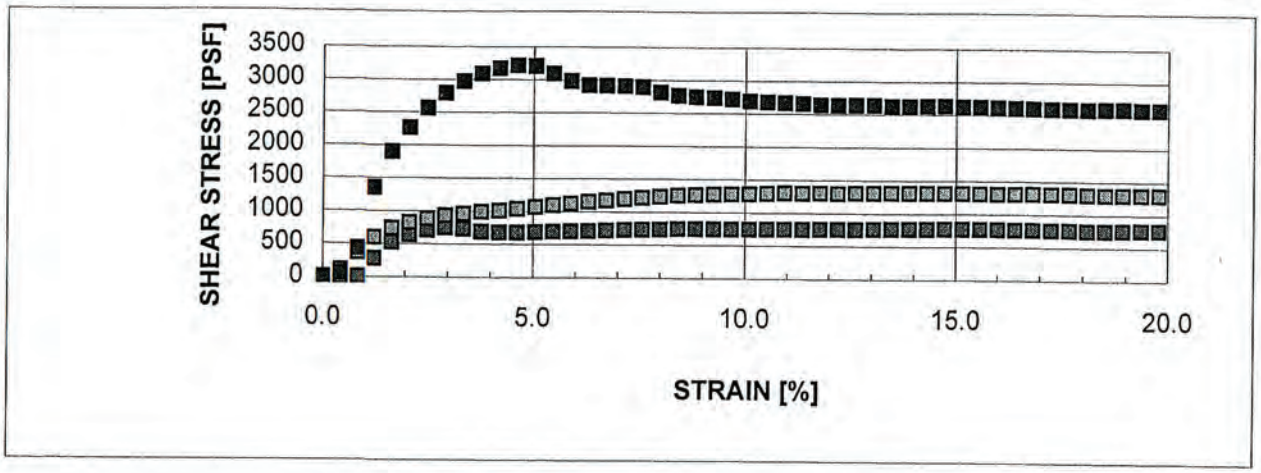
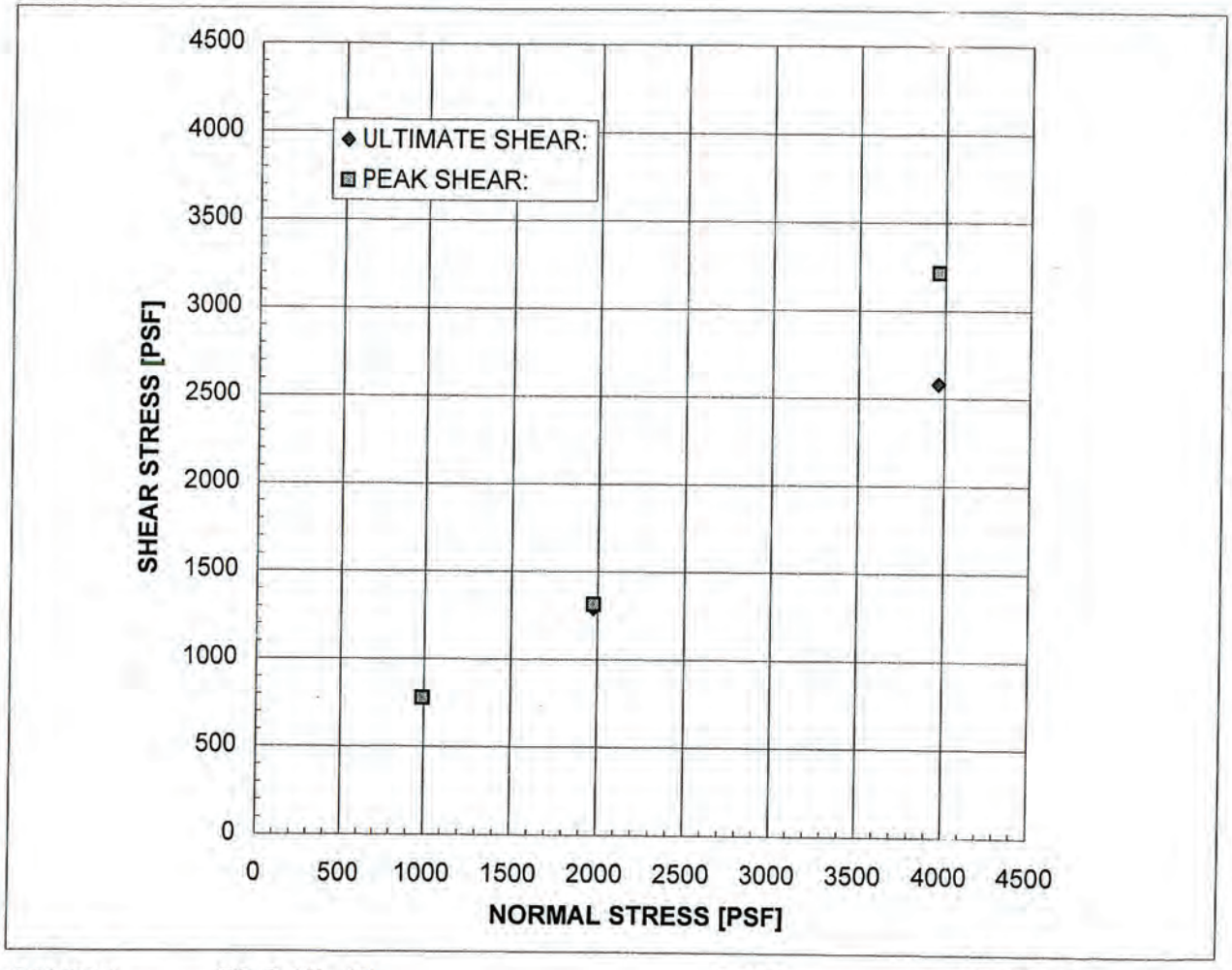
DIRECT SHEAR TEST RESULTS

Project No. 0068-002-01
Document No. 0-0458

FIGURE C-3.2





SAMPLE: B2 @ 10' - 11'

TERRACE DEPOSITS (Qt): Light brown silty sandstone.

STRAIN RATE: 0.0100 IN/MIN
(Sample was consolidated and drained)

	PEAK	ULTIMATE
ϕ'	30 °	30 °
C'	200 PSF	100 PSF

	IN-SITU	AS-TESTED
γ_d	109.3 PCF	109.3 PCF
w_c	10.3 %	25.1 %

Geotechnics Incorporated

DIRECT SHEAR TEST RESULTS

Project No. 0068-002-01
Document No. 0-0458

FIGURE C-3.3

Qal
Tf
Tst
Qt
A
A'
B
B'
TP-1
TP-2
TP-3
TP-4
TP-5
TP-6
TP-7
TP-8
B-1
B-2
N
SCALE: 1" = 30'
EXPLANATION
Qal Alluvium
Qt Terrace Deposits
Tst Stadium Conglomerate
Tf Friars Formation
Approximate location of geologic contact (queried where inferred)
B-2 Boring number and approximate location
TP-8 Test Pit number and approximate location
B B' Geotechnical cross section
Geotechnics Incorporated
GEOTECHNICAL SITE PLAN

APPENDIX B

Geophysical Survey Report

SEISMIC SURVEY
THE PRESERVE AT TORREY HIGHLANDS
SAN DIEGO, CALIFORNIA

PREPARED FOR:
Kleinfelder, Inc.
550 West C Street, Suite 1200
San Diego, CA 92101

PREPARED BY:
Southwest Geophysics, Inc.
8057 Raytheon Road, Suite 9
San Diego, CA 92111

September 21, 2015
Project No. 115432

SOUTHWEST
GEOPHYSICS, INC.
YOUR SUBSURFACE SOLUTION

September 21, 2015
Project No. 115432

Mr. Moi Arzamendi
Kleinfelder, Inc.
550 West C Street, Suite 1200
San Diego, CA 92101

Subject: Seismic Survey
The Preserve at Torrey Highlands
San Diego, California

Dear Mr. Arzamendi:

In accordance with your authorization, we have performed a seismic survey pertaining to The Preserve at Torrey Highlands located in San Diego, California. Specifically, our survey consisted of performing two P-wave refraction traverses and two refraction microtremor (ReMi) profiles at the project site. The purpose of our study was to characterize the subsurface conditions in the study area. This data report presents our survey methodology, equipment used, analysis, and results.

We appreciate the opportunity to be of service on this project. Should you have any questions related to this report, please contact the undersigned at your convenience.

Sincerely,
SOUTHWEST GEOPHYSICS, INC.

Aaron T. Puente
Project Geologist/Geophysicist

Hans van de Vrugt, C.E.G., P.Gp.
Principal Geologist/Geophysicist

HV/ATP/hv

Distribution: (1) Addressee (electronic)

REGISTERED GEOPHYSICIST
Hans van de Vrugt
No 1012
Exp. 2/29/16
STATE OF CALIFORNIA

8057 Raytheon Road, Suite 9 • San Diego • California 92111 • Telephone 858-527-0849 • Fax 858-225-0114

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Figure 2 – Line Location Map
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1. INTRODUCTION

In accordance with your authorization, we have performed a seismic survey pertaining to The Preserve at Torrey Highlands located in San Diego, California (Figure 1). Specifically, our survey consisted of performing two P-wave refraction traverses and two refraction microtremor (ReMi) profiles at the project site. The purpose of our study was to characterize the subsurface conditions in the study area. This data report presents our survey methodology, equipment used, analysis, and results.

2. SCOPE OF SERVICES

Our scope of services included:

- Performance of two seismic P-wave refraction lines; SL-1 and SL-2.
- Performance of two ReMi profiles; RL-1 and RL-2.
- Compilation and analysis of the data collected.
- Preparation of this illustrated data report presenting our results.

3. SITE DESCRIPTION

The subject site is located south of highway 56 (Ted Williams Freeway) and west of Carmel Mountain Road in the north county area of San Diego (Figure 1). The study area is generally undeveloped with several unpaved roads transecting the site. The seismic survey was conducted along existing dirt roads (see Figures 1 and 2). Figures 2 and 3 depict the general site conditions in the project area and along the seismic lines.

4. SURVEY METHODOLOGY AND ANALYSIS

As previously indicated, the primary purpose of our services was to characterize the subsurface conditions at pre-selected locations through the collection of seismic data. The following sections provide an overview of the methodologies used during our study.

4.1. P-wave Refraction Survey

The seismic refraction method uses first-arrival times of refracted seismic waves to estimate the thicknesses and seismic velocities of subsurface layers. Seismic P-waves (compression

waves) generated at the surface are refracted at boundaries separating materials of contrasting velocities. These refracted seismic waves are then detected by a series of surface vertical component 14-Hz geophones, and recorded with a 24-channel Geometrics Geode seismograph. The travel times of the seismic P-waves are used in conjunction with the shot-to-geophone distances to obtain thickness and velocity information on the subsurface materials. In general, the effective depth of evaluation for a seismic refraction traverse is approximately one-third to one-fifth the length of the traverse. The refraction method requires that subsurface velocities increase with depth. A layer having a velocity lower than that of the layer above will not generally be detectable by the seismic refraction method and, therefore, could lead to errors in the depth calculations of subsequent layers. In addition, lateral variations in velocity, such as those caused by buried boulders, cemented zones, etc. can result in the misinterpretation of the subsurface conditions.

Two 240-foot long seismic traverses, SL-1 and SL-2, were conducted in the study area, the locations of which were selected by your office (see Figure 2). Shot points (signal generator locations) were conducted at the ends and intermediate points along the lines. The P-wave signal (shot) was generated using a 16-pound hammer and an aluminum plate placed on a rubber mat.

The collected data were processed using SIPwin (Rimrock Geophysics, 2003), a seismic interpretation program, and analyzed using SeisOpt Pro (Optim, 2008). SeisOpt Pro uses first arrival picks and elevation data to produce subsurface velocity models through a nonlinear optimization technique called adaptive simulated annealing. The resulting velocity model provides a tomography image of the estimated geologic conditions. Both vertical and lateral velocity information is contained in the tomography model. Changes in layer velocity are revealed as gradients rather than discrete contacts, which typically are more representative of actual conditions.

4.2. ReMi Survey

The refraction microtremor technique uses recorded surface waves (specifically Rayleigh waves) which are contained in the background noise to develop a shear wave velocity profile of the site down to a depth, in this case, up to approximately 100 feet. Fifteen records, 32 seconds long were collected with a 24-channel Geometrics Geode seismograph and 4.5-Hz vertical component geophones. Unlike the refraction method, described above, the ReMi method does not require an increase of material velocity with depth. Therefore, low velocity zones (velocity inversions) are detectable with ReMi. The depth of exploration is dependent on the length of the line and the frequency content of the background noise. The results of the ReMi method are displayed as a one dimensional sounding which represents the average condition across the length of the line.

Collected ReMi data were processed using SeisOpt® ReMi™ software (© Optim LLC, 2005), which uses the refraction microtremor method (Louie, 2001). The program generates phase-velocity dispersion curves for each record and provides an interactive dispersion

modeling tool where the users determines the best fitting model. The result is a one-dimensional shear-wave velocity model of the site with roughly 5 to 15 percent accuracy.

5. RESULTS

Figure 4 presents the results from the P-wave refraction survey. Table 1 and Figure 5 present the ReMi results. The P-wave tomography results reveal that the subsurface velocity structure generally increases with depth and is highly variable cross the survey area. The cause of these variations is unknown, but they are likely related to differential weathering and cementation of the subsurface materials. The shear-wave models presented in Figure 5 also indicate an increase in velocity with depth. It should be noted however, that the ReMi models represent an average condition along the length of the lines.

Based on our analysis of the collected ReMi data, the average characteristic site Shear-wave velocity for a depth of 100 feet (Vs100) is 1,601 (ft/sec) for RL-1, and 1,837 (ft/sec) for RL-2. These values correspond to site classifications of **C**.

Table 1 – ReMi Results

Line No.	Depth (feet)	Shear Wave Velocity (feet/second)
RL-1	0 – 21	1,187
	21 – 38	1,361
	38 – 61	1,698
	61 – 100	2,089
RL-2	0 – 20	1,063
	20 – 34	1,305
	34 – 56	2,204
	56 – 100	2,974

6. LIMITATIONS

The field evaluation and geophysical analyses presented in this report have been conducted in general accordance with current practice and the standard of care exercised by consultants performing similar tasks in the project area. No warranty, express or implied, is made regarding the

conclusions, recommendations, and opinions presented in this report. There is no evaluation detailed enough to reveal every subsurface condition. Variations may exist and conditions not observed or described in this report may be present. Uncertainties relative to subsurface conditions can be reduced through additional subsurface exploration. Additional subsurface surveying will be performed upon request.

This document is intended to be used only in its entirety. No portion of the document, by itself, is designed to completely represent any aspect of the project described herein. Southwest Geophysics, Inc. should be contacted if the reader requires additional information or has questions regarding the content, interpretations presented, or completeness of this document. This report is intended exclusively for use by the client. Any use or reuse of the findings, conclusions, and/or recommendations of this report by parties other than the client is undertaken at said parties' sole risk.

7. SELECTED REFERENCES

Iwata, T., Kawase, H., Satoh, T., Kakehi, Y., Irikura, K., Louie, J. N., Abbott, R. E., and Anderson, J. G., 1998, Array Microtremor Measurements at Reno, Nevada, USA (abstract): Eos, Trans. Amer. Geophys. Union, v. 79, suppl. to no. 45, p. F578.

Louie, J, N., 2001, Faster, Better, Shear-Wave Velocity to 100 Meters Depth from Refraction Microtremor Arrays: Bulletin of the Seismological Society of America, v. 91, p. 347-364.

Mooney, H.M., 1976, Handbook of Engineering Geophysics, dated February.

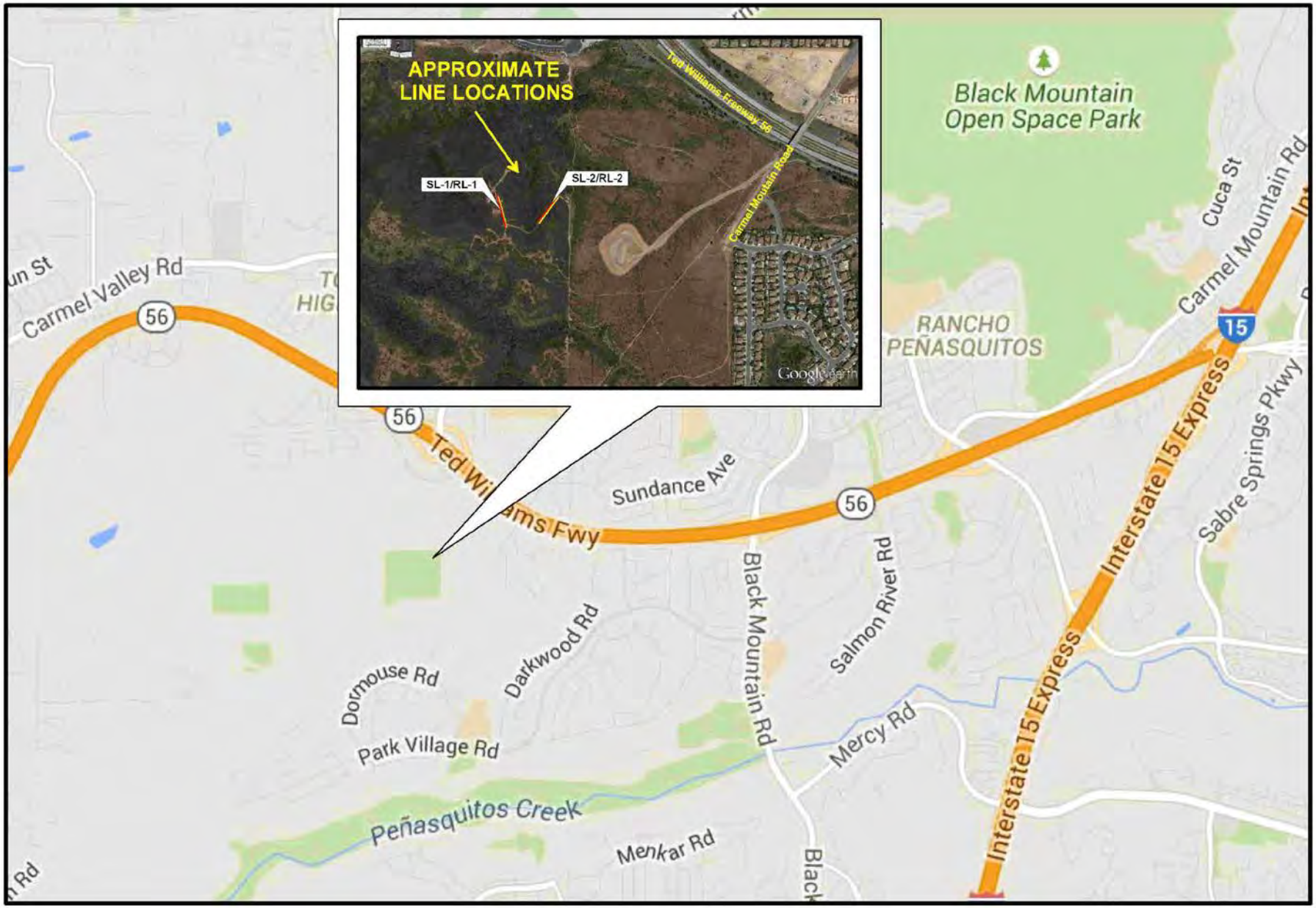
Optim, 2005, SeisOpt ReMi Analysis Software, V-3.0.

Rimrock Geophysics, 2003, Seismic Refraction Interpretation Program (SIPwin), V-2.76.

Saito, M., 1979, Computations of Reflectivity and Surface Wave Dispersion Curves for Layered Media; I, Sound wave and SH wave: Butsuri-Tanko, v. 32, no. 5, p. 15-26.

Saito, M., 1988, Compound Matrix Method for the Calculation of Spheroidal Oscillation of the Earth: Seismol. Res. Lett., v. 59, p. 29.

Telford, W.M., Geldart, L.P., Sheriff, R.E., and Keys, D.A., 1976, Applied Geophysics, Cambridge University Press.



SITE LOCATION MAP	N	The Preserve at Torrey Highlands San Diego, California	SOUTHWEST GEOPHYSICS INC.
		Project No.: 115432 / Date: 09/15	Figure 1

LINE LOCATION MAP

N

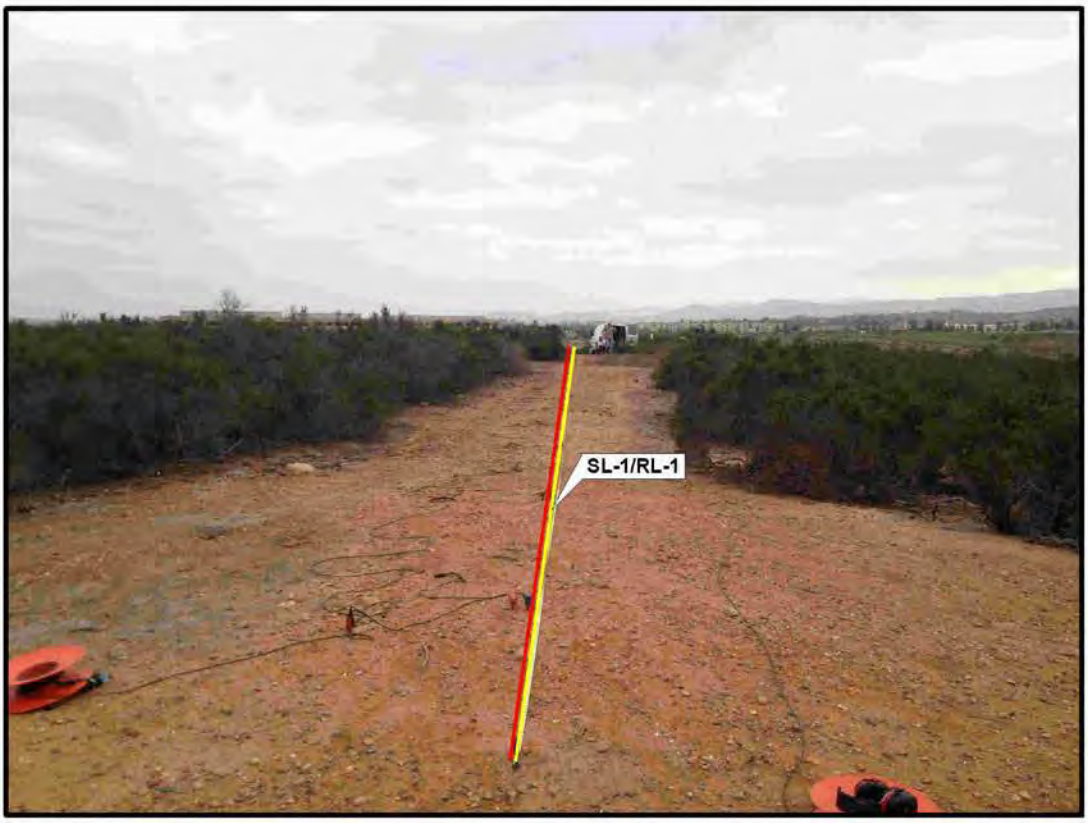
The Preserve at Torrey Highlands
San Diego, California

Project No.: 115432 | Date: 09/15

SOUTHWEST GEOPHYSICS INC.

Figure 2

0 150 300
approximate scale in feet



SITE PHOTOGRAPHS

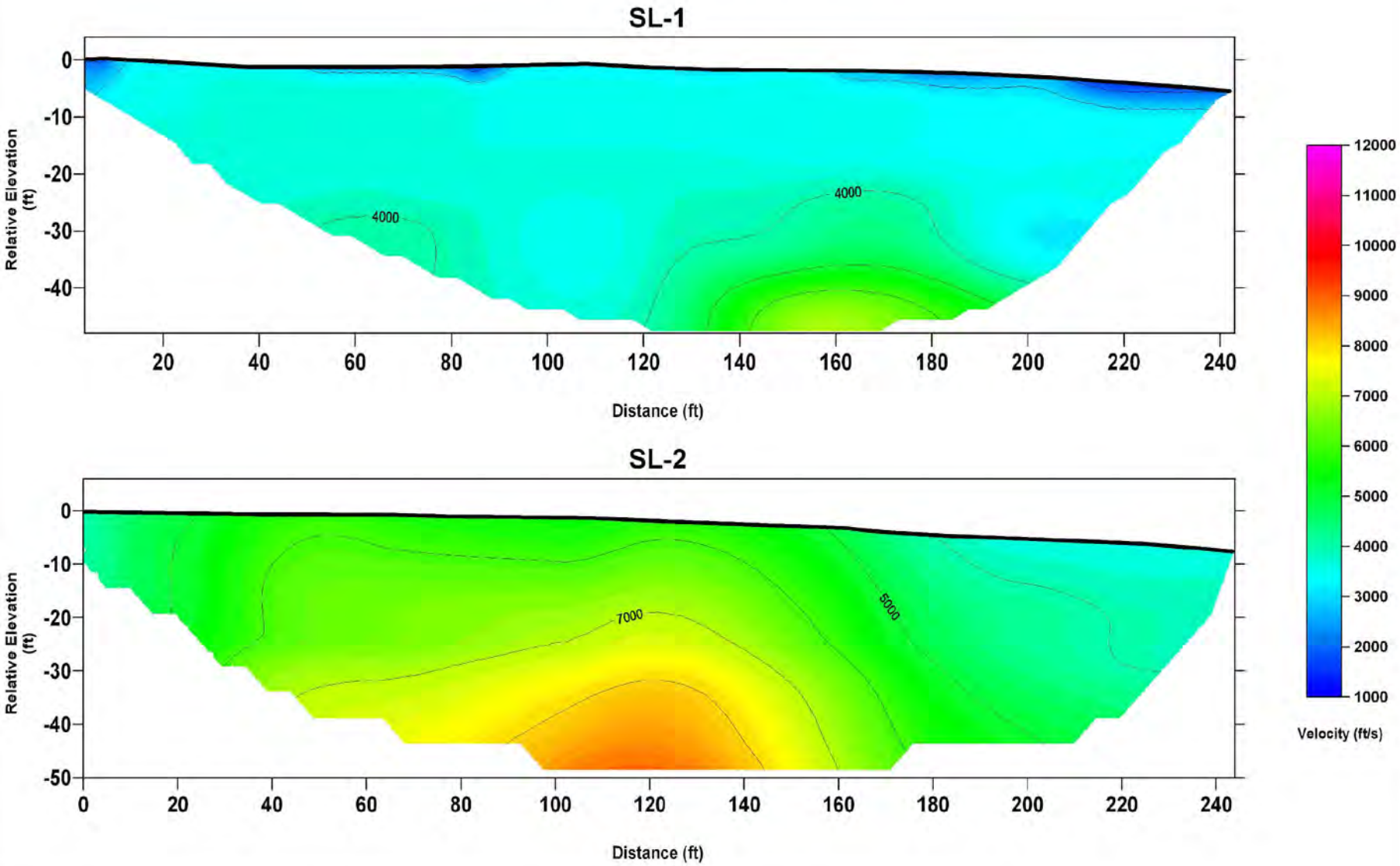
The Preserve at Torrey Highlands
San Diego, California

Project No.: 115432 | Date: 09/15

SOUTHWEST GEOPHYSICS INC.

Figure 3

TOMOGRAPHY MODELS



SEISMIC PROFILES SL-1 & SL-2

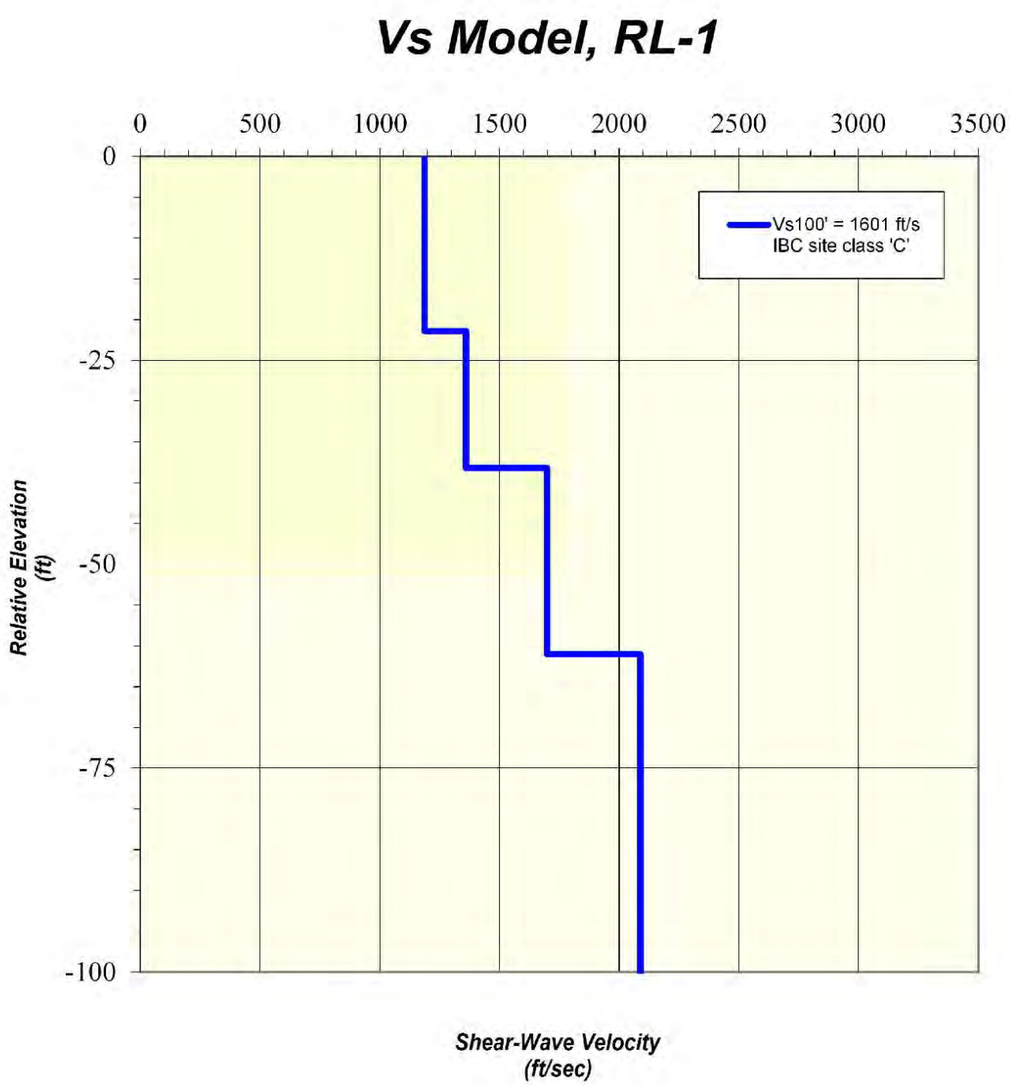
The Preserve at Torrey Highlands
San Diego, California

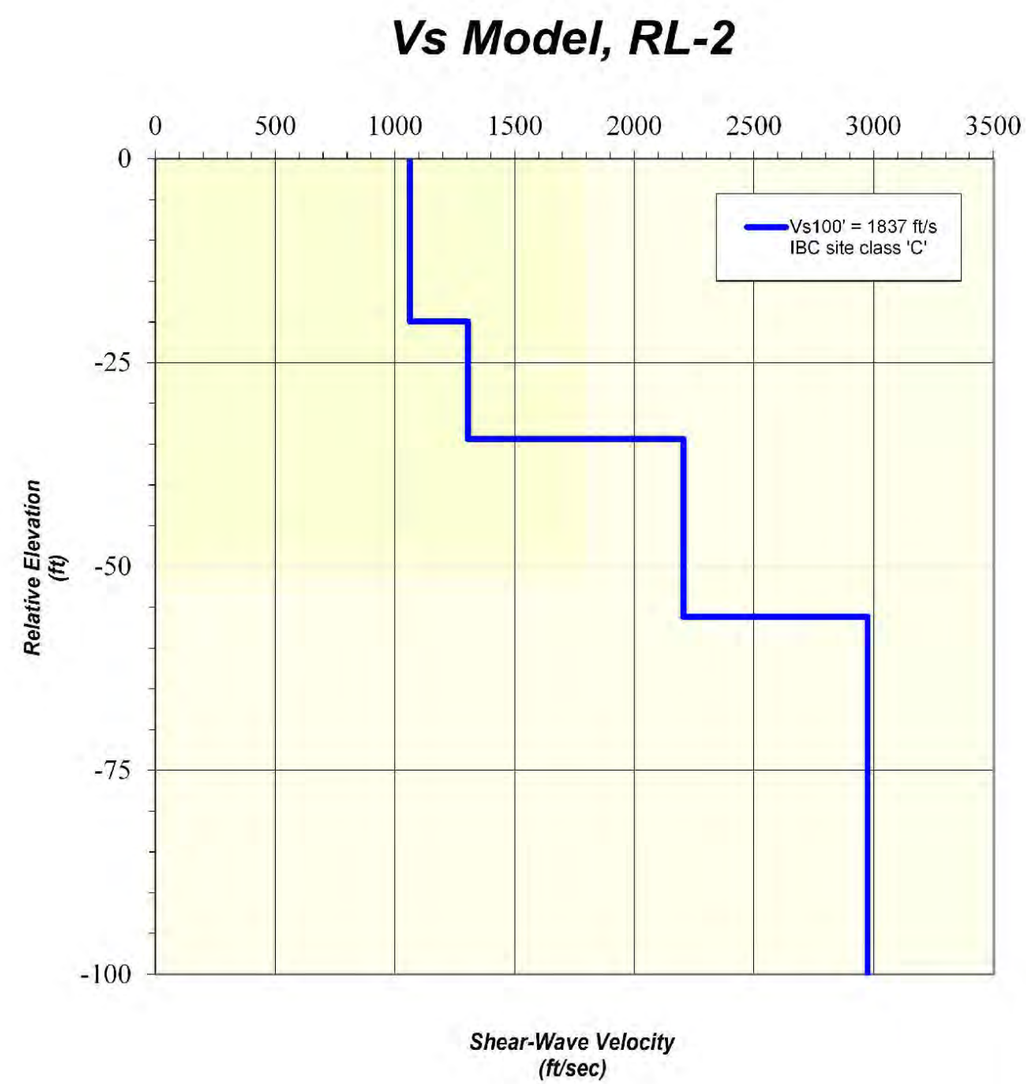
Project No.: 115432 | Date: 09/15

SOUTHWEST GEOPHYSICS INC.

Figure 4

Note: Contour Interval = 1,000 feet per second





ReMi RESULTS

The Preserve at Torrey Highlands
San Diego, California

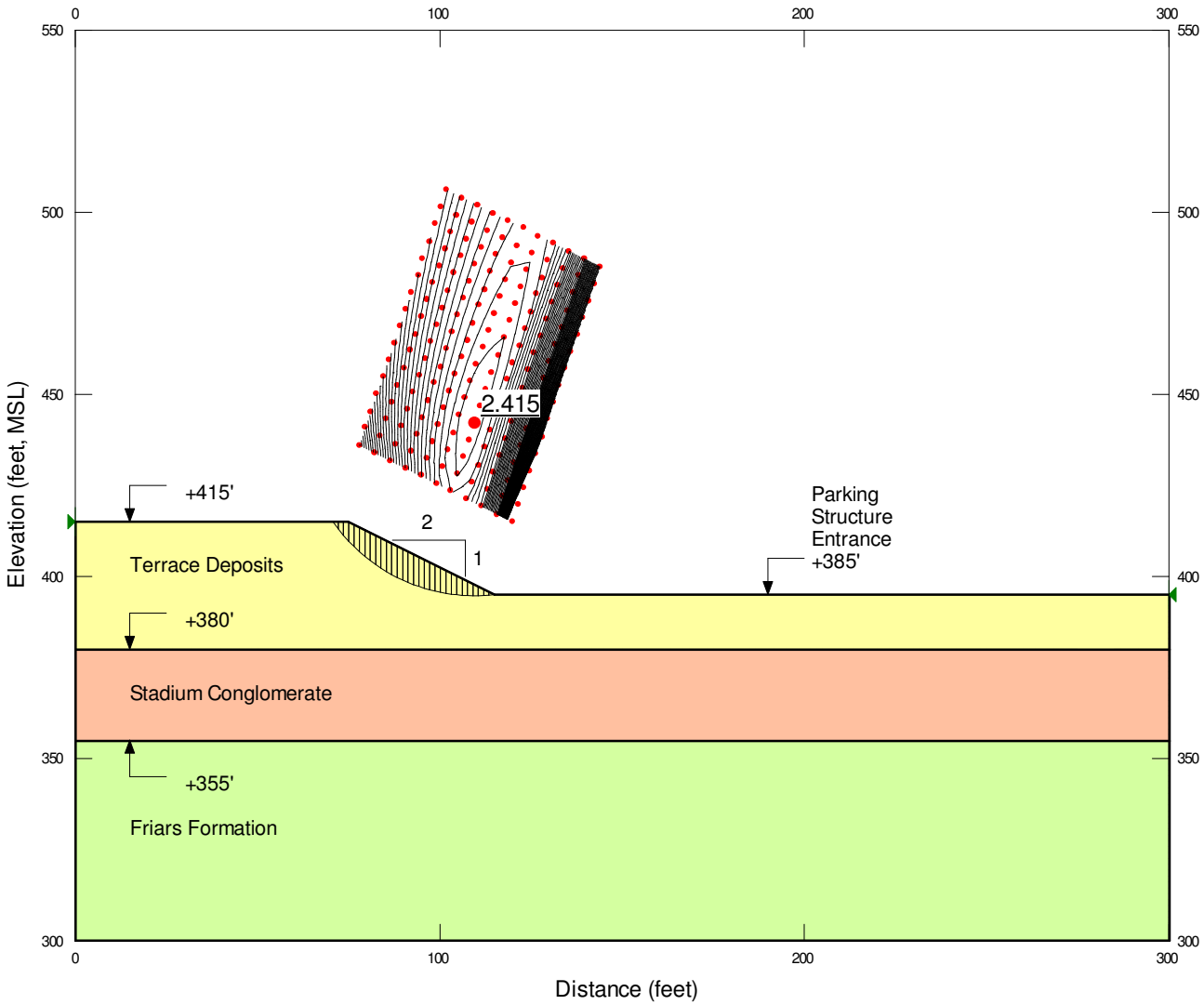
Project No.: 115432 | Date: 09/15

SOUTHWEST GEOPHYSICS INC.

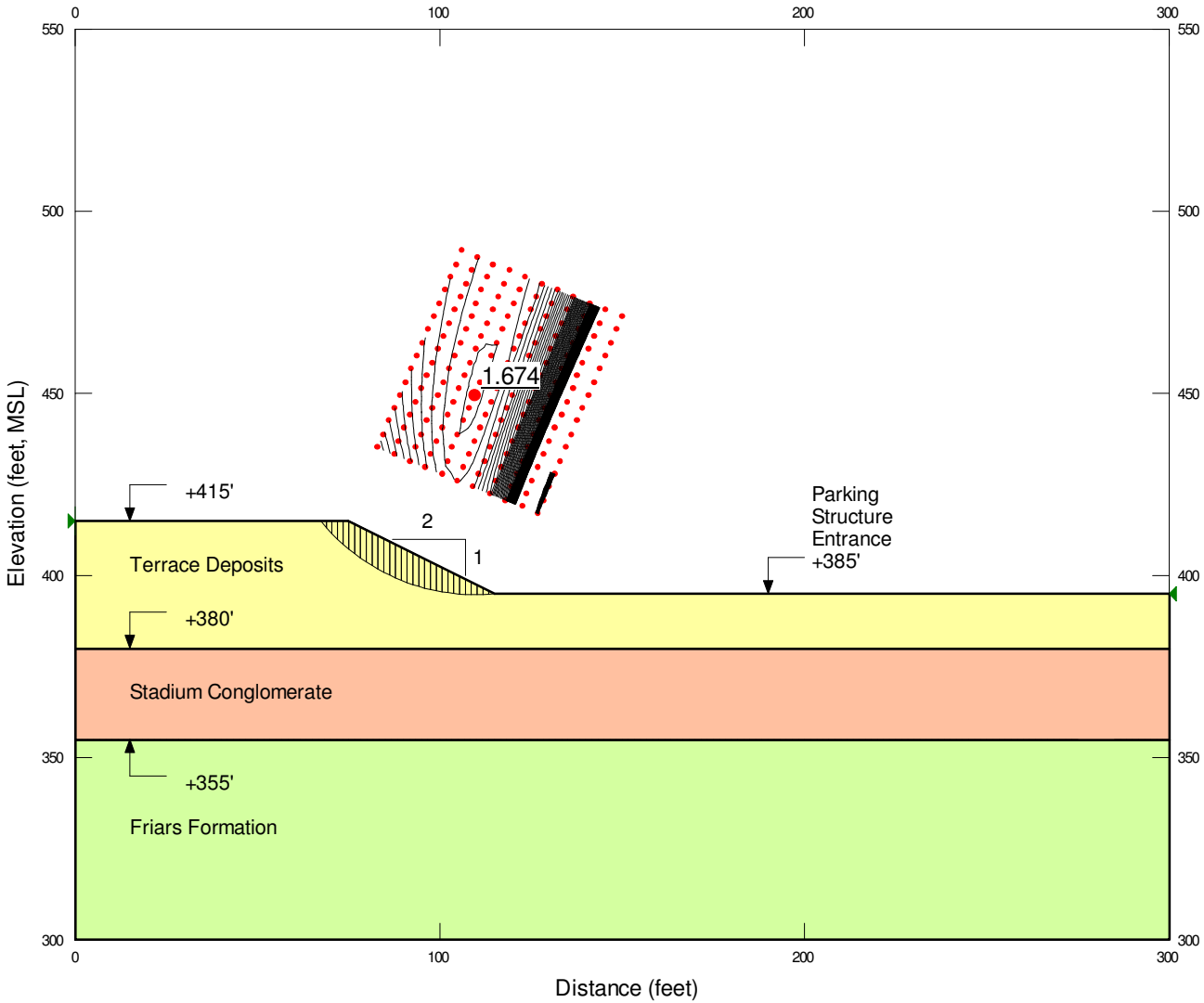
Figure 5

APPENDIX C

Slope Stability Analyses Results

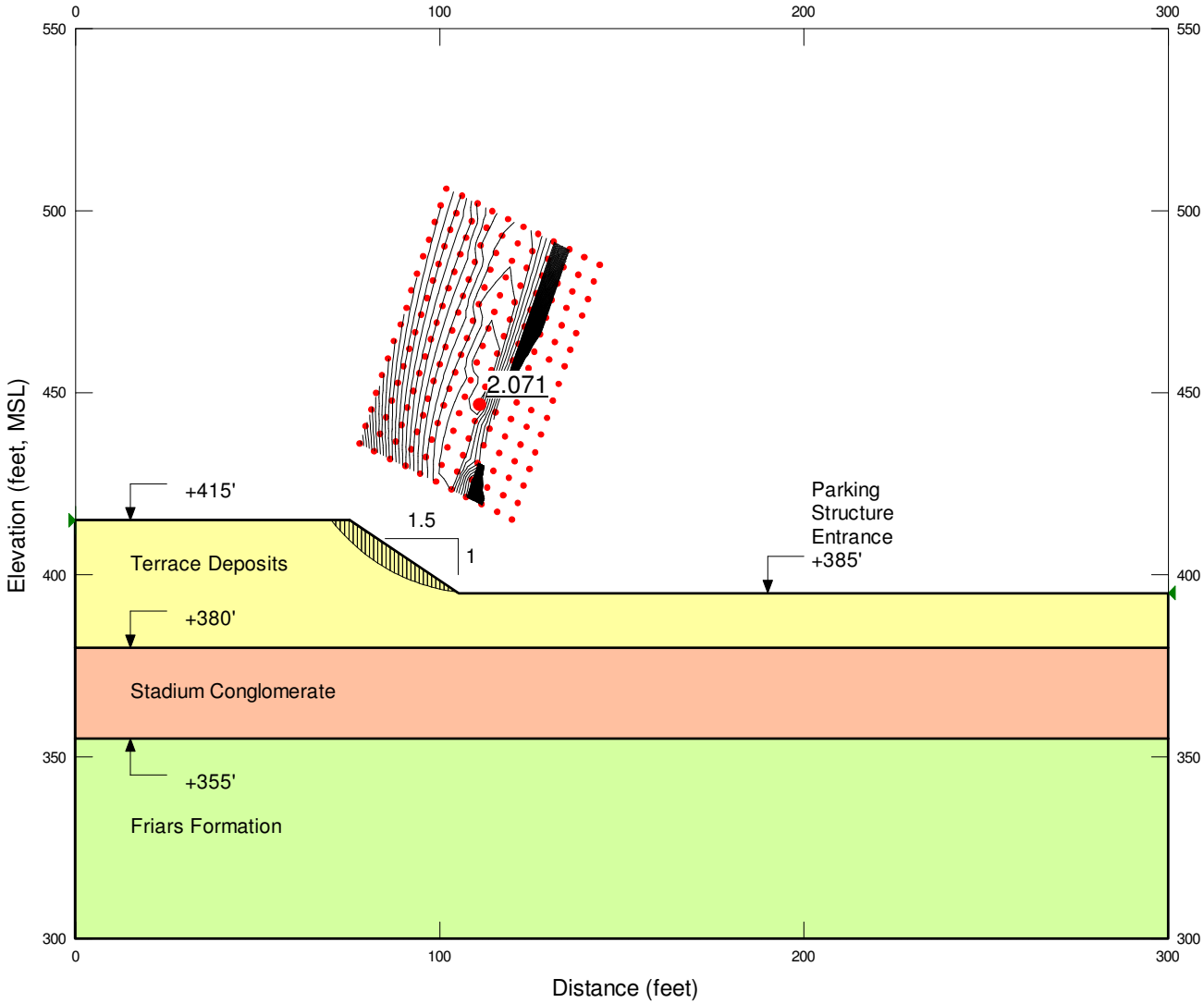


KLEINFELDER Bright People. Right Solutions.	DESIGNED BY: M. Arzamendi	DATE 11/9	THE PRESERVE AT TORREY HIGHLANDS SAN DIEGO, CALIFORNIA	SCALE AS SHOWN
	DRAWN BY: M. Arzamendi	11/9		
	CHECKED BY: S. Rugg	11/9	SLOPE STABILITY ANALYSES CUT 20' HIGH @ 2H:1V STATIC	20162077.001A
				FIGURE NO. C-1



DESIGNED BY: M. Arzamendi	DATE 11/9	THE PRESERVE AT TORREY HIGHLANDS SAN DIEGO, CALIFORNIA	SCALE AS SHOWN
DRAWN BY: M. Arzamendi	11/9		
CHECKED BY: S. Rugg	11/9	SLOPE STABILITY ANALYSES CUT 20' HIGH @ 2H:1V SEISMIC 0.18g	20162077.001A
			FIGURE NO. C-2

KLEINFELDER
Bright People. Right Solutions.



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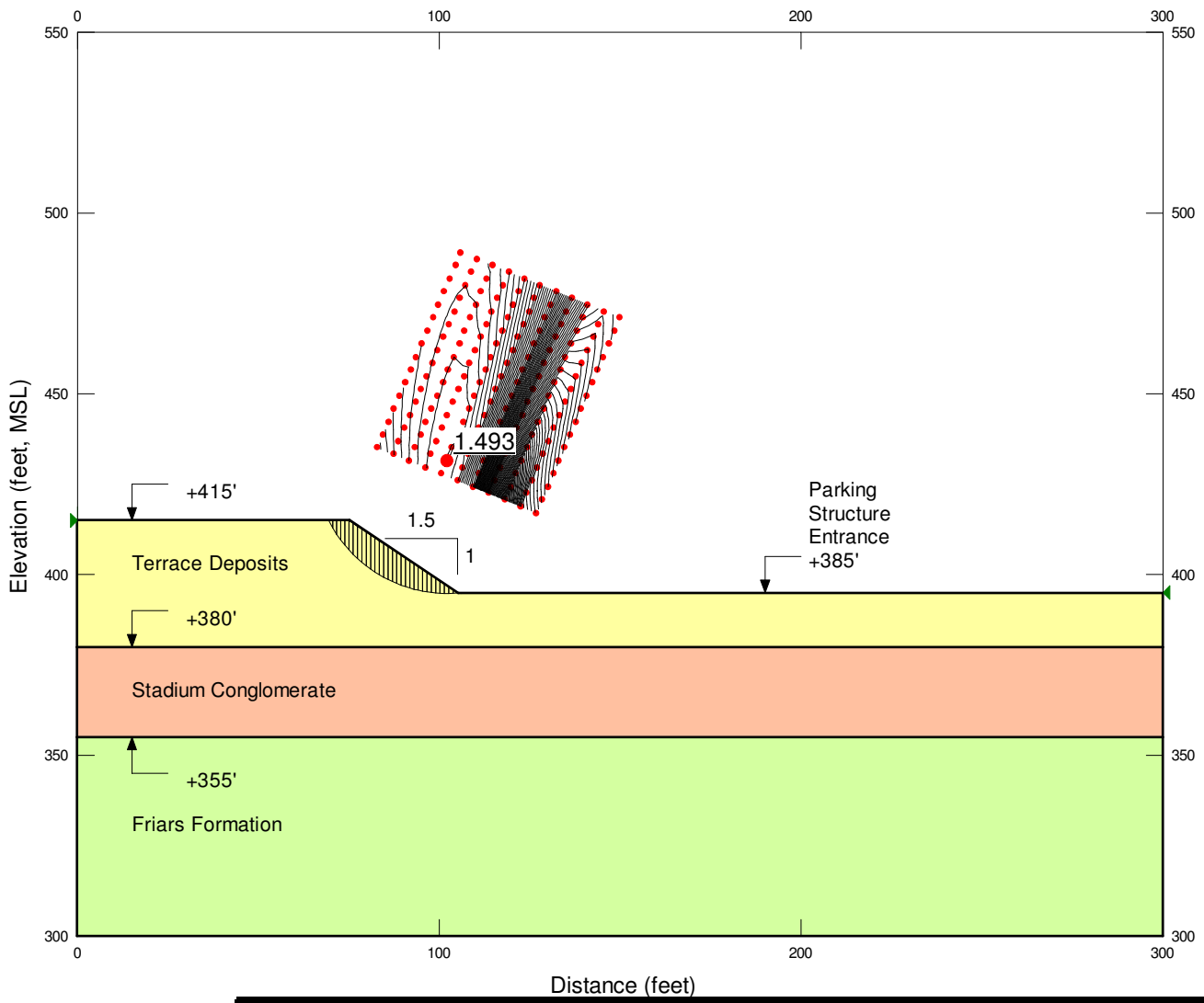
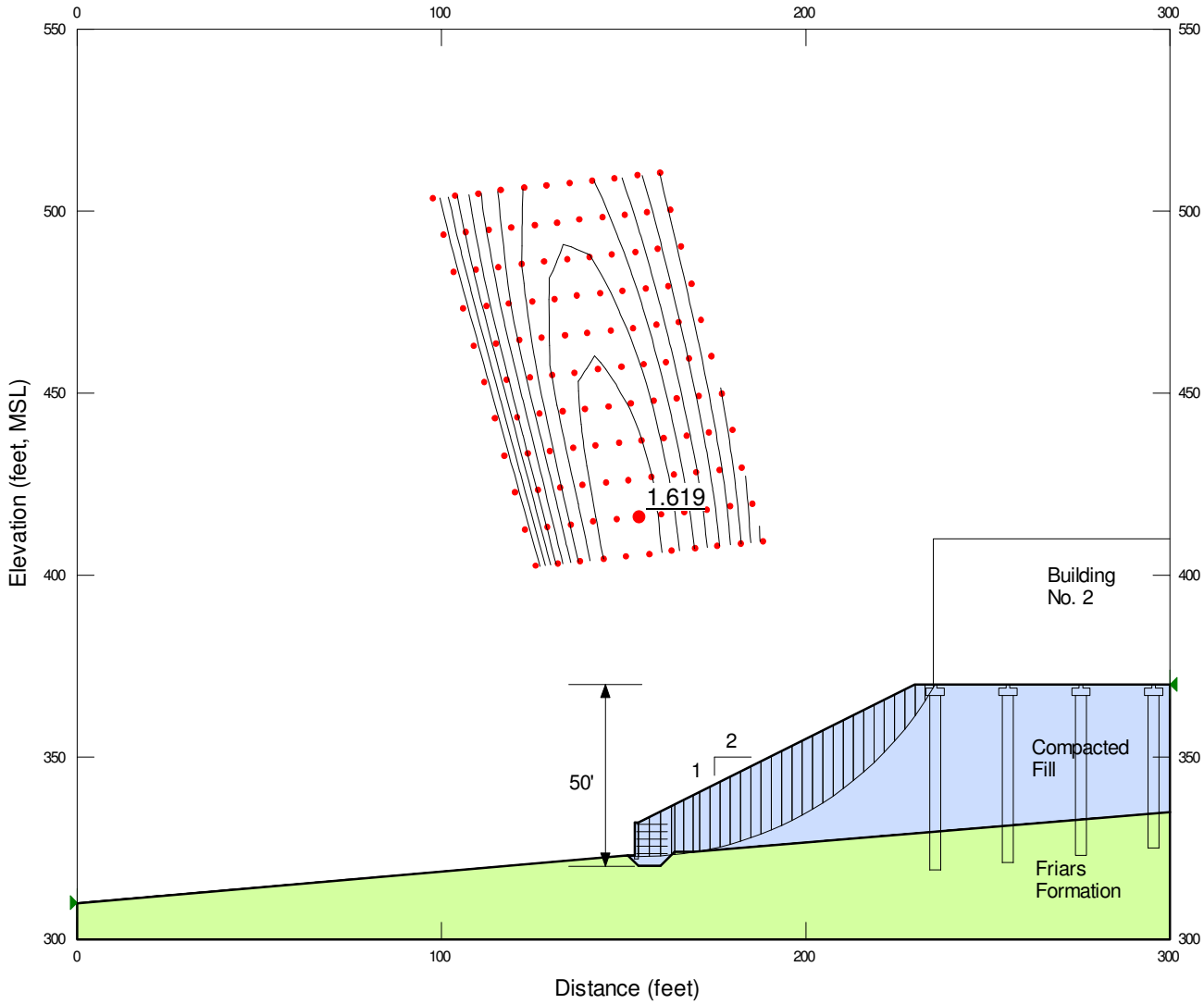
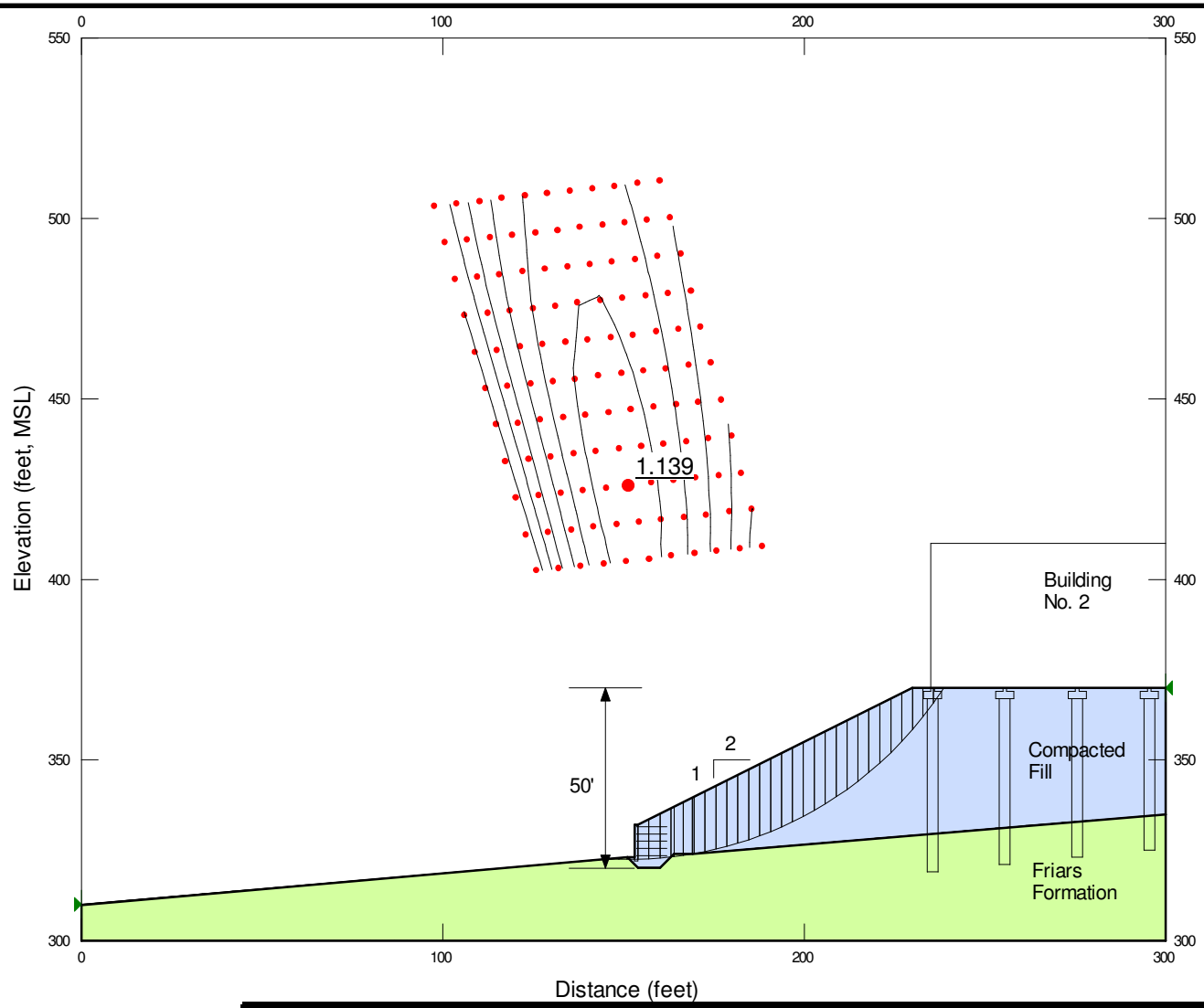
	DRAWN BY: M. Arzamendi	11/9			
	CHECKED BY: S. Rugg	11/9	SLOPE STABILITY ANALYSES CUT 20' HIGH @ 1-1/2H:1V STATIC	20162077.001A	
					FIGURE NO. C-3



KLEINFELDER Bright People. Right Solutions.	DESIGNED BY: M. Arzamendi	DATE 11/9	THE PRESERVE AT TORREY HIGHLANDS SAN DIEGO, CALIFORNIA	SCALE AS SHOWN
	DRAWN BY: M. Arzamendi	11/9		
	CHECKED BY: S. Rugg	11/9	SLOPE STABILITY ANALYSES CUT 20' HIGH @ 1-1/2H:1V SEISMIC 0.18g	20162077.001A
				FIGURE NO. C-4



KLEINFELDER Bright People. Right Solutions.	DESIGNED BY: M. Arzamendi	DATE 11/9	THE PRESERVE AT TORREY HIGHLANDS SAN DIEGO, CALIFORNIA	SCALE AS SHOWN
	DRAWN BY: M. Arzamendi	11/9		
	CHECKED BY: S. Rugg	11/9	SLOPE STABILITY ANALYSES FILL 40' HIGH @ 2H:1V STATIC	20162077.001A
				FIGURE NO. C-5



KLEINFELDER Bright People. Right Solutions.	DESIGNED BY: M. Arzamendi	DATE 11/9	THE PRESERVE AT TORREY HIGHLANDS SAN DIEGO, CALIFORNIA	SCALE AS SHOWN
	DRAWN BY: M. Arzamendi	11/9		
	CHECKED BY: S. Rugg	11/9	SLOPE STABILITY ANALYSES FILL 40' HIGH @ 2H:1V SEISMIC 0.18g	20162077.001A
				FIGURE NO. C-6

APPENDIX D

Geotechnical Business Council Insert

Important Information about This

Geotechnical-Engineering Report

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.

While you cannot eliminate all such risks, you can manage them. The following information is provided to help.

Geotechnical Services Are Performed for Specific Purposes, Persons, and Projects

Geotechnical engineers structure their services to meet the specific needs of their clients. A geotechnical-engineering study conducted for a civil engineer may not fulfill the needs of a constructor — a construction contractor — or even another civil engineer. Because each geotechnical- engineering study is unique, each geotechnical-engineering report is unique, prepared *solely* for the client. No one except you should rely on this geotechnical-engineering report without first conferring with the geotechnical engineer who prepared it. *And no one — not even you* — should apply this report for any purpose or project except the one originally contemplated.

Read the Full Report

Serious problems have occurred because those relying on a geotechnical-engineering report did not read it all. Do not rely on an executive summary. Do not read selected elements only.

Geotechnical Engineers Base Each Report on a Unique Set of Project-Specific Factors

Geotechnical engineers consider many unique, project-specific factors when establishing the scope of a study. Typical factors include: the client's goals, objectives, and risk-management preferences; the general nature of the structure involved, its size, and configuration; the location of the structure on the site; and other planned or existing site improvements, such as access roads, parking lots, and underground utilities. Unless the geotechnical engineer who conducted the study specifically indicates otherwise, do not rely on a geotechnical-engineering report that was:

- not prepared for you;
- not prepared for your project;
- not prepared for the specific site explored; or
- completed before important project changes were made.

Typical changes that can erode the reliability of an existing geotechnical-engineering report include those that affect:

- the function of the proposed structure, as when it's changed from a parking garage to an office building, or from a light-industrial plant to a refrigerated warehouse;
- the elevation, configuration, location, orientation, or weight of the proposed structure;
- the composition of the design team; or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project changes—even minor ones—and request an assessment of their impact. *Geotechnical engineers cannot accept responsibility or liability for problems that occur because their reports do not consider developments of which they were not informed.*

Subsurface Conditions Can Change

A geotechnical-engineering report is based on conditions that existed at the time the geotechnical engineer performed the study. *Do not rely on a geotechnical-engineering report whose adequacy may have been affected by*: the passage of time; man-made events, such as construction on or adjacent to the site; or natural events, such as floods, droughts, earthquakes, or groundwater fluctuations. *Contact the geotechnical engineer before applying this report to determine if it is still reliable.* A minor amount of additional testing or analysis could prevent major problems.

Most Geotechnical Findings Are Professional Opinions

Site exploration identifies subsurface conditions only at those points where subsurface tests are conducted or samples are taken. Geotechnical engineers review field and laboratory data and then apply their professional judgment to render an opinion about subsurface conditions throughout the site. Actual subsurface conditions may differ — sometimes significantly — from those indicated in your report. Retaining the geotechnical engineer who developed your report to provide geotechnical-construction observation is the most effective method of managing the risks associated with unanticipated conditions.

A Report's Recommendations Are Not Final

Do not overrely on the confirmation-dependent recommendations included in your report. *Confirmation-dependent recommendations are not final,* because geotechnical engineers develop them principally from judgment and opinion. Geotechnical engineers can finalize their recommendations *only* by observing actual subsurface conditions revealed during construction. *The geotechnical engineer who developed your report cannot assume responsibility or liability for the report's confirmation-dependent recommendations if that engineer does not perform the geotechnical-construction observation required to confirm the recommendations' applicability.*

A Geotechnical-Engineering Report Is Subject to Misinterpretation

Other design-team members' misinterpretation of geotechnical-engineering reports has resulted in costly

problems. Confront that risk by having your geotechnical engineer confer with appropriate members of the design team after submitting the report. Also retain your geotechnical engineer to review pertinent elements of the design team's plans and specifications. Constructors can also misinterpret a geotechnical-engineering report. Confront that risk by having your geotechnical engineer participate in prebid and preconstruction conferences, and by providing geotechnical construction observation.

Do Not Redraw the Engineer's Logs

Geotechnical engineers prepare final boring and testing logs based upon their interpretation of field logs and laboratory data. To prevent errors or omissions, the logs included in a geotechnical-engineering report should *never* be redrawn for inclusion in architectural or other design drawings. Only photographic or electronic reproduction is acceptable, *but recognize that separating logs from the report can elevate risk.*

Give Constructors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can make constructors liable for unanticipated subsurface conditions by limiting what they provide for bid preparation. To help prevent costly problems, give constructors the complete geotechnical-engineering report, *but* preface it with a clearly written letter of transmittal. In that letter, advise constructors that the report was not prepared for purposes of bid development and that the report's accuracy is limited; encourage them to confer with the geotechnical engineer who prepared the report (a modest fee may be required) and/or to conduct additional study to obtain the specific types of information they need or prefer. A prebid conference can also be valuable. *Be sure constructors have sufficient time* to perform additional study. Only then might you be in a position to give constructors the best information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions.

Read Responsibility Provisions Closely

Some clients, design professionals, and constructors fail to recognize that geotechnical engineering is far less exact than other engineering disciplines. This lack of understanding has created unrealistic expectations that have led to disappointments, claims, and disputes. To help reduce the risk of such outcomes, geotechnical engineers commonly include a variety of explanatory provisions in their reports. Sometimes labeled "limitations," many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help others recognize their own responsibilities and risks. *Read these provisions closely.* Ask questions. Your geotechnical engineer should respond fully and frankly.

Environmental Concerns Are Not Covered

The equipment, techniques, and personnel used to perform an *environmental* study differ significantly from those used to perform a *geotechnical* study. For that reason, a geotechnical-engineering report does not usually relate any environmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated environmental problems have led to numerous project failures.* If you have not yet obtained your own environmental information, ask your geotechnical consultant for risk-management guidance. *Do not rely on an environmental report prepared for someone else.*

Obtain Professional Assistance To Deal with Mold

Diverse strategies can be applied during building design, construction, operation, and maintenance to prevent significant amounts of mold from growing on indoor surfaces. To be effective, all such strategies should be devised for the *express purpose* of mold prevention, integrated into a comprehensive plan, and executed with diligent oversight by a professional mold-prevention consultant. Because just a small amount of water or moisture can lead to the development of severe mold infestations, many mold- prevention strategies focus on keeping building surfaces dry. While groundwater, water infiltration, and similar issues may have been addressed as part of the geotechnical- engineering study whose findings are conveyed in this report, the geotechnical engineer in charge of this project is not a mold prevention consultant; *none of the services performed in connection with the geotechnical engineer's study were designed or conducted for the purpose of mold prevention. Proper implementation of the recommendations conveyed in this report will not of itself be sufficient to prevent mold from growing in or on the structure involved.*

Rely, on Your GBC-Member Geotechnical Engineer for Additional Assistance

Membership in the Geotechnical Business Council of the Geoprofessional Business Association exposes geotechnical engineers to a wide array of risk-confrontation techniques that can be of genuine benefit for everyone involved with a construction project. Confer with you GBC-Member geotechnical engineer for more information.

GEOTECHNICAL BUSINESS COUNCIL
of the Geoprofessional Business Association

8811 Colesville Road/Suite G106, Silver Spring, MD 20910
Telephone: 301/565-2733 Facsimile: 301/589-2017
e-mail: info@geoprofessional.org www.geoprofessional.org

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APPENDIX I

Environmental Noise Assessment

ENVIRONMENTAL NOISE ASSESSMENT
for The Preserve at Torrey Highlands Project
San Diego, California

Prepared for:

The Preserve at Torrey Highlands, LLC
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JUNE 2018

Printed on 30% post-consumer recycled material.

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SUMMARY

This report contains our noise impact assessment of the proposed Preserve at Torrey Highlands Project (proposed project) located in the City of San Diego (City). The proposed project site occupies approximately 11.10 acres of undeveloped land in the northern portion of the City of San Diego (City). The project site is surrounded by SR-56 to the north, extensive housing developments to the east, and the City of San Diego Multi-Habitat Planning Area (MHPA) occurs immediately along the site border to the north, west, and south. The project consists of site grading for the construction of two professional office buildings, a small cafe, one parking garage, and landscaped common areas.

The primary existing and future noise sources at the site are vehicular traffic from Camino del Sur to the east of the project site, SR-56 to the north and, to a lesser extent, Carmel Mountain Road further to the east. No other noise sources potentially affecting the project site have been identified.

On-site, the exterior noise standard for traffic (the predominant noise source in the area) is 70 dBA CNEL. Year 2035 with Project traffic noise on-site is predicted to be approximately 68 dBA CNEL or less. Therefore the exterior noise levels would result in a less than significant impact.

Opening day traffic noise levels are estimated to range from 50 dBA CNEL to 67 dBA CNEL either with or without the project. Opening day with project noise levels would result in a change in noise levels ranging from 0 to 1 dBA (when rounded to whole decibels). Traffic noise from the project at off-site noise-sensitive receivers would be less than significant.

Noise associated with short-term construction would not exceed the City of San Diego noise standard for construction (12-hour average noise level of 75 dBA) and would be less than significant. Similarly, construction vibration impacts would be less than significant.

Implementation of the project could affect nesting birds (particularly, the California gnatcatcher) if construction is scheduled during the nesting season. As detailed in the proposed project's Biological Technical Report (BTR), this is considered a potential indirect impact. Mitigation to reduce this impact to a less than significant level is provided in the Section 7.4 of the project's BTR.

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1 BACKGROUND AND PROJECT DESCRIPTION

The proposed Preserve at Torrey Highlands Project (project) consists of the construction of three professional office buildings, a small cafe, one parking garage, and landscaped common areas within an approximate 11.10-acre property located in the northern portion of the City of San Diego, California.

The project site is located in the Torrey Highlands subarea of San Diego, California (Figure 1). The site is located approximately 0.4 mile south of California Highway 56 (CA-56), approximately 0.4-miles north of Eclipse Road, and approximately 5 miles east of California Interstate Highway 5 (CA-I-5). The approximate centroid of the site is 32°57′13.34″North, 117°09′13.99″West and lies within the U.S. Geological Survey (USGS) 7.5-minute map, Del Mar Quadrangle: Township 14 South, Range 3 West, Section 13 (Figure 2).

The property is designated within the "Northern Area" of City's Multiple Species Conservation Program (MSCP) Subarea Plan and specifically is within Torrey Highlands Subarea IV (San Diego 1997; San Diego 1996, respectively). The project site is not located within lands designated as MSCP Multi-Habitat Planning Area (MHPA) by the City's Subarea Plan; however, MHPA is directly adjacent to the site on the north, west, and south boundaries.

Vehicular access to the project site (Figure 3) would be provided through driveways connecting to Camino del Sur, which in turn connects to State Route 56 (SR 56) and major arterial roadways to the north. Camino del Sur currently terminates at Torrey Santa Fe Road, but would be extended as part of this project as well as other planned projects, including the proposed Merge 56 mixed-use project, which would be located to the east of the proposed project, east of Camino del Sur and west of Carmel Mountain Road. As part of the future roadway network, Camino del Sur will connect with Carmel Mountain Road to the southeast of the project site. Additionally, Camino del Sur will be extended further to the south, to connect with the portion of Camino del Sur which currently terminates just north of Dormouse Road.

The project site is located approximately 5.6 miles north of the nearest airport (Marine Corps Air Station (MCAS) Miramar) and is located within the Airport Influence Area (Review Area 2[1]) of the adopted Airport Land Use Compatibility Plan (ALUCP) (San Diego County 2011).

[1] Within Review Area 2, only the following actions affecting land uses require ALUC review:
(i) Any object which has received a final notice of determination from the FAA that the project will constitute a hazard or obstruction to air navigation, to the extent applicable.
(ii) Any proposed object in a High Terrain Zone having a height of greater than 35 feet above ground level.
(iii) Any project having the potential to create electrical or visual hazards to aircraft in flight, including: electrical interference with radio communications or navigational signals; lighting which could be mistaken for airport lighting; glare or bright lights (including laser lights) in the eyes of pilots of aircraft using the Airport; certain colors of neon lights— especially red and white—that can interfere with night vision

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goggles used by military pilots; and impaired visibility near the Airport. The local agency should coordinate with the Marine Corps in making this determination.

(iv) Any project having the potential to cause an increase in the attraction of birds or other wildlife that can be hazardous to aircraft operations in the vicinity of the Airport. The local agency should coordinate with the airport proprietor in making this determination.

The Preserve atTorrey Highlands

Regional Map

Environmental Noise Assessment Project No. 442880

CITY OF SAN DIEGO - DEVELOPMENT SERVICES

FIGURE 1

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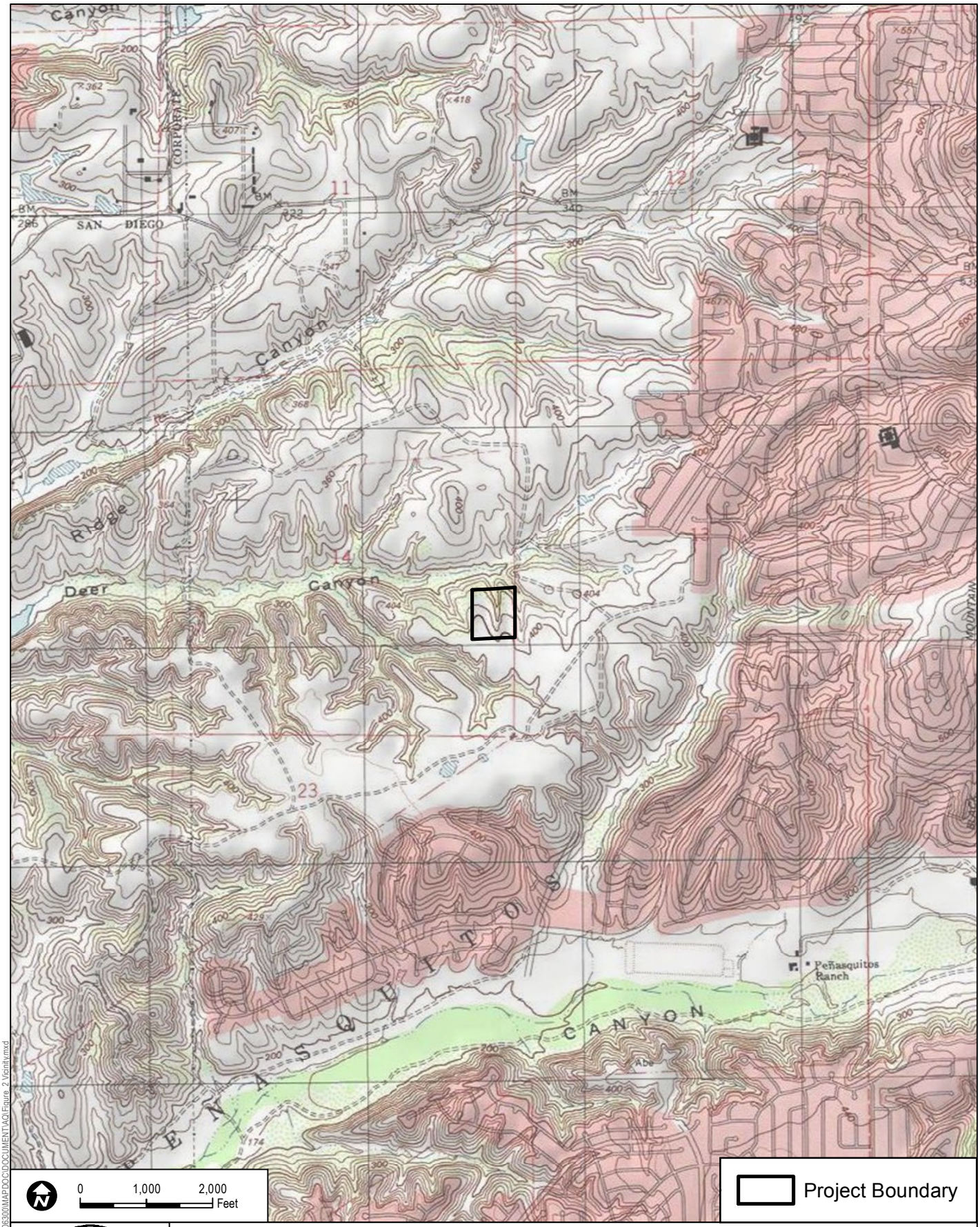

SOURCE: USGS 7.5-Minute Series Del Mar Quadrangle

The Preserve at Torrey Highlands

Vicinity Map

Environmental Noise Assessment Project No. 442880

CITY OF SAN DIEGO - DEVELOPMENT SERVICES

FIGURE

2

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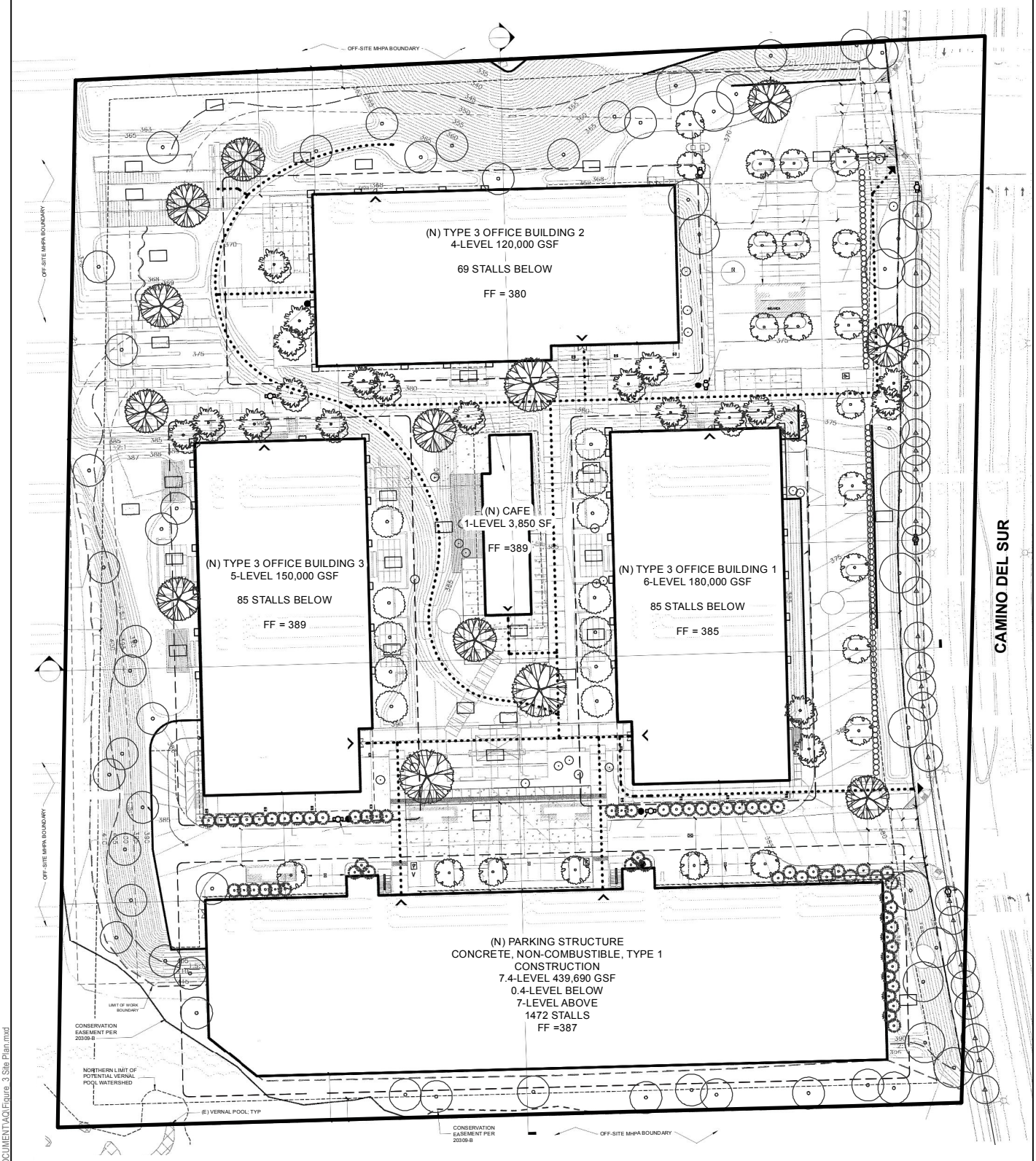

0 50 100 Feet

SOURCE: Leppert, 2015

The Preserve at Torrey Highlands

Site Plan

Environmental Noise Assessment Project No. 442880

CITY OF SAN DIEGO - DEVELOPMENT SERVICES

FIGURE 3

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2 FUNDAMENTALS OF NOISE

The following is a brief discussion of fundamental noise concepts. The basic terminology and concepts of noise are described as follows, with technical terms defined in Attachment A, of this report.

2.1 Sound, Noise, and Acoustics

Sound is actually a process that consists of three components: the sound source, the sound path, and the sound receiver. All three components must be present for sound to exist. Without a source to produce sound, there is no sound. Similarly, without a medium to transmit sound pressure waves, there is no sound. Finally, sound must be received; a hearing organ, sensor, or object must be present to perceive, register, or be affected by, sound or noise. In most situations, there are many different sound sources, paths, and receptors rather than just one of each. Acoustics is the field of science that deals with the production, propagation, reception, effects, and control of sound. Noise is defined as sound that is loud, unpleasant, unexpected, or undesired.

2.2 Sound Pressure Levels and Decibels

The amplitude of a sound determines its loudness. Loudness of sound increases with increasing amplitude. Sound pressure amplitude is measured in units of micronewton per square meter, also called micropascal. One micropascal is approximately one-hundred billionth (0.00000000001) of normal atmospheric pressure. The pressure of a very loud sound may be 200 million micropascals, or 10 million times the pressure of the weakest audible sound. Because expressing sound levels in terms of micropascal would be very cumbersome, sound pressure level in logarithmic units is used instead to describe the ratio of actual sound pressures to a reference pressure squared. These units are called Bels. To provide a finer resolution, a Bel is subdivided into 10 decibels, abbreviated dB.

2.3 A-Weighted Sound Level

Sound pressure level alone is not a reliable indicator of loudness. The frequency, or pitch, of a sound also has a substantial effect on how humans will respond. Although the intensity (energy per unit area) of the sound is a purely physical quantity, the loudness or human response is determined by the characteristics of the human ear.

Human hearing is limited not only in the range of audible frequencies but also in the way it perceives the sound in that range. In general, the healthy human ear is most sensitive to sounds between 1,000 hertz (Hz) and 5,000 Hz, and it perceives a sound within that range as more intense than a sound of higher or lower frequency with the same magnitude. To approximate the

frequency response of the human ear, a series of sound level adjustments is usually applied to the sound measured by a sound level meter. The adjustments (referred to as a weighting network) are frequency-dependent.

The A-scale weighting network approximates the frequency response of the average young ear when listening to most ordinary sounds. When people make judgments about the relative loudness or annoyance of a sound, their judgments correlate well with the A-scale sound levels of those sounds. Other weighting networks have been devised to address high noise levels or other special situations (e.g., B-scale, C-scale, D-scale), but these scales are rarely used in conjunction with most environmental noise. Noise levels are typically reported in terms of A-weighted sound levels. All sound levels discussed in this report are A-weighted. Examples of typical noise levels for common indoor and outdoor activities are depicted in Table 1.

Table 1
Typical Sound Levels in the Environment and Industry

Common Outdoor Activities	Noise Level (dB)	Common Indoor Activities
	110	Rock Band
Jet Fly-over at 300 meters (1,000 feet)	100	
Gas Lawn Mower at 1 meter (3 feet)	90	
Diesel Truck at 15 meters (50 feet), at 80 kilometers/hour (50 miles per hour)	80	Food Blender at 1 meter (3 feet), Garbage Disposal at 1 meter (3 feet)
Noisy Urban Area, Daytime Gas Lawn Mower at 30 meters (100 feet)	70	Vacuum Cleaner at 3 meters (10 feet)
Commercial Area Heavy Traffic at 90 meters (300 feet)	60	Normal Speech at 1 meter (3 feet)
Quite Urban Daytime	50	Large Business Office, Dishwasher Next Room
Quite Urban Nighttime	40	Theater, Large Conference Room (Background)
Quite Suburban Nighttime	30	Library
Quite Rural Nighttime	20	Bedroom at Night, Concert Hall (Background)
	10	Broadcast/Recording Studio
Lowest Threshold of Human Hearing	0	Lowest Threshold of Human Hearing

Source: Caltrans 2011

2.4 Human Response to Changes in Noise Levels

Under controlled conditions in an acoustics laboratory, the trained, healthy human ear is able to discern changes in sound levels of 1 dB when exposed to steady, single-frequency signals in the mid-frequency range. Outside such controlled conditions, the trained ear can detect changes of 2 dB in normal environmental noise. It is widely accepted that the average healthy ear, however, can barely perceive noise level changes of 3 dB. A change of 5 dB is readily perceptible, and a

change of 10 dB is perceived as twice or half as loud. As discussed previously, a doubling of sound energy results in a 3 dB increase in sound, which means that a doubling of sound energy (e.g., doubling the volume of traffic on a road) would result in a barely perceptible change in sound level.)

2.5 Noise Descriptors

Additional units of measure have also been developed to evaluate the long-term characteristics of sound. The equivalent sound level (L_{eq}) is also referred to as the time-average sound level. It is the equivalent steady-state sound level that in a stated period of time would contain the same acoustical energy as the time-varying sound level during the same time period. The 1-hour A-weighted equivalent sound level, L_{eq} (h), is the energy average of the A-weighted sound levels occurring during a 1-hour period and is the basis for the City noise ordinance criteria.

People are generally more sensitive and annoyed by noise occurring during the evening and nighttime hours. Thus, another noise descriptor used in community noise assessments termed the CNEL was introduced. The CNEL scale represents a time-weighted, 24-hour average noise level based on the A-weighted sound level. The CNEL accounts for the increased noise sensitivity during the evening hours (7:00 p.m. to 10 p.m.) and nighttime hours (10:00 p.m. to 7:00 a.m.) by adding 5 dB and 10 dB, respectively, to the average sound levels occurring during the nighttime hours.

2.6 Sound Propagation

Sound propagation (i.e., the passage of sound from a noise source to a receiver) is influenced by several factors. These factors include geometric spreading, ground absorption, and atmospheric effects, as well as shielding by natural and/or man-made features.

Sound levels are attenuated at a rate of approximately 6 dB per doubling of distance from an outdoor point source due to the geometric spreading of the sound waves. Additional sound attenuation can result from man-made features such as intervening walls, buildings, as well as natural features such as hills and dense woods. Atmospheric conditions such as humidity, temperature, and wind gradients can temporarily either increase or decrease sound levels. In general, the greater the distance the receiver is from the source, the greater the potential for variation in sound levels due to atmospheric effects.

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3 CITY OF SAN DIEGO NOISE CRITERIA

The City has established noise criteria in their General Plan Noise Element, Municipal Code as well as in their *California Environmental Quality Act Significance Determination Thresholds* handbook.

3.1 City General Plan Noise Element

The City's General Plan Noise Element contains noise guidelines (City of San Diego 2008a, amended 2015). The maximum noise exposure depends on the land use category. As depicted in Table 2, the City considers outdoor noise levels of up to 75 dB CNEL for offices and commercial services as being conditionally compatible, provided that interior noise levels of 50 dBA CNEL can be maintained.

Table 2
Land Use – Noise Compatibility Guidelines

Land Use Category	Exterior Noise Exposure (dBA CNEL)				
	60	65	70	75	
Parks and Recreational					
Parks, Active and Passive Recreation					
Outdoor Spectator Sports, Golf Courses; Water Recreational Facilities; Indoor Recreation Facilities					
Agricultural					
Crop Raising and Farming; Community Gardens, Aquaculture, Dairies; Horticulture Nurseries and Greenhouses; Animal Raising, Maintenance and Keeping; Commercial Stables					
Residential					
Single Dwelling Units; Mobile Homes		45			
Multiple Dwelling Units; **For uses affected by aircraft noise, refer to Policies NE-D.2. and NE-D.3.*		45	45*		
Institutional					
Hospitals; Nursing Facilities; Intermediate Care Facilities; Kindergarten through Grade 12 Educational Facilities; Libraries; Museums; Child Care Facilities		45			
Other Educational Facilities including Vocational/Trade Schools and Colleges and Universities		45	45		
Cemeteries					
Retail Sales					
Building Supplies/Equipment; Food, Beverages, and Groceries; Pets and Pet Supplies; Sundries, Pharmaceutical and Convenience Sales; Wearing Apparel and Accessories			50	50	

Table 2
Land Use – Noise Compatibility Guidelines

Land Use Category	Exterior Noise Exposure (dBA CNEL)				
	60	65	70	75	
Commercial Services					
Building Services; Business Support; Eating and Drinking; Financial Institutions; Maintenance & Repair; Personal Services; Assembly and Entertainment (includes public and religious assembly); Radio and Television Studios; Golf Course Support			50	50	
Visitor Accommodations		45	45	45	
Offices					
Business and Professional; Government; Medical, Dental and Health Practitioner; Regional and Corporate Headquarters			50	50	
Vehicle and Vehicular Equipment Sales and Services Use					
Commercial or Personal Vehicle Repair and Maintenance; Commercial or Personal Vehicle Sales and Rentals; Vehicle Equipment and Supplies Sales and Rentals; Vehicle Parking					
Wholesale, Distribution, Storage Use Category					
Equipment and Materials Storage Yards; Moving and Storage Facilities; Warehouse; Wholesale Distribution					
Industrial					
Heavy Manufacturing; Light Manufacturing; Marine Industry; Trucking and Transportation Terminals; Mining and Extractive Industries					
Research and Development				50	

	Compatible	Indoor Uses	Standard construction methods should attenuate exterior noise to an acceptable indoor noise level. Refer to Section I.
		Outdoor Uses	Activities associated with the land use may be carried out.
	Conditionally Compatible	Indoor Uses	Building structure must attenuate exterior noise to the indoor noise level indicated by the number for occupied areas. Refer to Section I.
		Outdoor Uses	Feasible noise mitigation techniques should be analyzed and incorporated to make the outdoor activities acceptable. Refer to Section I.
	Incompatible	Indoor Uses	New construction should not be undertaken.
		Outdoor Uses	Severe noise interference makes outdoor activities unacceptable.

Source: City of San Diego 2008a, Table NE-3

The City has also adopted the following General Plan Noise Element policies related to land / noise compatibility:

- **NE-A.1.** Separate excessive noise-generating uses from residential and other noise-sensitive land uses with a sufficient spatial buffer of less sensitive uses.

- **NE-A.2.** Assure the appropriateness of proposed developments relative to existing and future noise levels by consulting the guidelines for noise-compatible land use (shown on Table NE-3) to minimize the effects on noise-sensitive land uses.
- **NE-A.3.** Limit future residential and other noise-sensitive land uses in areas exposed to high levels of noise.
- **NE-A.4.** Require an acoustical study consistent with Acoustical Study Guidelines for proposed developments in areas where the existing or future noise level exceeds or would exceed the "compatible" noise level thresholds as indicated on the Land Use - Noise Compatibility Guidelines (Table NE-3), so that noise mitigation measures can be included in the project design to meet the noise guidelines.
- **NE-A.5.** Prepare noise studies to address existing and future noise levels from noise sources that are specific to a community when updating community plans.

3.2 City Noise Ordinance

The City has adopted a quantitative noise ordinance to control excessive noise generated in the City (City of San Diego 2008b). The noise ordinance limits are in terms of a 1-hour average sound level. The allowable noise limits depend upon the land use zone, time of day, and duration of the noise, as depicted in Table 3.

Table 3
City of San Diego Sound Level Limits

Land Use	Time of Day	1-Hour Average Sound Level (dB)
Single-Family Residential	7 a.m. to 7 p.m. 7 p.m. to 10 p.m. 10 p.m. to 7 a.m.	50 45 40
Multifamily Residential (up to maximum density of 1/2,000)	7 a.m. to 7 p.m. 7 p.m. to 10 p.m. 10 p.m. to 7 a.m.	55 50 45
All other residential	7 a.m. to 7 p.m. 7 p.m. to 10 p.m. 10 p.m. to 7 a.m.	60 55 50
Commercial	7 a.m. to 7 p.m. 7 p.m. to 10 p.m. 10 p.m. to 7 a.m.	65 60 60
Industrial or Agricultural	Anytime	75

Source: City of San Diego 2008b

The City also regulates noise associated with construction activities. Construction is permitted between the hours of 7:00 a.m. and 7:00 p.m., Monday through Saturdays, with the exception of legal holidays. Construction equipment shall be operated so as not to cause, at or beyond the property lines of any property zoned residential, an average sound level greater than 75 dB during the 12–hour period from 7:00 a.m. to 7:00 p.m.

3.3 California Environmental Quality Act Significance Determination Thresholds

The City of San Diego's Development Services Department's California Environmental Quality Act Significance Determination Thresholds handbook (January 2011) provides additional guidance for determination of noise impacts. Included in the handbook is Table K-2, Traffic Noise Significance Thresholds, (see Table 4 below) and Table NE-3, Land Use- Noise Compatibility Guidelines (City of San Diego General Plan Noise Element; see Table 2 above).

Table 4
Traffic Noise Significance Thresholds

Structure or Proposed Use that Would Be Impacted by Traffic Noise	Interior Space (CNEL)	Exterior Usable Space[a] (CNEL)	General Indication of Potential Significance
Single-Family Detached	45 dB	65 dB	Structure or outdoor usable area is <50 feet from the center of the closest (outside) lane on a street with existing or future ADT >7,500
Multi-Family, Schools, Libraries, Hospitals, Day Care, Hotels, Motels, Parks, Convalescent Homes	Development Services Department (DSD) ensures 45 dB pursuant to Title 24	65 dB	
Offices, Churches, Business, Professional Uses	N/A	70 dB	Structure or outdoor usable area is <50 feet from the center of the closest lane on a street with existing or future ADT of >20,000
Commercial, Retail, Industrial, Outdoor Spectator Sports Uses	N/A	75 dB	Structure or outdoor usable area is <50 feet from the center of the closest lane on a street with existing or future ADT of >40,000

Source: City of San Diego 2011, Table K-2
CNEL = community noise equivalent level; ADT = average daily traffic
[a] If a project is currently at or exceeds the significance thresholds for traffic noise described above, and noise levels would result in less than a 3 dB increase, then the impact is not considered significant.

4 EXISTING CONDITIONS

The ambient noise in the project area is primarily generated by traffic along SR 56, Camino del Sur and Carmel Mountain Road. The existing average daily traffic (ADT) volume along Camino del Sur at Torrey Santa Fe Road (north of the project site) is 10,670 (Linscott, Law & Greenspan, Engineers (LLG) 2018).

4.1 Ambient Noise Monitoring

Noise measurements were made using a Rion NL-52 integrating sound-level meter equipped with .5-inch pre-polarized condenser microphone with pre-amplifier. The sound-level meter meets the current American National Standards Institute standard for a Type 1 (Precision) sound-level meter. The sound-level meter was calibrated before and after the measurements, and the measurements were conducted with the microphone positioned 5 feet aboveground and covered with a windscreen.

Short-term noise measurements were conducted at one on-site and four site-adjacent locations between 12:20 p.m. and 3:00 p.m., December 9, 2015 as depicted in Figure 4. Site M1 was along the west side of the future extension of Camino del Sur, on the project site; Site M2 was located on the east side of Carmel Mountain Road adjacent to existing residences, north of Via Panacea; Site M3 was located east of the project site on the east side of Camino del Sur, at the presumed to be existing and occupied Merge 56 project; Site M4 was located northwest of the project site at a recreational use associated with the adjacent office complex, and Site M5 was located north of the project site adjacent to existing residences, east of Camino del Sur and just north of SR 56. The measured average noise levels ranged from approximately 44 dBA L_{eq} at Site M4 to 65 dBA L_{eq} at Site M5, as shown in Table 5.

Table 5
Measured Noise Levels

Site	Description	L_{eq}[1]	L_{max}[2]	L_{min}[3]
M1	On-site	48	65	43
M2	East pf project site, adjacent to residences east of Carmel Mountain Road, north of Via Panacea	55	69	47
M3	East of project site, at the presumed to be existing and occupied Merge 56 project	52	64	47
M4	Northwest of project site, at recreation / break area adjacent to existing office complex	44	61	40
M5	North of project site, adjacent to residences east of Camino del Sur, north of SR 56	65	74	50

Notes:
1 Equivalent Continuous Sound Level (time-average sound level)
2 Maximum noise level
3 Minimum noise level

4.2 Noise Modeling

The FHWA's TNM 2.5 traffic noise prediction model was used to model noise generated by existing and future traffic along the roads (FHWA 2004). The TNM 2.5 noise model accepts as input the number and types of vehicles on the roadway, vehicle speeds, receiver locations, and other input data including noise attenuation from structures such as existing or future buildings or walls. The modeled traffic speeds were 45 miles per hour (mph) along Camino del Sur and Carmel Mountain Road, and 65 mph along SR 56. The noise modeling data is summarized in Section 6 and is included as Attachment B.

Figure 4 Measured and Modeled Receivers

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5 PROJECT IMPACT ANALYSIS

5.1 Methodology

Ambient noise measurements were conducted to quantify the existing daytime noise environment at four five sites. Estimated noise levels resulting from the proposed construction activities have been obtained from reports prepared by the Federal Transit Administration (FTA 2006) and field data from files. The noise impact assessment utilized criteria established in the City of San Diego General Plan Noise Element and Municipal Code Noise Ordinance. The noise level associated with selected roadways was determined based on ambient noise measurements and using the Federal Highway Administration's Traffic Noise Model (TNM), Version 2.5 (FHWA 2004). The TNM 2.5 noise model accepts as input the number and types of vehicles on the roadway, vehicle speeds, receiver locations, and other data, including noise attenuation from structures such as existing or future buildings or walls. The noise modeling data is summarized in Section 6 and is included as Appendix A.

5.2 Thresholds of Significance

The following significance criteria are based on the City of San Diego's CEQA Significance Determination Thresholds. They provide the basis for determining significance of impacts associated with noise and vibration resulting from the proposed project. The determination of whether a noise impact would be significant is based on the applicable noise thresholds.

Would the project:

1. Result or create a significant increase in the existing ambient noise levels?
2. Exposure of people to noise levels which exceed the City's adopted noise ordinance or are incompatible with Table NE-3 (City of San Diego's Noise / Land Use Compatibility Chart)?
3. Exposure of people to current or future transportation noise levels which exceed standards established in the Transportation Element of the General Plan or an adopted airport Comprehensive Land Use Plan?
4. Result in land uses which are not compatible with aircraft noise levels as defined by an adopted airport Comprehensive Land Use Plan (CLUP)?

Supplemental Thresholds

City of San Diego. The City of San Diego criteria listed above are used for determining CEQA significance levels. The City of San Diego's General Plan Noise Element addresses interior noise

standards within residential, institutional and visitor accommodations (45 dBA CNEL) and office / retail / commercial land uses (50 dBA CNEL).

Traffic Noise. Traffic noise significance thresholds are contained in Table K-2 of the Significance Determination Thresholds, which is reproduced in this report as Table 4 (shown above).

Noise level changes greater than 3 dBA, or a doubling of the acoustic energy, are often identified as audible and considered potentially significant, while changes less than 1 dBA are not discernible. In the range of 1 to 3 dBA, humans who are very sensitive to noise may perceive a slight change. For the purposes for this analysis, a direct and cumulative roadway noise impact would be considered significant if the project increases noise levels at a noise sensitive land use 3 dBA CNEL or greater.

Construction Noise. Pursuant to San Diego Municipal Code Section 59.5.0404, construction is permitted between the hours of 7:00 a.m. and 7:00 p.m., Monday through Saturdays, with the exception of legal holidays. Construction noise is considered a significant impact if it results in an average sound level greater than 75 dB during the 12–hour period from 7:00 a.m. to 7:00 p.m. at or beyond the property lines of any property zoned residential.

Aircraft Noise. The MCAS Miramar Airport Land Use Compatibility Plan (County of San Diego, 2011) lists office building land uses as being compatible for aircraft noise levels up to 60 dBA CNEL, and conditionally compatible for aircraft noise levels up to 75 dBA CNEL, provided the building structure is capable of attenuating exterior noise to an interior level of 50 dBA CNEL.

6 FUTURE CONDITIONS

The proposed project would generate noise from short-term construction activities, and the site will primarily be affected by traffic noise along Camino del Sur and SR 56. Additionally, the proposed project will generate additional traffic trips along local arterials which could result in significant increases in traffic at nearby noise sensitive land uses. The future (year 2035) traffic volumes along Camino del Sur adjacent to the project site are projected to be approximately 23,140 ADT without the project and 26,983 with the project (LLG 2018).

6.1 Exterior Traffic Noise

The expected traffic noise levels at existing, opening day and future noise-sensitive receptors were predicted using FHWA's TNM, Version 2.5 and the data from the project traffic study (LLG 2018). ADT volumes for the existing year, opening day and future (Year 2035) without and with project scenarios were used to predict the changes in traffic noise at roadway segments which would carry substantial numbers of project-related trips (i.e., Camino del Sur, Carmel Mountain Road, SR 56). The modeled receiver locations are shown in Figure 4. Table 6 summarizes the traffic noise model results.

Opening Day with Project traffic noise levels are compared with Opening Day without Project (rather than Existing without Project) traffic noise levels because the proposed project is conditioned on the premise that the extensions of Camino del Sur and Carmel Mountain Road would be in place. As shown in Table 6, opening day traffic noise levels are estimated to range from 50 dBA CNEL to 67 dBA CNEL both without and with the project. Compared to the modeled opening day without project noise levels, the opening day with project noise levels would result in a change in noise levels ranging from 0 to 1 dBA (when rounded to whole decibels). The project would not result in an exceedance of the City of San Diego's 65 dBA CNEL exterior noise standard for residential land uses, nor would it result in an increase of 3 dBA or more at receivers currently exceeding the 65 dBA CNEL noise standard under either existing or year 2035 conditions. Therefore, traffic noise from the project at off-site noise-sensitive receivers would be less than significant.

On-site, the exterior noise standard for traffic is 70 dBA CNEL. As shown in Table 6, the Year 2035 with Project traffic noise level adjacent to Camino del Sur (as represented by R3) is predicted to be approximately 68 dBA CNEL, and therefore would not exceed the City's noise standard for traffic noise (Table 4). Therefore the exterior noise levels would result in a less than significant impact.

Table 6
Traffic Noise Model Results (dBA CNEL)

Receiver # – Land Uses and Location	Existing	Opening Day without Project	Opening Day with Project	Change in Noise Level from Opening Day	Significant Noise Impact?	Year 2035 without Project	Year 2035 with Project	Change in Noise Level from Year 2035	Significant Noise Impact?
R1 – Residential adjacent to Carmel Mountain Road, north of Via Panacea	55	60	60	0	No	63	64	1	No
R2 – Residential adjacent to Carmel Mountain Road, north of Via Panacea	53	59	59	0	No	62	62	0	No
R3 – On-site, adjacent to Camino del Sur at eastern office building facades	53	67	67	0	No	68	68	0	No
R4 – Residential adjacent to Sierra Mesa Court, northwest of project site	52	52	52	0	No	52	52	0	No
R5 – Residential adjacent to Eclipse Road, south of project site	46	55	55	0	No	56	56	0	No
R6 – Residential adjacent to SR 56 westbound offramp, at Sundance Avenue	59	59	59	0	No	59	60	1	No
R7 – Residential adjacent to Carmel Mountain Road, north of Sundance Avenue	58	65	65	0	No	66	66	0	No
R8 – Residential adjacent to Camino del Sur, north of SR 56	60	60	61	1	No	61	61	0	No
R9 – Presumed to be existing and occupied Merge 56 east of project site, at residential land uses	57	63	64	1	No	64	64	0	No
R10 –Residential east of Camino del Sur, north of SR 56	49	50	50	0	No	50	50	0	No

6.2 Interior Traffic Noise

The City requires that interior noise levels not exceed a CNEL of 50 dBA within office commercial type land uses. Typically, with windows closed, building shells of commercial structures provide a minimum of approximately 25 dB of noise reduction, as shown in Table 7. Therefore, rooms exposed to an exterior CNEL greater than 75 dBA could result in an interior CNEL greater than 50 dBA.

Table 7
Outside-to-Inside Noise Attenuation (dBA)

Building Type	Open Windows	Closed Windows[a]
Residences	17	25
Schools	17	25
Churches	20	30
Hospitals/Offices/Hotels	17	25
Theaters	17	25

Source: Transportation Research Board, National Research Council, 2000.
[a] As shown, structures with closed windows can attenuate exterior noise by a minimum of 25 to 30 dBA.

The data previously shown in Table 7 indicates that the future on-site traffic noise level would be 68 dBA CNEL at the façades of the office buildings adjacent to Camino del Sur. The interior noise level in the offices is thus anticipated to be approximately 42 dBA CNEL or lower. Therefore, interior traffic noise would be less than significant.

Additionally, as previously described and depicted in Table 2 above, the City considers outdoor noise levels of up to 75 dB CNEL for offices and commercial services as being conditionally compatible, provided that interior noise levels of 50 dBA CNEL can be maintained. Since the interior noise levels are anticipated to be approximately 42 dBA CNEL or lower and the exterior noise levels would not exceed 70 dBA as indicated in Section 6.1, the project would not expose people to noise levels which exceed the City's adopted noise ordinance or are incompatible with Table NE-3 (City of San Diego's Noise / Land Use Compatibility Chart).

6.3 On-Site Operational Noise

It is anticipated that the primary sources of on-site noise would be from parking lots and parking structures, and mechanical noise from HVAC equipment.

Table 8 provides estimates of the maximum noise levels associated with common parking lot activities. The noise levels are presented at a distance of 50 feet from the source and represent

the maximum noise level generated. A range is given to reflect the variability of noise generated by various automobile types and driving styles.

Table 8
Typical Noise Levels Resulting from Parking Lot Activities

Event	Maximum Noise Level at 50 Feet (dBA Lmax)
Door slamming	60–70
Engine starting up[1]	60–70
Car passing by[2]	55–70

Source: Mestre-Greve Associates 2011.
Notes:
1 Higher values from poor muffler systems.
2 Typical values were in the low 60s.

The nearest noise sensitive receptors are the presumed to be existing and occupied residences located to the east of the project site as part of the Merge 56 project. Parking lot activities would take place as near as approximately 200 feet from these residences. At a distance of 200 feet, the noise level ranges shown in Table 9 would be approximately 12 decibels lower, because of attenuation by distance. Additionally, noise sources from the parking lot would be different from each other in kind, duration, and location, so that the overall effects would be separate and in most cases would not affect noise-sensitive receptors at the same time. Therefore, noise generated from parking lots would be less than significant.

On-site stationary equipment, such as HVAC equipment, would be mounted on the office building rooftops. The specific details (sizes, manufacturers, and models) of the equipment have not yet been determined. The noise levels generated by this equipment would vary, but would typically range from approximately 45 dBA to 55 dBA at a distance of 50 feet. The line-of-sight between nearby noise-sensitive land uses and the HVAC equipment would be blocked by a solid parapet wall, which would provide a minimum of 5 dBA additional noise reduction. At the nearest presumed to be existing and occupied residences as part of the Merge 56 project, the HVAC noise could range from approximately 26 to 36 dBA, which is well below the City's municipal code noise standard for multi-family residential uses of 55 dBA during daytime hours, 50 dBA during nighttime hours. Noise levels would be less than significant.

6.4 Aircraft Noise

The project site is located approximately 5.6 miles north of the nearest airport (Marine Corps Air Station (MCAS) Miramar) and is located within the Airport Influence Area (Review Area 2) of the adopted Airport Land Use Compatibility Plan (ALUCP) (San Diego County, 2011) However, the project site is located outside of MCAS Miramar's 60 dBA CNEL noise contour.

Therefore, the proposed project would be compatible with the applicable standards and guidelines and noise impacts would be less than significant.

6.5 Construction Noise

Construction noise and vibration are temporary phenomena. Construction noise and vibration levels will vary from hour-to-hour and day-to-day, depending on the equipment in use, the operations being performed, and the distance between the source and receptor.

The Environmental Protection Agency has compiled data regarding the noise-generating characteristics of specific types of construction equipment. The typical maximum noise levels for various pieces of construction equipment at a distance of 50 feet are presented in Table 9.

Note that the equipment noise levels presented in Table 9 are maximum noise levels. The equipment operates in alternating cycles of full power and low power, thus, producing noise levels less than the maximum level. The average sound level of the construction activity also depends upon the amount of time that the equipment operates and the intensity of the construction during the time period. For this project, special construction techniques (such as blasting or pile-driving) are not anticipated to be necessary.

Table 9
Construction Equipment Noise Levels

Equipment Type	"Typical" Equipment dB(A) at 50 feet	"Quiet"[1] Equipment dB(A) at 50 feet
Air Compressor	81	71
Backhoe	85	80
Concrete Pump	82	80
Concrete Vibrator	76	70
Truck, Crane	88	80
Dozer	87	83
Generator	78	71
Loader	84	80
Paver	88	80
Pneumatic Tools	85	75
Water Pump	76	71
Power Hand Saw	78	70
Shovel	82	80
Trucks	88	83

[1] Quieted equipment: with enclosures, mufflers, or other noise-reducing features.

6.6 Construction Noise at Adjacent Off-Site Residences

The nearest existing noise sensitive receptors are presumed to be existing and occupied residences located to the east of the project site as part of the Merge 56 project. Construction activities would take place as near as 150 feet from these residences[2].

Based on previous noise measurements taken of the type and number of pieces of primary equipment anticipated to be used for this project, the 12-hour average sound level would range up to approximately 81 dBA at 25 feet from the construction equipment. Thus, the construction noise level is estimated to be approximately 65 dBA $L_{eq12\text{-}hr}$ at the nearest presumed to be existing and occupied residential uses at Merge 56 project. Therefore, construction noise levels would not exceed the City's 12-hour average noise standard of 75 dBA. Construction noise would result in a less than significant impact.

6.7 Construction Noise at Biological Habitat

The property is designated within the "Northern Area" of City's MMSCP Subarea Plan and specifically is within Torrey Highlands Subarea IV (San Diego 1997; San Diego 1996, respectively). The project site is not located within lands designated as MSCP Multi-Habitat Planning Area (MHPA) by the City's Subarea Plan; however, MHPA is directly adjacent to the site on the north, west, and south boundaries. As discussed in greater detail in the Biological Technical Report for this project, nesting birds can be significantly affected by short-term construction-related noise, resulting in decreased reproductive success or abandonment of an area as nesting habitat. The BTR concludes that if construction takes place during the California gnatcatcher breeding season (March 1 through August 15), indirect impacts from construction noise could occur to the species if nesting within 500 feet of the construction activities. Consequently, the BTR provides mitigation measures (Section 7.4) to reduce this potential indirect impact of the project to the adjacent MHPA which conform to the Land Use Adjacency Guidelines as outlined in the MSCP and the City's Biology Guidelines (City of San Diego 2012). The principal mitigation measure pertaining to this indirect impact is the recommendation that construction be conducted outside of the breeding season for the species. If construction must occur during the breeding season for the gnatcatcher, the BTR provides alternative measures. With implementation of these measures, indirect impacts would be less than significant.

[2] Based on the project site plan, it was assumed that the nearest construction activities would occur approximately 50 feet nearer to the presumed to be existing and occupied noise-sensitive land uses to the east as part of the Merge 56 project, when compared to noise-generating operational activities (i.e., 150 feet versus 200 feet).

6.8 Construction Vibration at Adjacent Off-Site Residences

The heavier pieces of construction equipment used at this site could include bulldozers, graders, loaded trucks, water trucks, and pavers. Groundborne vibration information related to construction activities has been collected by the California Department of Transportation (Caltrans) (Caltrans 2013). Based on published vibration data, the anticipated construction equipment would generate a peak particle velocity of approximately .09 inch/second or less at a distance of 25 feet (FTA 2006). Information from Caltrans indicates that continuous vibrations with a peak particle velocity of approximately 0.1 inch/second begin to annoy people. Groundborne vibration is typically attenuated over short distances. The receptors, the presumed to be existing and occupied residential units as part of the Merge 56 project, would be approximately 150 feet or more from the construction area. At this nearest distance (150 feet) and with the anticipated construction equipment, the peak particle velocity would be less than 0.01 inch/second at the adjacent planned residences. Therefore, construction activities are anticipated to result in continuous vibration well below levels that typically annoy people, and the vibration impact would be less than significant.

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7 MITIGATION

7.1 Exterior and Interior Traffic Noise Mitigation

Exterior and interior noise levels from traffic would be less than significant; therefore no noise mitigation is required.

7.2 Construction Noise and Vibration Mitigation

Noise and vibration levels from project-related construction would be less than significant; therefore no noise mitigation is required.

Construction noise at adjacent biological habitat is considered a potentially significant indirect impact. With the mitigation measures provided in Section 7.4 of the BTR, the impact would be reduced to a level of less than significant.

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8 REFERENCES

California Department of Transportation (Caltrans). 2011. *Traffic Noise Analysis Protocol for New Highway Construction, Reconstruction, and Retrofit Projects.* Division of Environmental Analysis. Sacramento, California. May 2011.

California Department of Transportation (Caltrans). 2013. *Transportation and Construction Vibration Guidance Manual.* Division of Environmental Analysis, Environmental Engineering, Hazardous Waste, Air, Noise, Paleontology Office. Sacramento, California. September 2013.

City of San Diego. 1996. Final Environmental Impact Report for the Torrey Highlands Subarea IV. DEP No 93-0152. SCH No 93071041. June.

City of San Diego (San Diego). 1997. Multiple Species Conservation Program (MSCP) Subarea Plan. August 1997.

City of San Diego. 2008a. "Noise Element." In *City of San Diego General Plan*, R-303473. Adopted March 10, 2008, amended 2015.

City of San Diego. 2008b. City of San Diego Municipal Code, Chapter 5 (Noise Abatement and Control Ordinance), Section 59.5.0401, Sound Level Limits.

City of San Diego. 2011. *California Environmental Quality Act, Significance Determination Thresholds*. Development Services Department. January 2011.

City of San Diego. 2012. San Diego Municipal Code – Land Development Manual/Land Development Code – Biology Guidelines. Revised 2012.

County of San Diego. 2011. MCAS Miramar Airport Land Use Compatibility Plan. Airport Land Use Commission. Adopted October 2008, Revised November 2011.

FHWA (Federal Highway Administration). 2004. FHWA Traffic Noise Model, Version 2.5. Released April 2004.

FTA (Federal Transit Administration). 2006. *Transit Noise and Vibration Impact Assessment*. July 1, 2006.

LLG (Linscott, Law & Greenspan). 2015. *Traffic Impact Analysis.*

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ATTACHMENT A

Definitions

ATTACHMENT A
Definitions

Term	Definition
Ambient Noise Level	The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.
A-Weighted Sound Level (dB[A])	The sound pressure level in decibels as measured on a sound-level meter using the A-weighted filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise.
Community Noise Equivalent Level (CNEL)	CNEL is the A-weighted equivalent continuous sound exposure level for a 24-hour period with a 10 dB adjustment added to sound levels occurring during nighttime hours (10 p.m. to 7 a.m.) and a 5 dB adjustment added to the sound levels occurring during the evening hours (7 p.m. to 10 p.m.).
Decibel (dB)	A unit for measuring sound pressure level, equal to 10 times the logarithm to the base 10 of the ratio of the measured sound pressure squared to a reference pressure, which is 20 micropascals.
Time-Average Sound Level (TAV)	The sound level corresponding to a steady-state sound level and containing the same total energy as a time varying signal over a given sample period. TAV is designed to average all of the loud and quiet sound levels occurring over a specific time period.
Sound Transmission Class (STC)	A single number rating of the noise reduction of a building element.

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ATTACHMENT B

Noise Modeling Input / Output

Dudek 26 February 2016
M Greene TNM 2.5

INPUT: ROADWAYS
PROJECT/CONTRACT: 9063
RUN: TorreyHighlandsOfficeProj Cisterra - Ex

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA

Roadway Name	Width	Points Name	No.	Coordinates (pavement) X	Y	Z	Flow Control Control Device	Speed Constraint	Percent Vehicles Affected	Segment Pvmt Type	On Struct?
	ft			ft	ft	ft		mph	%		
SR56 EB W of Camino del Sur	55.0	point1	1	37,678,768.0	11,966,663.0	328.08				Average	
		point3	3	37,679,540.0	11,966,200.0	337.93				Average	
		point4	4	37,680,676.0	11,965,565.0	354.33				Average	
		point5	5	37,681,516.0	11,965,094.0	367.45				Average	
		point6	6	37,682,000.0	11,964,839.0	377.30				Average	
		point7	7	37,682,236.0	11,964,694.0	387.14				Average	
		point8	8	37,682,528.0	11,964,478.0	393.70				Average	
		point9	9	37,682,688.0	11,964,345.0	393.70					
SR56 WB - E of Camino del Sur	55.0	point23	23	37,687,496.0	11,962,344.0	393.70				Average	
		point25	25	37,686,424.0	11,962,375.0	393.70				Average	
		point26	26	37,685,880.0	11,962,450.0	396.98				Average	
		point27	27	37,685,500.0	11,962,528.0	387.14				Average	
		point28	28	37,685,196.0	11,962,628.0	383.86				Average	
		point29	29	37,684,876.0	11,962,745.0	374.02				Average	
		point30	30	37,684,588.0	11,962,891.0	370.73				Average	
		point31	31	37,684,304.0	11,963,049.0	370.73				Average	
		point32	32	37,683,844.0	11,963,396.0	374.02				Average	
		point33	33	37,683,680.0	11,963,532.0	374.02				Average	
		point34	34	37,683,464.0	11,963,757.0	377.30				Average	
		point35	35	37,683,220.0	11,964,008.0	377.30				Average	
		point36	36	37,682,984.0	11,964,236.0	387.14				Average	
		point37	37	37,682,748.0	11,964,441.0	393.70				Average	
		point38	38	37,682,580.0	11,964,576.0	393.70					
Camino del Sur NB S of SR 56	70.0	point45	45	37,682,764.0	11,963,599.0	367.50				Average	
		point47	47	37,682,744.0	11,964,027.0	367.50				Average	
		point48	48	37,682,728.0	11,964,212.0	377.30					
Camino del Sur SB N of SR 56	70.0	point64	64	37,683,168.0	11,965,881.0	390.00				Average	

		point55	55	37,682,912.0	11,965,650.0	390.00				Average	
		point56	56	37,682,748.0	11,965,418.0	390.00				Average	
		point58	58	37,682,636.0	11,965,074.0	390.00				Average	
		point60	60	37,682,620.0	11,964,820.0	387.10				Average	
		point61	61	37,682,628.0	11,964,646.0	377.30					
SR56 EB Offramp	30.0	point65	65	37,681,496.0	11,965,086.0	367.45				Average	
		point66	66	37,681,812.0	11,964,846.0	367.45				Average	
		point67	67	37,681,968.0	11,964,690.0	367.45				Average	
		point68	68	37,682,064.0	11,964,577.0	367.45				Average	
		point69	69	37,682,184.0	11,964,362.0	367.45				Average	
		point70	70	37,682,304.0	11,964,194.0	367.45				Average	
		point71	71	37,682,396.0	11,964,108.0	367.45				Average	
		point72	72	37,682,528.0	11,964,068.0	367.45				Average	
		point73	73	37,682,656.0	11,964,054.0	367.45					
SR56 EB Onramp	30.0	point74	74	37,682,760.0	11,964,037.0	367.45				Average	
		point75	75	37,682,852.0	11,964,012.0	367.45				Average	
		point76	76	37,682,924.0	11,963,967.0	367.45				Average	
		point77	77	37,683,036.0	11,963,873.0	367.45				Average	
		point78	78	37,683,300.0	11,963,640.0	370.73				Average	
		point79	79	37,683,496.0	11,963,463.0	370.73				Average	
		point80	80	37,683,800.0	11,963,225.0	374.02				Average	
		point81	81	37,684,020.0	11,963,071.0	374.02					
SR56 WB Offramp	30.0	point82	82	37,683,836.0	11,963,430.0	374.02				Average	
		point83	83	37,683,696.0	11,963,563.0	374.02				Average	
		point84	84	37,683,496.0	11,963,796.0	377.30				Average	
		point85	85	37,683,340.0	11,964,071.0	377.30				Average	
		point86	86	37,683,252.0	11,964,324.0	380.58				Average	
		point87	87	37,683,176.0	11,964,528.0	380.58				Average	
		point88	88	37,683,088.0	11,964,664.0	383.86				Average	
		point89	89	37,682,932.0	11,964,750.0	383.86				Average	
		point90	90	37,682,712.0	11,964,803.0	387.14					
SR56 WB Onramp	30.0	point91	91	37,682,592.0	11,964,835.0	387.14				Average	
		point93	93	37,682,380.0	11,964,877.0	380.58				Average	
		point94	94	37,682,180.0	11,964,955.0	377.30				Average	
		point95	95	37,681,924.0	11,965,066.0	370.73				Average	
		point96	96	37,681,424.0	11,965,290.0	367.45					
Torrey Santa Fe Rd	75.0	point129	129	37,680,924.0	11,964,802.0	360.00				Average	
		point98	98	37,681,240.0	11,964,797.0	360.00				Average	
		point99	99	37,681,380.0	11,964,775.0	360.00				Average	
		point100	100	37,681,508.0	11,964,706.0	360.00				Average	

		point101	101	37,681,612.0	11,964,623.0	360.00				Average	
		point102	102	37,681,692.0	11,964,484.0	360.00				Average	
		point103	103	37,681,848.0	11,964,151.0	360.00				Average	
		point104	104	37,681,960.0	11,963,889.0	360.00				Average	
		point105	105	37,682,136.0	11,963,707.0	360.00				Average	
		point106	106	37,682,384.0	11,963,598.0	362.00				Average	
		point107	107	37,682,528.0	11,963,567.0	365.00				Average	
		point108	108	37,682,692.0	11,963,576.0	367.50					
Carmel Mtn Rd S of Via de las Lunas	45.0	point133	133	37,684,052.0	11,961,995.0	350.00				Average	
		point110	110	37,684,284.0	11,962,377.0	375.00					
Camino del Sur South, SB	25.0	point134	134	37,683,688.0	11,959,149.0	311.68				Average	
		point135	135	37,683,604.0	11,958,956.0	295.28					
Camino del Sur South, NB	25.0	point136	136	37,683,624.0	11,958,960.0	295.28				Average	
		point137	137	37,683,708.0	11,959,144.0	311.68					
Camino del Sur NB N of SR 56	70.0	point159	159	37,682,712.0	11,964,597.0	377.30				Average	
		point49	49	37,682,692.0	11,964,825.0	387.10				Average	
		point50	50	37,682,708.0	11,965,056.0	390.00				Average	
		point51	51	37,682,812.0	11,965,370.0	390.00				Average	
		point52	52	37,682,964.0	11,965,587.0	390.00				Average	
		point53	53	37,683,208.0	11,965,818.0	390.00					
Camino del Sur SB S of SR 56	70.0	point160	160	37,682,656.0	11,964,271.0	377.30				Average	
		point62	62	37,682,676.0	11,964,029.0	367.50				Average	
		point46	46	37,682,692.0	11,963,615.0	367.50					
Carmel Mtn Rd N of SR 56	45.0	point161	161	37,684,616.0	11,962,912.0	400.00				Average	
		point112	112	37,685,064.0	11,963,593.0	365.00				Average	
		point113	113	37,685,720.0	11,964,531.0	370.00					
SR56 EB- E of Camino del Sur	55.0	point166	166	37,682,688.0	11,964,345.0	393.70				Average	
		point10	10	37,682,916.0	11,964,159.0	387.14				Average	
		point11	11	37,683,140.0	11,963,937.0	377.30				Average	
		point12	12	37,683,384.0	11,963,681.0	377.30				Average	
		point13	13	37,683,600.0	11,963,454.0	374.02				Average	
		point14	14	37,683,756.0	11,963,315.0	374.02				Average	
		point16	16	37,684,224.0	11,962,951.0	370.73				Average	
		point17	17	37,684,516.0	11,962,788.0	370.73				Average	
		point18	18	37,684,832.0	11,962,635.0	374.02				Average	
		point19	19	37,685,172.0	11,962,502.0	383.86				Average	
		point20	20	37,685,472.0	11,962,417.0	387.14				Average	
		point21	21	37,685,908.0	11,962,339.0	396.98				Average	
		point22	22	37,686,432.0	11,962,273.0	393.70				Average	
		point2	2	37,687,512.0	11,962,229.0	393.70					

SR56 WB- W of Camino del Sur	55.0	point167	167	37,682,580.0	11,964,576.0	393.70				Average	
		point39	39	37,682,292.0	11,964,767.0	387.14				Average	
		point40	40	37,682,052.0	11,964,914.0	377.30				Average	
		point41	41	37,681,588.0	11,965,181.0	367.45				Average	
		point42	42	37,680,736.0	11,965,659.0	354.33				Average	
		point43	43	37,679,612.0	11,966,291.0	337.93				Average	
		point24	24	37,678,848.0	11,966,725.0	328.08					
Carmel Mtn Rd S of SR 56-2	45.0	point168	168	37,684,284.0	11,962,377.0	375.00				Average	
		point111	111	37,684,524.0	11,962,769.0	400.00					

Dudek 26 February 2016
M Greene TNM 2.5

INPUT: TRAFFIC FOR LAeq1h Volumes
PROJECT/CONTRACT: 9063
RUN: TorreyHighlandsOfficeProj Cisterra - Ex

Roadway	Points		Segment									
Name	Name	No.	Autos		MTrucks		HTrucks		Buses		Motorcycles	
			V	S	V	S	V	S	V	S	V	S
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
SR56 EB W of Camino del Sur	point1	1	4464	65	240	65	96	65	0	0	0	0
	point3	3	4464	65	240	65	96	65	0	0	0	0
	point4	4	4464	65	240	65	96	65	0	0	0	0
	point5	5	4464	65	240	65	96	65	0	0	0	0
	point6	6	4464	65	240	65	96	65	0	0	0	0
	point7	7	4464	65	240	65	96	65	0	0	0	0
	point8	8	4464	65	240	65	96	65	0	0	0	0
	point9	9										
SR56 WB - E of Camino del Sur	point23	23	3534	65	190	65	76	65	0	0	0	0
	point25	25	3534	65	190	65	76	65	0	0	0	0
	point26	26	3534	65	190	65	76	65	0	0	0	0
	point27	27	3534	65	190	65	76	65	0	0	0	0
	point28	28	3534	65	190	65	76	65	0	0	0	0
	point29	29	3534	65	190	65	76	65	0	0	0	0
	point30	30	3534	65	190	65	76	65	0	0	0	0
	point31	31	3534	65	190	65	76	65	0	0	0	0
	point32	32	3534	65	190	65	76	65	0	0	0	0
	point33	33	3534	65	190	65	76	65	0	0	0	0
	point34	34	3534	65	190	65	76	65	0	0	0	0
	point35	35	3534	65	190	65	76	65	0	0	0	0
	point36	36	3534	65	190	65	76	65	0	0	0	0
	point37	37	3534	65	190	65	76	65	0	0	0	0
	point38	38										
Camino del Sur NB S of SR 56	point45	45	696	45	14	45	7	45	0	0	0	0
	point47	47	696	45	14	45	7	45	0	0	0	0

	point48	48										
Camino del Sur SB N of SR 56	point64	64	842	45	17	45	9	45	0	0	0	0
	point55	55	842	45	17	45	9	45	0	0	0	0
	point56	56	842	45	17	45	9	45	0	0	0	0
	point58	58	842	45	17	45	9	45	0	0	0	0
	point60	60	842	45	17	45	9	45	0	0	0	0
	point61	61										
SR56 EB Offramp	point65	65	530	45	11	45	5	45	0	0	0	0
	point66	66	530	45	11	45	5	45	0	0	0	0
	point67	67	530	45	11	45	5	45	0	0	0	0
	point68	68	530	45	11	45	5	45	0	0	0	0
	point69	69	530	45	11	45	5	45	0	0	0	0
	point70	70	530	45	11	45	5	45	0	0	0	0
	point71	71	530	45	11	45	5	45	0	0	0	0
	point72	72	530	45	11	45	5	45	0	0	0	0
	point73	73										
SR56 EB Onramp	point74	74	988	45	20	45	10	45	0	0	0	0
	point75	75	988	45	20	45	10	45	0	0	0	0
	point76	76	988	45	20	45	10	45	0	0	0	0
	point77	77	988	45	20	45	10	45	0	0	0	0
	point78	78	988	45	20	45	10	45	0	0	0	0
	point79	79	988	45	20	45	10	45	0	0	0	0
	point80	80	988	45	20	45	10	45	0	0	0	0
	point81	81										
SR56 WB Offramp	point82	82	936	45	19	45	10	45	0	0	0	0
	point83	83	936	45	19	45	10	45	0	0	0	0
	point84	84	936	45	19	45	10	45	0	0	0	0
	point85	85	936	45	19	45	10	45	0	0	0	0
	point86	86	936	45	19	45	10	45	0	0	0	0
	point87	87	936	45	19	45	10	45	0	0	0	0
	point88	88	936	45	19	45	10	45	0	0	0	0
	point89	89	936	45	19	45	10	45	0	0	0	0
	point90	90										
SR56 WB Onramp	point91	91	297	45	6	45	3	45	0	0	0	0
	point93	93	297	45	6	45	3	45	0	0	0	0
	point94	94	297	45	6	45	3	45	0	0	0	0
	point95	95	297	45	6	45	3	45	0	0	0	0

	point96	96										
Torrey Santa Fe Rd	point129	129	330	35	7	35	3	35	0	0	0	0
	point98	98	330	35	7	35	3	35	0	0	0	0
	point99	99	330	35	7	35	3	35	0	0	0	0
	point100	100	330	35	7	35	3	35	0	0	0	0
	point101	101	330	35	7	35	3	35	0	0	0	0
	point102	102	330	35	7	35	3	35	0	0	0	0
	point103	103	330	35	7	35	3	35	0	0	0	0
	point104	104	330	35	7	35	3	35	0	0	0	0
	point105	105	330	35	7	35	3	35	0	0	0	0
	point106	106	330	35	7	35	3	35	0	0	0	0
	point107	107	330	35	7	35	3	35	0	0	0	0
	point108	108										
Carmel Mtn Rd S of Via de las Lunas	point133	133	43	45	1	45	0	0	0	0	0	0
	point110	110										
Camino del Sur South, SB	point134	134	2	45	0	0	0	0	0	0	0	0
	point135	135										
Camino del Sur South, NB	point136	136	5	45	0	0	0	0	0	0	0	0
	point137	137										
Camino del Sur NB N of SR 56	point159	159	1334	45	28	45	14	45	0	0	0	0
	point49	49	1334	45	28	45	14	45	0	0	0	0
	point50	50	1334	45	28	45	14	45	0	0	0	0
	point51	51	1334	45	28	45	14	45	0	0	0	0
	point52	52	1334	45	28	45	14	45	0	0	0	0
	point53	53										
Camino del Sur SB S of SR 56	point160	160	844	45	17	45	9	45	0	0	0	0
	point62	62	844	45	17	45	9	45	0	0	0	0
	point46	46										
Carmel Mtn Rd N of SR 56	point161	161	61	45	1	45	1	45	0	0	0	0
	point112	112	61	45	1	45	1	45	0	0	0	0
	point113	113										
SR56 EB- E of Camino del Sur	point166	166	3534	65	190	65	76	65	0	0	0	0
	point10	10	3534	65	190	65	76	65	0	0	0	0
	point11	11	3534	65	190	65	76	65	0	0	0	0
	point12	12	3534	65	190	65	76	65	0	0	0	0
	point13	13	3534	65	190	65	76	65	0	0	0	0
	point14	14	3534	65	190	65	76	65	0	0	0	0

	point16	16	3534	65	190	65	76	65	0	0	0	0
	point17	17	3534	65	190	65	76	65	0	0	0	0
	point18	18	3534	65	190	65	76	65	0	0	0	0
	point19	19	3534	65	190	65	76	65	0	0	0	0
	point20	20	3534	65	190	65	76	65	0	0	0	0
	point21	21	3534	65	190	65	76	65	0	0	0	0
	point22	22	3534	65	190	65	76	65	0	0	0	0
	point2	2										
SR56 WB- W of Camino del Sur	point167	167	4464	65	240	65	96	65	0	0	0	0
	point39	39	4464	65	240	65	96	65	0	0	0	0
	point40	40	4464	65	240	65	96	65	0	0	0	0
	point41	41	4464	65	240	65	96	65	0	0	0	0
	point42	42	4464	65	240	65	96	65	0	0	0	0
	point43	43	4464	65	240	65	96	65	0	0	0	0
	point24	24										
Carmel Mtn Rd S of SR 56-2	point168	168	84	45	2	45	1	45	0	0	0	0
	point111	111										

Dudek 26 February 2016
M Greene TNM 2.5

INPUT: RECEIVERS
PROJECT/CONTRACT: 9063
RUN: TorreyHighlandsOfficeProj Cisterra - Ex

Receiver Name	No.	#DUs	Coordinates (ground) X	Y	Z	Height above Ground	Input Sound Levels and Criteria Existing LAeq1h	Impact Criteria LAeq1h	Sub'l	NR Goal	Active in Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
M1	1	1	37,682,468.0	11,962,297.0	370.00	5.00	0.00	65	10.0	8.0	Y
M2	2	1	37,684,116.0	11,962,032.0	352.00	5.00	0.00	65	10.0	8.0	Y
M3 / R9	3	1	37,682,992.0	11,962,679.0	370.00	5.00	0.00	65	10.0	8.0	Y
M4 / R10	4	1	37,680,932.0	11,963,552.0	360.00	5.00	0.00	65	10.0	8.0	Y
M5	5	1	37,682,784.0	11,965,090.0	395.00	5.00	0.00	65	10.0	8.0	Y
R1	6	1	37,684,128.0	11,962,025.0	352.00	5.00	0.00	65	10.0	8.0	Y
R2	7	1	37,684,068.0	11,961,925.0	350.00	5.00	0.00	65	10.0	8.0	Y
R3	10	1	37,682,616.0	11,962,274.0	370.00	5.00	0.00	65	10.0	8.0	Y
R4	11	1	37,680,684.0	11,963,998.0	360.00	5.00	0.00	65	10.0	8.0	Y
R5	13	1	37,683,520.0	11,960,036.0	426.00	5.00	0.00	65	10.0	8.0	Y
R6	17	1	37,683,804.0	11,963,646.0	375.00	5.00	0.00	65	10.0	8.0	Y
R7	19	1	37,685,260.0	11,963,740.0	368.00	5.00	0.00	66	10.0	8.0	Y
R8	21	1	37,682,828.0	11,965,081.0	410.00	5.00	0.00	66	10.0	8.0	Y

Dudek 26 February 2016
M Greene TNM 2.5

INPUT: BARRIERS
PROJECT/CONTRACT: 9063
RUN: TorreyHighlandsOfficeProj Cisterra - Ex

Barrier Name	Type	Height Min	Height Max	If Wall $ per Unit Area	If Berm $ per Unit Vol.	Top Width	Run:Rise	Add'tnl $ per Unit Length	Points Name	No.	Coordinates (bottom) X	Y	Z	Height at Point	Segment Seg Ht Increment	Perturbs #Up	Perturbs #Dn	On Struct?	Important Reflections?
		ft	ft	$/sq ft	$/cu yd	ft	ft:ft	$/ft			ft	ft	ft	ft	ft				
Barrier14	W	0.00	100.00	0.00				0.00	point67	67	37,681,024.0	11,963,592.0	360.00	30.00	0.00	0	0		
									point68	68	37,681,248.0	11,963,589.0	360.00	30.00	0.00	0	0		
									point69	69	37,681,248.0	11,963,706.0	360.00	30.00	0.00	0	0		
									point70	70	37,681,020.0	11,963,708.0	360.00	30.00	0.00	0	0		
									point71	71	37,681,024.0	11,963,593.0	360.00	30.00					
Barrier15	W	0.00	100.00	0.00				0.00	point72	72	37,681,076.0	11,964,088.0	360.00	30.00	0.00	0	0		
									point73	73	37,681,076.0	11,963,812.0	360.00	30.00	0.00	0	0		
									point74	74	37,681,192.0	11,963,811.0	360.00	30.00	0.00	0	0		
									point75	75	37,681,192.0	11,964,086.0	360.00	30.00					
Barrier16	W	0.00	100.00	0.00				0.00	point76	76	37,681,068.0	11,964,462.0	360.00	30.00	0.00	0	0		
									point77	77	37,681,068.0	11,964,178.0	360.00	30.00	0.00	0	0		
									point78	78	37,681,188.0	11,964,181.0	360.00	30.00	0.00	0	0		
									point79	79	37,681,192.0	11,964,465.0	360.00	30.00					
Barrier17	W	0.00	100.00	0.00				0.00	point80	80	37,681,012.0	11,964,558.0	360.00	30.00	0.00	0	0		
									point81	81	37,681,232.0	11,964,558.0	360.00	30.00	0.00	0	0		
									point82	82	37,681,232.0	11,964,670.0	360.00	30.00	0.00	0	0		
									point83	83	37,681,012.0	11,964,670.0	360.00	30.00					
Barrier18	W	0.00	100.00	0.00				0.00	point84	84	37,681,248.0	11,963,778.0	360.00	30.00	0.00	0	0		
									point85	85	37,681,424.0	11,963,775.0	360.00	30.00	0.00	0	0		
									point86	86	37,681,428.0	11,964,478.0	360.00	30.00	0.00	0	0		
									point87	87	37,681,232.0	11,964,480.0	360.00	30.00					
Barrier20	W	0.00	99.99	0.00				0.00	point89	89	37,681,076.0	11,964,088.0	360.00	30.00	0.00	0	0		
									point90	90	37,681,192.0	11,964,086.0	360.00	30.00					
Barrier21	W	0.00	99.99	0.00				0.00	point91	91	37,681,068.0	11,964,462.0	360.00	30.00	0.00	0	0		
									point92	92	37,681,192.0	11,964,465.0	360.00	30.00					
Barrier22	W	0.00	99.99	0.00				0.00	point93	93	37,681,012.0	11,964,670.0	360.00	30.00	0.00	0	0		
									point94	94	37,681,012.0	11,964,558.0	360.00	30.00					
Barrier23	W	0.00	99.99	0.00				0.00	point95	95	37,681,248.0	11,963,778.0	360.00	30.00	0.00	0	0		
									point96	96	37,681,232.0	11,964,480.0	360.00	30.00					
Barrier24	W	0.00	99.99	0.00				0.00	point97	97	37,681,824.0	11,964,895.0	367.45	3.00	0.00	0	0		
									point98	98	37,681,980.0	11,964,813.0	377.30	3.00	0.00	0	0		
									point99	99	37,682,220.0	11,964,664.0	387.10	3.00	0.00	0	0		
									point100	100	37,682,508.0	11,964,446.0	393.70	3.00	0.00	0	0		
									point101	101	37,682,672.0	11,964,314.0	393.70	3.00	0.00	0	0		
									point102	102	37,682,892.0	11,964,130.0	387.10	3.00	0.00	0	0		
									point103	103	37,683,116.0	11,963,918.0	377.30	3.00	0.00	0	0		
									point104	104	37,683,360.0	11,963,662.0	377.30	3.00					

Barrier25	W	0.00	99.99	0.00				0.00	point105	105	37,683,480.0	11,963,791.0	377.30	3.00	0.00	0	0		
									point106	106	37,683,240.0	11,964,046.0	377.30	3.00	0.00	0	0		
									point107	107	37,683,004.0	11,964,275.0	387.10	3.00	0.00	0	0		
									point108	108	37,682,768.0	11,964,479.0	393.70	3.00	0.00	0	0		
									point109	109	37,682,604.0	11,964,614.0	393.70	3.00	0.00	0	0		
									point110	110	37,682,312.0	11,964,803.0	387.10	3.00	0.00	0	0		
									point111	111	37,682,064.0	11,964,947.0	377.30	3.00	0.00	0	0		
									point112	112	37,681,896.0	11,965,040.0	370.73	3.00					
Barrier28	W	0.00	99.99	0.00				0.00	point114	114	37,682,788.0	11,964,974.0	410.00	6.00	0.00	0	0		
									point115	115	37,682,880.0	11,965,339.0	410.00	6.00	0.00	0	0		
									point116	116	37,683,024.0	11,965,540.0	410.00	6.00	0.00	0	0		
									point117	117	37,683,192.0	11,965,698.0	410.00	6.00					

Dudek			26 February 2016	
M Greene			TNM 2.5	
INPUT: TERRAIN LINES				
PROJECT/CONTRACT:	9063			
RUN:	TorreyHighlandsOfficeProj Cisterra - Ex			
Terrain Line	Points			
Name	No.	Coordinates (ground)		
		X	Y	Z
		ft	ft	ft
Terrain Line4	1	37,683,704.0	11,963,188.0	380.00
	2	37,684,172.0	11,962,872.0	390.00
	3	37,684,460.0	11,962,733.0	400.00
Terrain Line5	4	37,684,504.0	11,962,705.0	400.00
	5	37,684,772.0	11,962,568.0	395.00
	17	37,685,164.0	11,962,413.0	390.00
	18	37,685,464.0	11,962,342.0	395.00
	6	37,685,880.0	11,962,259.0	400.00
Terrain Line6	7	37,682,744.0	11,964,995.0	410.00
	8	37,682,868.0	11,964,917.0	420.00
	9	37,683,132.0	11,964,849.0	420.00
	10	37,683,308.0	11,964,858.0	410.00
Terrain Line7	11	37,682,584.0	11,965,072.0	400.00
	12	37,682,516.0	11,965,027.0	410.00
	13	37,682,348.0	11,965,018.0	420.00
	14	37,682,116.0	11,965,133.0	420.00
	15	37,681,832.0	11,965,257.0	410.00
	16	37,681,700.0	11,965,321.0	400.00
Terrain Line8	19	37,684,340.0	11,963,107.0	385.00
	20	37,683,872.0	11,963,488.0	390.00
	21	37,683,732.0	11,963,621.0	390.00
	22	37,683,532.0	11,963,854.0	392.00
	23	37,683,376.0	11,964,129.0	392.00
	24	37,683,288.0	11,964,382.0	395.00
	25	37,683,212.0	11,964,586.0	395.00
	26	37,683,124.0	11,964,722.0	398.00

Dudek **26 February 2016**
M Greene **TNM 2.5**
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: 9063
RUN: TorreyHighlandsOfficeProj Cisterra - Ex
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver												
Name	No.	#DUs	Existing	No Barrier					With Barrier			
			LAeq1h	LAeq1h		Increase over existing		Type	Calculated	Noise Reduction		
				Calculated	Crit'n	Calculated	Crit'n	Impact	LAeq1h	Calculated	Goal	Calculated
							Sub'l Inc					minus
												Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
M1	1	1	0.0	52.5	65	52.5	10	----	52.5	0.0	8	-8.0
M2	2	1	0.0	56.2	65	56.2	10	----	56.2	0.0	8	-8.0
M3 / R9	3	1	0.0	56.7	65	56.7	10	----	56.7	0.0	8	-8.0
M4 / R10	4	1	0.0	48.9	65	48.9	10	----	48.9	0.0	8	-8.0
M5	5	1	0.0	69.6	65	69.6	10	Snd Lvl	69.6	0.0	8	-8.0
R1	6	1	0.0	54.8	65	54.8	10	----	54.8	0.0	8	-8.0
R2	7	1	0.0	52.9	65	52.9	10	----	52.9	0.0	8	-8.0
R3	10	1	0.0	52.7	65	52.7	10	----	52.7	0.0	8	-8.0
R4	11	1	0.0	51.8	65	51.8	10	----	51.8	0.0	8	-8.0
R5	13	1	0.0	45.9	65	45.9	10	----	45.9	0.0	8	-8.0
R6	17	1	0.0	59.3	65	59.3	10	----	59.3	0.0	8	-8.0
R7	19	1	0.0	58.3	66	58.3	10	----	58.3	0.0	8	-8.0
R8	21	1	0.0	60.0	66	60.0	10	----	60.0	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction		
		Min	Avg	Max
		dB	dB	dB
All Selected	13	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

Dudek 26 February 2016
M Greene TNM 2.5

INPUT: ROADWAYS
PROJECT/CONTRACT: 9063
RUN: Torrey Highlands Office Proj Ex W Proj

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA

Roadway Name	Width	Points Name	No.	Coordinates (pavement) X	Y	Z	Flow Control Control Device	Speed Constraint	Percent Vehicles Affected	Segment Pvmt Type	On Struct?
	ft			ft	ft	ft		mph	%		
SR56 EB W of Camino del Sur	55.0	point1	1	37,678,768.0	11,966,663.0	328.08				Average	
		point3	3	37,679,540.0	11,966,200.0	337.93				Average	
		point4	4	37,680,676.0	11,965,565.0	354.33				Average	
		point5	5	37,681,516.0	11,965,094.0	367.45				Average	
		point6	6	37,682,000.0	11,964,839.0	377.30				Average	
		point7	7	37,682,236.0	11,964,694.0	387.14				Average	
		point8	8	37,682,528.0	11,964,478.0	393.70				Average	
		point9	9	37,682,688.0	11,964,345.0	393.70					
SR56 WB - E of Camino del Sur	55.0	point23	23	37,687,496.0	11,962,344.0	393.70				Average	
		point25	25	37,686,424.0	11,962,375.0	393.70				Average	
		point26	26	37,685,880.0	11,962,450.0	396.98				Average	
		point27	27	37,685,500.0	11,962,528.0	387.14				Average	
		point28	28	37,685,196.0	11,962,628.0	383.86				Average	
		point29	29	37,684,876.0	11,962,745.0	374.02				Average	
		point30	30	37,684,588.0	11,962,891.0	370.73				Average	
		point31	31	37,684,304.0	11,963,049.0	370.73				Average	
		point32	32	37,683,844.0	11,963,396.0	374.02				Average	
		point33	33	37,683,680.0	11,963,532.0	374.02				Average	
		point34	34	37,683,464.0	11,963,757.0	377.30				Average	
		point35	35	37,683,220.0	11,964,008.0	377.30				Average	
		point36	36	37,682,984.0	11,964,236.0	387.14				Average	
		point37	37	37,682,748.0	11,964,441.0	393.70					
Camino del Sur NB S of SR 56	70.0	point45	45	37,682,764.0	11,963,599.0	367.50				Average	
		point47	47	37,682,744.0	11,964,027.0	367.50				Average	
		point48	48	37,682,728.0	11,964,212.0	377.30					
Camino del Sur SB N of SR 56	70.0	point64	64	37,683,168.0	11,965,881.0	390.00				Average	
		point55	55	37,682,912.0	11,965,650.0	390.00				Average	

		point56	56	37,682,748.0	11,965,418.0	390.00				Average	
		point58	58	37,682,636.0	11,965,074.0	390.00				Average	
		point59	59	37,682,620.0	11,964,820.0	387.10				Average	
		point60	60	37,682,628.0	11,964,646.0	377.30					
SR56 EB Offramp	30.0	point65	65	37,681,496.0	11,965,086.0	367.45				Average	
		point66	66	37,681,812.0	11,964,846.0	367.45				Average	
		point67	67	37,681,968.0	11,964,690.0	367.45				Average	
		point68	68	37,682,064.0	11,964,577.0	367.45				Average	
		point69	69	37,682,184.0	11,964,362.0	367.45				Average	
		point70	70	37,682,304.0	11,964,194.0	367.45				Average	
		point71	71	37,682,396.0	11,964,108.0	367.45				Average	
		point72	72	37,682,528.0	11,964,068.0	367.45				Average	
		point73	73	37,682,656.0	11,964,054.0	367.45					
SR56 EB Onramp	30.0	point74	74	37,682,760.0	11,964,037.0	367.45				Average	
		point75	75	37,682,852.0	11,964,012.0	367.45				Average	
		point76	76	37,682,924.0	11,963,967.0	367.45				Average	
		point77	77	37,683,036.0	11,963,873.0	367.45				Average	
		point78	78	37,683,300.0	11,963,640.0	370.73				Average	
		point79	79	37,683,496.0	11,963,463.0	370.73				Average	
		point80	80	37,683,800.0	11,963,225.0	374.02				Average	
		point81	81	37,684,020.0	11,963,071.0	374.02					
SR56 WB Offramp	30.0	point82	82	37,683,836.0	11,963,430.0	374.02				Average	
		point83	83	37,683,696.0	11,963,563.0	374.02				Average	
		point84	84	37,683,496.0	11,963,796.0	377.30				Average	
		point85	85	37,683,340.0	11,964,071.0	377.30				Average	
		point86	86	37,683,252.0	11,964,324.0	380.58				Average	
		point87	87	37,683,176.0	11,964,528.0	380.58				Average	
		point88	88	37,683,088.0	11,964,664.0	383.86				Average	
		point89	89	37,682,932.0	11,964,750.0	383.86				Average	
		point90	90	37,682,712.0	11,964,803.0	387.14					
SR56 WB Onramp	30.0	point91	91	37,682,592.0	11,964,835.0	387.14				Average	
		point93	93	37,682,380.0	11,964,877.0	380.58				Average	
		point94	94	37,682,180.0	11,964,955.0	377.30				Average	
		point95	95	37,681,924.0	11,965,066.0	370.73				Average	
		point96	96	37,681,424.0	11,965,290.0	367.45					
Torrey Santa Fe Rd	75.0	point129	129	37,680,924.0	11,964,802.0	360.00				Average	
		point98	98	37,681,240.0	11,964,797.0	360.00				Average	
		point99	99	37,681,380.0	11,964,775.0	360.00				Average	
		point100	100	37,681,508.0	11,964,706.0	360.00				Average	
		point101	101	37,681,612.0	11,964,623.0	360.00				Average	

		point102	102	37,681,692.0	11,964,484.0	360.00				Average	
		point103	103	37,681,848.0	11,964,151.0	360.00				Average	
		point104	104	37,681,960.0	11,963,889.0	360.00				Average	
		point105	105	37,682,136.0	11,963,707.0	360.00				Average	
		point106	106	37,682,384.0	11,963,598.0	362.00				Average	
		point107	107	37,682,528.0	11,963,567.0	365.00				Average	
		point108	108	37,682,692.0	11,963,576.0	367.50					
Camino del Sur Extnsn at Proj Site SB	70.0	point130	130	37,682,692.0	11,963,501.0	367.45				Average	
		point115	115	37,682,700.0	11,962,612.0	367.45				Average	
		point116	116	37,682,728.0	11,962,244.0	367.45				Average	
		point117	117	37,682,808.0	11,961,866.0	367.45				Average	
		point118	118	37,682,928.0	11,961,611.0	367.45				Average	
		point119	119	37,683,044.0	11,961,439.0	367.45					
Carmel Mtn Rd S of Via de las Lenas	45.0	point133	133	37,684,052.0	11,961,995.0	350.00				Average	
		point110	110	37,684,284.0	11,962,377.0	375.00					
Camino del Sur South, SB	25.0	point134	134	37,683,688.0	11,959,149.0	311.68				Average	
		point135	135	37,683,604.0	11,958,956.0	295.28					
Camino del Sur South, NB	25.0	point136	136	37,683,624.0	11,958,960.0	295.28				Average	
		point137	137	37,683,708.0	11,959,144.0	311.68					
Camino del Sur ExtnsnS of Proj SiteNB	70.0	point138	138	37,683,712.0	11,959,148.0	311.68				Average	
		point139	139	37,683,752.0	11,959,245.0	321.52				Average	
		point140	140	37,683,868.0	11,959,477.0	334.65				Average	
		point141	141	37,683,928.0	11,959,715.0	344.49				Average	
		point142	142	37,683,944.0	11,960,125.0	351.05				Average	
		point143	143	37,683,880.0	11,960,438.0	357.61				Average	
		point144	144	37,683,792.0	11,960,643.0	360.89				Average	
		point145	145	37,683,612.0	11,960,921.0	364.17				Average	
		point146	146	37,683,328.0	11,961,210.0	367.45				Average	
		point147	147	37,683,076.0	11,961,470.0	367.45					
Carmel Mtn Rd Extnsn	45.0	point158	158	37,683,132.0	11,961,508.0	367.50				Average	
		point154	154	37,683,560.0	11,961,699.0	360.00				Average	
		point155	155	37,683,916.0	11,961,864.0	355.00				Average	
		point156	156	37,684,028.0	11,961,962.0	350.00					
Camino del Sur NB N of SR 56	70.0	point159	159	37,682,712.0	11,964,597.0	377.30				Average	
		point49	49	37,682,692.0	11,964,825.0	387.10				Average	
		point50	50	37,682,708.0	11,965,056.0	390.00				Average	
		point51	51	37,682,812.0	11,965,370.0	390.00				Average	
		point52	52	37,682,964.0	11,965,587.0	390.00				Average	
		point53	53	37,683,208.0	11,965,818.0	390.00					
Camino del Sur SB S of SR 56	70.0	point160	160	37,682,656.0	11,964,271.0	377.30				Average	

		point62	62	37,682,676.0	11,964,029.0	367.50				Average	
		point46	46	37,682,692.0	11,963,615.0	367.50					
Carmel Mtn Rd N of SR 56	45.0	point161	161	37,684,616.0	11,962,912.0	400.00				Average	
		point112	112	37,685,064.0	11,963,593.0	365.00				Average	
		point113	113	37,685,720.0	11,964,531.0	370.00					
SR56 EB- E of Camino del Sur	55.0	point166	166	37,682,688.0	11,964,345.0	393.70				Average	
		point10	10	37,682,916.0	11,964,159.0	387.14				Average	
		point11	11	37,683,140.0	11,963,937.0	377.30				Average	
		point12	12	37,683,384.0	11,963,681.0	377.30				Average	
		point13	13	37,683,600.0	11,963,454.0	374.02				Average	
		point14	14	37,683,756.0	11,963,315.0	374.02				Average	
		point16	16	37,684,224.0	11,962,951.0	370.73				Average	
		point17	17	37,684,516.0	11,962,788.0	370.73				Average	
		point18	18	37,684,832.0	11,962,635.0	374.02				Average	
		point19	19	37,685,172.0	11,962,502.0	383.86				Average	
		point20	20	37,685,472.0	11,962,417.0	387.14				Average	
		point21	21	37,685,908.0	11,962,339.0	396.98				Average	
		point22	22	37,686,432.0	11,962,273.0	393.70				Average	
		point2	2	37,687,512.0	11,962,229.0	393.70					
SR56 WB- W of Camino del Sur	55.0	point167	167	37,682,748.0	11,964,441.0	393.70				Average	
		point38	38	37,682,580.0	11,964,576.0	393.70				Average	
		point39	39	37,682,292.0	11,964,767.0	387.14				Average	
		point40	40	37,682,052.0	11,964,914.0	377.30				Average	
		point41	41	37,681,588.0	11,965,181.0	367.45				Average	
		point42	42	37,680,736.0	11,965,659.0	354.33				Average	
		point43	43	37,679,612.0	11,966,291.0	337.93				Average	
		point24	24	37,678,848.0	11,966,725.0	328.08					
Camino del Sur Extnsn at Proj Site NB	70.0	point168	168	37,683,076.0	11,961,470.0	367.45				Average	
		point148	148	37,682,964.0	11,961,640.0	367.45				Average	
		point149	149	37,682,840.0	11,961,886.0	367.45				Average	
		point150	150	37,682,764.0	11,962,260.0	367.45				Average	
		point151	151	37,682,736.0	11,962,615.0	367.45				Average	
		point152	152	37,682,748.0	11,963,530.0	367.45					
Camino del Sur ExtnsnS of Proj SiteSB	70.0	point169	169	37,683,044.0	11,961,439.0	367.45				Average	
		point120	120	37,683,308.0	11,961,181.0	367.45				Average	
		point121	121	37,683,596.0	11,960,901.0	364.17				Average	
		point122	122	37,683,768.0	11,960,617.0	360.89				Average	
		point123	123	37,683,856.0	11,960,420.0	357.61				Average	
		point124	124	37,683,920.0	11,960,120.0	351.05				Average	
		point125	125	37,683,908.0	11,959,715.0	344.49				Average	

		point126	126	37,683,840.0	11,959,478.0	334.65				Average	
		point127	127	37,683,736.0	11,959,253.0	321.52				Average	
		point92	92	37,683,692.0	11,959,153.0	311.68					
Carmel Mtn Rd S of SR 56-2	45.0	point170	170	37,684,284.0	11,962,377.0	375.00				Average	
		point111	111	37,684,524.0	11,962,769.0	400.00					

Dudek **26 February 2016**
M Greene **TNM 2.5**

INPUT: TRAFFIC FOR LAeq1h Volumes
PROJECT/CONTRACT: **9063**
RUN: **Torrey Highlands Office Proj Ex W Proj**

Roadway	Points		Segment									
Name	Name	No.	Autos		MTrucks		HTrucks		Buses		Motorcycles	
			V	S	V	S	V	S	V	S	V	S
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
SR56 EB W of Camino del Sur	point1	1	4464	65	240	65	96	65	0	0	0	0
	point3	3	4464	65	240	65	96	65	0	0	0	0
	point4	4	4464	65	240	65	96	65	0	0	0	0
	point5	5	4464	65	240	65	96	65	0	0	0	0
	point6	6	4464	65	240	65	96	65	0	0	0	0
	point7	7	4464	65	240	65	96	65	0	0	0	0
	point8	8	4464	65	240	65	96	65	0	0	0	0
	point9	9										
SR56 WB - E of Camino del Sur	point23	23	3534	65	190	65	76	65	0	0	0	0
	point25	25	3534	65	190	65	76	65	0	0	0	0
	point26	26	3534	65	190	65	76	65	0	0	0	0
	point27	27	3534	65	190	65	76	65	0	0	0	0
	point28	28	3534	65	190	65	76	65	0	0	0	0
	point29	29	3534	65	190	65	76	65	0	0	0	0
	point30	30	3534	65	190	65	76	65	0	0	0	0
	point31	31	3534	65	190	65	76	65	0	0	0	0
	point32	32	3534	65	190	65	76	65	0	0	0	0
	point33	33	3534	65	190	65	76	65	0	0	0	0
	point34	34	3534	65	190	65	76	65	0	0	0	0
	point35	35	3534	65	190	65	76	65	0	0	0	0
	point36	36	3534	65	190	65	76	65	0	0	0	0
	point37	37										
Camino del Sur NB S of SR 56	point45	45	925	45	19	45	10	45	0	0	0	0
	point47	47	925	45	19	45	10	45	0	0	0	0
	point48	48										

Camino del Sur SB N of SR 56	point64	64	860	45	18	45	9	45	0	0	0	0
	point55	55	860	45	18	45	9	45	0	0	0	0
	point56	56	860	45	18	45	9	45	0	0	0	0
	point58	58	860	45	18	45	9	45	0	0	0	0
	point59	59	860	45	18	45	9	45	0	0	0	0
	point60	60										
SR56 EB Offramp	point65	65	568	45	12	45	6	45	0	0	0	0
	point66	66	568	45	12	45	6	45	0	0	0	0
	point67	67	568	45	12	45	6	45	0	0	0	0
	point68	68	568	45	12	45	6	45	0	0	0	0
	point69	69	568	45	12	45	6	45	0	0	0	0
	point70	70	568	45	12	45	6	45	0	0	0	0
	point71	71	568	45	12	45	6	45	0	0	0	0
	point72	72	568	45	12	45	6	45	0	0	0	0
	point73	73										
SR56 EB Onramp	point74	74	1320	45	27	45	14	45	0	0	0	0
	point75	75	1320	45	27	45	14	45	0	0	0	0
	point76	76	1320	45	27	45	14	45	0	0	0	0
	point77	77	1320	45	27	45	14	45	0	0	0	0
	point78	78	1320	45	27	45	14	45	0	0	0	0
	point79	79	1320	45	27	45	14	45	0	0	0	0
	point80	80	1320	45	27	45	14	45	0	0	0	0
	point81	81										
SR56 WB Offramp	point82	82	1019	45	21	45	11	45	0	0	0	0
	point83	83	1019	45	21	45	11	45	0	0	0	0
	point84	84	1019	45	21	45	11	45	0	0	0	0
	point85	85	1019	45	21	45	11	45	0	0	0	0
	point86	86	1019	45	21	45	11	45	0	0	0	0
	point87	87	1019	45	21	45	11	45	0	0	0	0
	point88	88	1019	45	21	45	11	45	0	0	0	0
	point89	89	1019	45	21	45	11	45	0	0	0	0
	point90	90										
SR56 WB Onramp	point91	91	451	45	9	45	5	45	0	0	0	0
	point93	93	451	45	9	45	5	45	0	0	0	0
	point94	94	451	45	9	45	5	45	0	0	0	0
	point95	95	451	45	9	45	5	45	0	0	0	0
	point96	96										

Torrey Santa Fe Rd	point129	129	341	35	7	35	4	35	0	0	0	0
	point98	98	341	35	7	35	4	35	0	0	0	0
	point99	99	341	35	7	35	4	35	0	0	0	0
	point100	100	341	35	7	35	4	35	0	0	0	0
	point101	101	341	35	7	35	4	35	0	0	0	0
	point102	102	341	35	7	35	4	35	0	0	0	0
	point103	103	341	35	7	35	4	35	0	0	0	0
	point104	104	341	35	7	35	4	35	0	0	0	0
	point105	105	341	35	7	35	4	35	0	0	0	0
	point106	106	341	35	7	35	4	35	0	0	0	0
	point107	107	341	35	7	35	4	35	0	0	0	0
	point108	108										
Camino del Sur Extnsn at Proj Site SB	point130	130	128	45	3	45	1	45	0	0	0	0
	point115	115	128	45	3	45	1	45	0	0	0	0
	point116	116	128	45	3	45	1	45	0	0	0	0
	point117	117	128	45	3	45	1	45	0	0	0	0
	point118	118	128	45	3	45	1	45	0	0	0	0
	point119	119										
Carmel Mtn Rd S of Via de las Lenas	point133	133	43	45	1	45	0	0	0	0	0	0
	point110	110										
Camino del Sur South, SB	point134	134	2	45	0	0	0	0	0	0	0	0
	point135	135										
Camino del Sur South, NB	point136	136	5	45	0	0	0	0	0	0	0	0
	point137	137										
Camino del Sur ExtnsnS of Proj SiteNB	point138	138	0	0	0	0	0	0	0	0	0	0
	point139	139	0	0	0	0	0	0	0	0	0	0
	point140	140	0	0	0	0	0	0	0	0	0	0
	point141	141	0	0	0	0	0	0	0	0	0	0
	point142	142	0	0	0	0	0	0	0	0	0	0
	point143	143	0	0	0	0	0	0	0	0	0	0
	point144	144	0	0	0	0	0	0	0	0	0	0
	point145	145	0	0	0	0	0	0	0	0	0	0
	point146	146	0	0	0	0	0	0	0	0	0	0
	point147	147										
Carmel Mtn Rd Extnsn	point158	158	424	45	9	45	4	45	0	0	0	0
	point154	154	424	45	9	45	4	45	0	0	0	0
	point155	155	424	45	9	45	4	45	0	0	0	0

	point156	156										
Camino del Sur NB N of SR 56	point159	159	1408	45	29	45	15	45	0	0	0	0
	point49	49	1408	45	29	45	15	45	0	0	0	0
	point50	50	1408	45	29	45	15	45	0	0	0	0
	point51	51	1408	45	29	45	15	45	0	0	0	0
	point52	52	1408	45	29	45	15	45	0	0	0	0
	point53	53										
Camino del Sur SB S of SR 56	point160	160	945	45	19	45	10	45	0	0	0	0
	point62	62	945	45	19	45	10	45	0	0	0	0
	point46	46										
Carmel Mtn Rd N of SR 56	point161	161	61	45	1	45	1	45	0	0	0	0
	point112	112	61	45	1	45	1	45	0	0	0	0
	point113	113										
SR56 EB- E of Camino del Sur	point166	166	3534	65	190	65	76	65	0	0	0	0
	point10	10	3534	65	190	65	76	65	0	0	0	0
	point11	11	3534	65	190	65	76	65	0	0	0	0
	point12	12	3534	65	190	65	76	65	0	0	0	0
	point13	13	3534	65	190	65	76	65	0	0	0	0
	point14	14	3534	65	190	65	76	65	0	0	0	0
	point16	16	3534	65	190	65	76	65	0	0	0	0
	point17	17	3534	65	190	65	76	65	0	0	0	0
	point18	18	3534	65	190	65	76	65	0	0	0	0
	point19	19	3534	65	190	65	76	65	0	0	0	0
	point20	20	3534	65	190	65	76	65	0	0	0	0
	point21	21	3534	65	190	65	76	65	0	0	0	0
	point22	22	3534	65	190	65	76	65	0	0	0	0
	point2	2										
SR56 WB- W of Camino del Sur	point167	167	4464	65	240	65	96	65	0	0	0	0
	point38	38	4464	65	240	65	96	65	0	0	0	0
	point39	39	4464	65	240	65	96	65	0	0	0	0
	point40	40	4464	65	240	65	96	65	0	0	0	0
	point41	41	4464	65	240	65	96	65	0	0	0	0
	point42	42	4464	65	240	65	96	65	0	0	0	0
	point43	43	4464	65	240	65	96	65	0	0	0	0
	point24	24										
Camino del Sur Extnsn at Proj Site NB	point168	168	515	45	11	45	5	45	0	0	0	0
	point148	148	515	45	11	45	5	45	0	0	0	0

	point149	149	515	45	11	45	5	45	0	0	0	0
	point150	150	515	45	11	45	5	45	0	0	0	0
	point151	151	515	45	11	45	5	45	0	0	0	0
	point152	152										
Camino del Sur ExtnsnS of Proj SiteSB	point169	169	0	0	0	0	0	0	0	0	0	0
	point120	120	0	0	0	0	0	0	0	0	0	0
	point121	121	0	0	0	0	0	0	0	0	0	0
	point122	122	0	0	0	0	0	0	0	0	0	0
	point123	123	0	0	0	0	0	0	0	0	0	0
	point124	124	0	0	0	0	0	0	0	0	0	0
	point125	125	0	0	0	0	0	0	0	0	0	0
	point126	126	0	0	0	0	0	0	0	0	0	0
	point127	127	0	0	0	0	0	0	0	0	0	0
	point92	92										
Carmel Mtn Rd S of SR 56-2	point170	170	84	45	2	45	1	45	0	0	0	0
	point111	111										

Dudek **26 February 2016**
M Greene **TNM 2.5**

INPUT: RECEIVERS
PROJECT/CONTRACT: **9063**
RUN: **Torrey Highlands Office Proj Ex W Proj**

Receiver Name	No.	#DUs	Coordinates (ground) X	Y	Z	Height above Ground	Input Sound Levels and Criteria Existing LAeq1h	Impact Criteria LAeq1h	Sub'l	NR Goal	Active in Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
M1	1	1	37,682,468.0	11,962,297.0	370.00	5.00	0.00	65	10.0	8.0	Y
M2	2	1	37,684,116.0	11,962,032.0	352.00	5.00	0.00	65	10.0	8.0	Y
M3 / R9	3	1	37,682,992.0	11,962,679.0	370.00	5.00	0.00	65	10.0	8.0	Y
M4 / R10	4	1	37,680,932.0	11,963,552.0	360.00	5.00	0.00	65	10.0	8.0	Y
M5	5	1	37,682,784.0	11,965,090.0	395.00	5.00	0.00	65	10.0	8.0	Y
R1	6	1	37,684,128.0	11,962,025.0	352.00	5.00	0.00	65	10.0	8.0	Y
R2	7	1	37,684,068.0	11,961,925.0	350.00	5.00	0.00	65	10.0	8.0	Y
R3	8	1	37,682,616.0	11,962,274.0	370.00	5.00	0.00	65	10.0	8.0	Y
R4	10	1	37,680,684.0	11,963,998.0	360.00	5.00	0.00	65	10.0	8.0	Y
R5	11	1	37,683,520.0	11,960,036.0	426.00	5.00	0.00	65	10.0	8.0	Y
R6	13	1	37,683,804.0	11,963,646.0	375.00	5.00	0.00	65	10.0	8.0	Y
R7	17	1	37,685,260.0	11,963,740.0	368.00	5.00	0.00	66	10.0	8.0	Y
R8	19	1	37,682,828.0	11,965,081.0	410.00	5.00	0.00	66	10.0	8.0	Y

Dudek **26 February 2016**
M Greene **TNM 2.5**

INPUT: BARRIERS
PROJECT/CONTRACT: **9063**
RUN: **Torrey Highlands Office Proj Ex W Proj**

Barrier									Points									
Name	Type	Height		If Wall	If Berm			Add'tnl	Name	No.	Coordinates (bottom)			Height	Segment			
		Min	Max	$ per	$ per	Top	Run:Rise	$ per			X	Y	Z	at	Seg Ht Perturbs		On	Important
				Unit	Unit	Width		Unit						Point	Incre-	#Up	#Dn	Struct?	Reflec-
				Area	Vol.			Length							ment				tions?
		ft	ft	$/sq ft	$/cu yd	ft	ft:ft	$/ft			ft	ft	ft	ft	ft				
Barrier1	W	0.00	100.00	0.00				0.00	point1	1	37,682,668.0	11,962,091.0	368.00	30.00	0.00	0	0		
									point3	3	37,682,664.0	11,962,208.0	368.00	30.00	0.00	0	0		
									point4	4	37,682,188.0	11,962,201.0	368.00	30.00	0.00	0	0		
									point5	5	37,682,192.0	11,962,091.0	368.00	30.00	0.00	0	0		
									point6	6	37,682,224.0	11,962,067.0	368.00	30.00	0.00	0	0		
									point7	7	37,682,632.0	11,962,073.0	368.00	30.00	0.00	0	0		
									point8	8	37,682,628.0	11,962,090.0	368.00	30.00					
Barrier2	W	0.00	100.00	0.00				0.00	point9	9	37,682,516.0	11,962,702.0	368.00	30.00	0.00	0	0		
									point11	11	37,682,456.0	11,962,703.0	368.00	30.00	0.00	0	0		
									point12	12	37,682,456.0	11,962,694.0	368.00	30.00	0.00	0	0		
									point13	13	37,682,372.0	11,962,694.0	368.00	30.00	0.00	0	0		
									point14	14	37,682,372.0	11,962,708.0	368.00	30.00	0.00	0	0		
									point15	15	37,682,276.0	11,962,708.0	368.00	30.00	0.00	0	0		
									point16	16	37,682,276.0	11,962,694.0	368.00	30.00	0.00	0	0		
									point17	17	37,682,220.0	11,962,694.0	368.00	30.00	0.00	0	0		
									point18	18	37,682,220.0	11,962,651.0	368.00	30.00	0.00	0	0		
									point19	19	37,682,232.0	11,962,651.0	368.00	30.00	0.00	0	0		
									point20	20	37,682,232.0	11,962,584.0	368.00	30.00	0.00	0	0		
									point21	21	37,682,364.0	11,962,584.0	368.00	30.00	0.00	0	0		
									point22	22	37,682,364.0	11,962,566.0	368.00	30.00	0.00	0	0		
									point23	23	37,682,424.0	11,962,567.0	368.00	30.00	0.00	0	0		
									point24	24	37,682,428.0	11,962,587.0	368.00	30.00	0.00	0	0		
									point25	25	37,682,476.0	11,962,587.0	368.00	30.00	0.00	0	0		
									point26	26	37,682,476.0	11,962,600.0	368.00	30.00	0.00	0	0		
									point10	10	37,682,520.0	11,962,600.0	368.00	30.00					
Barrier3	W	0.00	100.00	0.00				0.00	point27	27	37,682,488.0	11,962,273.0	368.00	30.00	0.00	0	0		
									point28	28	37,682,528.0	11,962,274.0	368.00	30.00					
Barrier4	W	0.00	100.00	0.00				0.00	point29	29	37,682,600.0	11,962,284.0	368.00	30.00	0.00	0	0		
									point36	36	37,682,600.0	11,962,306.0	368.00	30.00	0.00	0	0		
									point30	30	37,682,592.0	11,962,306.0	368.00	30.00	0.00	0	0		
									point31	31	37,682,588.0	11,962,530.0	368.00	30.00	0.00	0	0		
									point32	32	37,682,468.0	11,962,527.0	368.00	30.00	0.00	0	0		
									point33	33	37,682,468.0	11,962,376.0	368.00	30.00	0.00	0	0		
									point34	34	37,682,484.0	11,962,376.0	368.00	30.00	0.00	0	0		
									point35	35	37,682,484.0	11,962,282.0	368.00	30.00					
Barrier5	W	0.00	99.99	0.00				0.00	point37	37	37,682,520.0	11,962,600.0	368.00	30.00	0.00	0	0		
									point38	38	37,682,516.0	11,962,702.0	368.00	30.00					

Barrier6	W	0.00	100.00	0.00				0.00	point39	39	37,682,376.0	11,962,397.0	368.00	30.00	0.00	0	0		
									point40	40	37,682,420.0	11,962,396.0	368.00	30.00	0.00	0	0		
									point41	41	37,682,420.0	11,962,525.0	368.00	30.00	0.00	0	0		
									point42	42	37,682,376.0	11,962,525.0	368.00	30.00					
Barrier7	W	0.00	100.00	0.00				0.00	point43	43	37,682,192.0	11,962,275.0	368.00	30.00	0.00	0	0		
									point45	45	37,682,272.0	11,962,275.0	368.00	30.00	0.00	0	0		
									point46	46	37,682,272.0	11,962,283.0	368.00	30.00	0.00	0	0		
									point47	47	37,682,300.0	11,962,283.0	368.00	30.00	0.00	0	0		
									point48	48	37,682,300.0	11,962,323.0	368.00	30.00	0.00	0	0		
									point49	49	37,682,312.0	11,962,323.0	368.00	30.00	0.00	0	0		
									point50	50	37,682,312.0	11,962,340.0	368.00	30.00	0.00	0	0		
									point51	51	37,682,296.0	11,962,339.0	368.00	30.00	0.00	0	0		
									point52	52	37,682,296.0	11,962,400.0	368.00	30.00	0.00	0	0		
									point53	53	37,682,288.0	11,962,400.0	368.00	30.00	0.00	0	0		
									point54	54	37,682,288.0	11,962,528.0	368.00	30.00	0.00	0	0		
									point55	55	37,682,196.0	11,962,528.0	368.00	30.00	0.00	0	0		
									point56	56	37,682,196.0	11,962,428.0	368.00	30.00	0.00	0	0		
									point57	57	37,682,164.0	11,962,428.0	368.00	30.00	0.00	0	0		
									point58	58	37,682,164.0	11,962,387.0	368.00	30.00	0.00	0	0		
									point59	59	37,682,184.0	11,962,386.0	368.00	30.00	0.00	0	0		
									point44	44	37,682,188.0	11,962,278.0	368.00	30.00					
Barrier8	W	0.00	99.99	0.00				0.00	point60	60	37,682,376.0	11,962,525.0	368.00	30.00	0.00	0	0		
									point61	61	37,682,376.0	11,962,397.0	368.00	30.00					
Barrier11	W	0.00	99.99	0.00				0.00	point63	63	37,682,484.0	11,962,282.0	368.00	30.00	0.00	0	0		
									point64	64	37,682,488.0	11,962,273.0	368.00	30.00					
Barrier13	W	0.00	99.99	0.00				0.00	point65	65	37,682,528.0	11,962,274.0	368.00	30.00	0.00	0	0		
									point66	66	37,682,600.0	11,962,284.0	368.00	30.00					
Barrier14	W	0.00	100.00	0.00				0.00	point67	67	37,681,024.0	11,963,592.0	360.00	30.00	0.00	0	0		
									point68	68	37,681,248.0	11,963,589.0	360.00	30.00	0.00	0	0		
									point69	69	37,681,248.0	11,963,706.0	360.00	30.00	0.00	0	0		
									point70	70	37,681,020.0	11,963,708.0	360.00	30.00	0.00	0	0		
									point71	71	37,681,024.0	11,963,593.0	360.00	30.00					
Barrier15	W	0.00	100.00	0.00				0.00	point72	72	37,681,076.0	11,964,088.0	360.00	30.00	0.00	0	0		
									point73	73	37,681,076.0	11,963,812.0	360.00	30.00	0.00	0	0		
									point74	74	37,681,192.0	11,963,811.0	360.00	30.00	0.00	0	0		
									point75	75	37,681,192.0	11,964,086.0	360.00	30.00					
Barrier16	W	0.00	100.00	0.00				0.00	point76	76	37,681,068.0	11,964,462.0	360.00	30.00	0.00	0	0		
									point77	77	37,681,068.0	11,964,178.0	360.00	30.00	0.00	0	0		
									point78	78	37,681,188.0	11,964,181.0	360.00	30.00	0.00	0	0		
									point79	79	37,681,192.0	11,964,465.0	360.00	30.00					
Barrier17	W	0.00	100.00	0.00				0.00	point80	80	37,681,012.0	11,964,558.0	360.00	30.00	0.00	0	0		
									point81	81	37,681,232.0	11,964,558.0	360.00	30.00	0.00	0	0		
									point82	82	37,681,232.0	11,964,670.0	360.00	30.00	0.00	0	0		
									point83	83	37,681,012.0	11,964,670.0	360.00	30.00					
Barrier18	W	0.00	100.00	0.00				0.00	point84	84	37,681,248.0	11,963,778.0	360.00	30.00	0.00	0	0		
									point85	85	37,681,424.0	11,963,775.0	360.00	30.00	0.00	0	0		
									point86	86	37,681,428.0	11,964,478.0	360.00	30.00	0.00	0	0		
									point87	87	37,681,232.0	11,964,480.0	360.00	30.00					
Barrier20	W	0.00	99.99	0.00				0.00	point89	89	37,681,076.0	11,964,088.0	360.00	30.00	0.00	0	0		
									point90	90	37,681,192.0	11,964,086.0	360.00	30.00					

Barrier21	W	0.00	99.99	0.00				0.00	point91	91	37,681,068.0	11,964,462.0	360.00	30.00	0.00	0	0		
									point92	92	37,681,192.0	11,964,465.0	360.00	30.00					
Barrier22	W	0.00	99.99	0.00				0.00	point93	93	37,681,012.0	11,964,670.0	360.00	30.00	0.00	0	0		
									point94	94	37,681,012.0	11,964,558.0	360.00	30.00					
Barrier23	W	0.00	99.99	0.00				0.00	point95	95	37,681,248.0	11,963,778.0	360.00	30.00	0.00	0	0		
									point96	96	37,681,232.0	11,964,480.0	360.00	30.00					
Barrier24	W	0.00	99.99	0.00				0.00	point97	97	37,681,824.0	11,964,895.0	367.45	3.00	0.00	0	0		
									point98	98	37,681,980.0	11,964,813.0	377.30	3.00	0.00	0	0		
									point99	99	37,682,220.0	11,964,664.0	387.10	3.00	0.00	0	0		
									point100	100	37,682,508.0	11,964,446.0	393.70	3.00	0.00	0	0		
									point101	101	37,682,672.0	11,964,314.0	393.70	3.00	0.00	0	0		
									point102	102	37,682,892.0	11,964,130.0	387.10	3.00	0.00	0	0		
									point103	103	37,683,116.0	11,963,918.0	377.30	3.00	0.00	0	0		
									point104	104	37,683,360.0	11,963,662.0	377.30	3.00					
Barrier25	W	0.00	99.99	0.00				0.00	point105	105	37,683,480.0	11,963,791.0	377.30	3.00	0.00	0	0		
									point106	106	37,683,240.0	11,964,046.0	377.30	3.00	0.00	0	0		
									point107	107	37,683,004.0	11,964,275.0	387.10	3.00	0.00	0	0		
									point108	108	37,682,768.0	11,964,479.0	393.70	3.00	0.00	0	0		
									point109	109	37,682,604.0	11,964,614.0	393.70	3.00	0.00	0	0		
									point110	110	37,682,312.0	11,964,803.0	387.10	3.00	0.00	0	0		
									point111	111	37,682,064.0	11,964,947.0	377.30	3.00	0.00	0	0		
									point112	112	37,681,896.0	11,965,040.0	370.73	3.00					
Barrier26	W	0.00	99.99	0.00				0.00	point114	114	37,682,788.0	11,964,974.0	410.00	6.00	0.00	0	0		
									point115	115	37,682,880.0	11,965,339.0	410.00	6.00	0.00	0	0		
									point116	116	37,683,024.0	11,965,540.0	410.00	6.00	0.00	0	0		
									point117	117	37,683,192.0	11,965,698.0	410.00	6.00					

Dudek			26 February 2016	
M Greene			TNM 2.5	
INPUT: TERRAIN LINES				
PROJECT/CONTRACT:	9063			
RUN:	Torrey Highlands Office Proj Ex W Proj			
Terrain Line	Points			
Name	No.	Coordinates (ground)		
		X	Y	Z
		ft	ft	ft
Terrain Line2	1	37,683,704.0	11,963,188.0	380.00
	2	37,684,172.0	11,962,872.0	390.00
	3	37,684,460.0	11,962,733.0	400.00
Terrain Line4	4	37,684,504.0	11,962,705.0	400.00
	5	37,684,772.0	11,962,568.0	395.00
	6	37,685,164.0	11,962,413.0	390.00
	7	37,685,464.0	11,962,342.0	395.00
	8	37,685,880.0	11,962,259.0	400.00
Terrain Line5	9	37,682,744.0	11,964,995.0	410.00
	10	37,682,868.0	11,964,917.0	420.00
	11	37,683,132.0	11,964,849.0	420.00
	12	37,683,308.0	11,964,858.0	410.00
Terrain Line6	13	37,682,584.0	11,965,072.0	400.00
	14	37,682,516.0	11,965,027.0	410.00
	15	37,682,348.0	11,965,018.0	420.00
	16	37,682,116.0	11,965,133.0	420.00
	17	37,681,832.0	11,965,257.0	410.00
	18	37,681,700.0	11,965,321.0	400.00
Terrain Line7	19	37,684,340.0	11,963,107.0	385.00
	20	37,683,872.0	11,963,488.0	390.00
	21	37,683,732.0	11,963,621.0	390.00
	22	37,683,532.0	11,963,854.0	392.00
	23	37,683,376.0	11,964,129.0	392.00
	24	37,683,288.0	11,964,382.0	395.00
	25	37,683,212.0	11,964,586.0	395.00
	26	37,683,124.0	11,964,722.0	398.00

Dudek **26 February 2016**
M Greene **TNM 2.5**
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: 9063
RUN: Torrey Highlands Office Proj Ex W Proj
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
M1	1	1	0.0	41.0	65	41.0	10	----	41.0	0.0	8	-8.0
M2	2	1	0.0	56.8	65	56.8	10	----	56.8	0.0	8	-8.0
M3 / R9	3	1	0.0	59.7	65	59.7	10	----	59.7	0.0	8	-8.0
M4 / R10	4	1	0.0	49.2	65	49.2	10	----	49.2	0.0	8	-8.0
M5	5	1	0.0	69.8	65	69.8	10	Snd Lvl	69.8	0.0	8	-8.0
R1	6	1	0.0	55.6	65	55.6	10	----	55.6	0.0	8	-8.0
R2	7	1	0.0	60.3	65	60.3	10	----	60.3	0.0	8	-8.0
R3	8	1	0.0	60.8	65	60.8	10	----	60.8	0.0	8	-8.0
R4	10	1	0.0	51.8	65	51.8	10	----	51.8	0.0	8	-8.0
R5	11	1	0.0	52.1	65	52.1	10	----	52.1	0.0	8	-8.0
R6	13	1	0.0	59.3	65	59.3	10	----	59.3	0.0	8	-8.0
R7	17	1	0.0	58.3	66	58.3	10	----	58.3	0.0	8	-8.0
R8	19	1	0.0	60.1	66	60.1	10	----	60.1	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction Min	Avg	Max
		dB	dB	dB
All Selected	13	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

Dudek 26 February 2016
M Greene TNM 2.5

INPUT: ROADWAYS
PROJECT/CONTRACT: 9063
RUN: TorreyHghlndsOfficePrj Opng Day wo Prj

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA

Roadway Name	Width	Points Name	No.	Coordinates (pavement) X	Y	Z	Flow Control Control Device	Speed Constraint	Percent Vehicles Affected	Segment Pvmt Type	On Struct?
	ft			ft	ft	ft		mph	%		
SR56 EB W of Camino del Sur	55.0	point1	1	37,678,768.0	11,966,663.0	328.08				Average	
		point3	3	37,679,540.0	11,966,200.0	337.93				Average	
		point4	4	37,680,676.0	11,965,565.0	354.33				Average	
		point5	5	37,681,516.0	11,965,094.0	367.45				Average	
		point6	6	37,682,000.0	11,964,839.0	377.30				Average	
		point7	7	37,682,236.0	11,964,694.0	387.14				Average	
		point8	8	37,682,528.0	11,964,478.0	393.70				Average	
		point9	9	37,682,688.0	11,964,345.0	393.70					
SR56 WB - E of Camino del Sur	55.0	point23	23	37,687,496.0	11,962,344.0	393.70				Average	
		point25	25	37,686,424.0	11,962,375.0	393.70				Average	
		point26	26	37,685,880.0	11,962,450.0	396.98				Average	
		point27	27	37,685,500.0	11,962,528.0	387.14				Average	
		point28	28	37,685,196.0	11,962,628.0	383.86				Average	
		point29	29	37,684,876.0	11,962,745.0	374.02				Average	
		point30	30	37,684,588.0	11,962,891.0	370.73				Average	
		point31	31	37,684,304.0	11,963,049.0	370.73				Average	
		point32	32	37,683,844.0	11,963,396.0	374.02				Average	
		point33	33	37,683,680.0	11,963,532.0	374.02				Average	
		point34	34	37,683,464.0	11,963,757.0	377.30				Average	
		point35	35	37,683,220.0	11,964,008.0	377.30				Average	
		point36	36	37,682,984.0	11,964,236.0	387.14				Average	
		point37	37	37,682,748.0	11,964,441.0	393.70					
Camino del Sur NB S of SR 56	70.0	point45	45	37,682,764.0	11,963,599.0	367.50				Average	
		point47	47	37,682,744.0	11,964,027.0	367.50				Average	
		point48	48	37,682,728.0	11,964,212.0	377.30					
Camino del Sur SB N of SR 56	70.0	point64	64	37,683,168.0	11,965,881.0	390.00				Average	
		point55	55	37,682,912.0	11,965,650.0	390.00				Average	

		point56	56	37,682,748.0	11,965,418.0	390.00				Average	
		point58	58	37,682,636.0	11,965,074.0	390.00				Average	
		point59	59	37,682,620.0	11,964,820.0	387.10				Average	
		point60	60	37,682,628.0	11,964,646.0	377.30					
SR56 EB Offramp	30.0	point65	65	37,681,496.0	11,965,086.0	367.45				Average	
		point66	66	37,681,812.0	11,964,846.0	367.45				Average	
		point67	67	37,681,968.0	11,964,690.0	367.45				Average	
		point68	68	37,682,064.0	11,964,577.0	367.45				Average	
		point69	69	37,682,184.0	11,964,362.0	367.45				Average	
		point70	70	37,682,304.0	11,964,194.0	367.45				Average	
		point71	71	37,682,396.0	11,964,108.0	367.45				Average	
		point72	72	37,682,528.0	11,964,068.0	367.45				Average	
		point73	73	37,682,656.0	11,964,054.0	367.45					
SR56 EB Onramp	30.0	point74	74	37,682,760.0	11,964,037.0	367.45				Average	
		point75	75	37,682,852.0	11,964,012.0	367.45				Average	
		point76	76	37,682,924.0	11,963,967.0	367.45				Average	
		point77	77	37,683,036.0	11,963,873.0	367.45				Average	
		point78	78	37,683,300.0	11,963,640.0	370.73				Average	
		point79	79	37,683,496.0	11,963,463.0	370.73				Average	
		point80	80	37,683,800.0	11,963,225.0	374.02				Average	
		point81	81	37,684,020.0	11,963,071.0	374.02					
SR56 WB Offramp	30.0	point82	82	37,683,836.0	11,963,430.0	374.02				Average	
		point83	83	37,683,696.0	11,963,563.0	374.02				Average	
		point84	84	37,683,496.0	11,963,796.0	377.30				Average	
		point85	85	37,683,340.0	11,964,071.0	377.30				Average	
		point86	86	37,683,252.0	11,964,324.0	380.58				Average	
		point87	87	37,683,176.0	11,964,528.0	380.58				Average	
		point88	88	37,683,088.0	11,964,664.0	383.86				Average	
		point89	89	37,682,932.0	11,964,750.0	383.86				Average	
		point90	90	37,682,712.0	11,964,803.0	387.14					
SR56 WB Onramp	30.0	point91	91	37,682,592.0	11,964,835.0	387.14				Average	
		point93	93	37,682,380.0	11,964,877.0	380.58				Average	
		point94	94	37,682,180.0	11,964,955.0	377.30				Average	
		point95	95	37,681,924.0	11,965,066.0	370.73				Average	
		point96	96	37,681,424.0	11,965,290.0	367.45					
Torrey Santa Fe Rd	75.0	point129	129	37,680,924.0	11,964,802.0	360.00				Average	
		point98	98	37,681,240.0	11,964,797.0	360.00				Average	
		point99	99	37,681,380.0	11,964,775.0	360.00				Average	
		point100	100	37,681,508.0	11,964,706.0	360.00				Average	
		point101	101	37,681,612.0	11,964,623.0	360.00				Average	

		point102	102	37,681,692.0	11,964,484.0	360.00				Average	
		point103	103	37,681,848.0	11,964,151.0	360.00				Average	
		point104	104	37,681,960.0	11,963,889.0	360.00				Average	
		point105	105	37,682,136.0	11,963,707.0	360.00				Average	
		point106	106	37,682,384.0	11,963,598.0	362.00				Average	
		point107	107	37,682,528.0	11,963,567.0	365.00				Average	
		point108	108	37,682,692.0	11,963,576.0	367.50					
Camino del Sur Extnsn at Proj Site SB	70.0	point130	130	37,682,692.0	11,963,501.0	367.45				Average	
		point115	115	37,682,700.0	11,962,612.0	367.45				Average	
		point116	116	37,682,728.0	11,962,244.0	367.45				Average	
		point117	117	37,682,808.0	11,961,866.0	367.45				Average	
		point118	118	37,682,928.0	11,961,611.0	367.45				Average	
		point119	119	37,683,044.0	11,961,439.0	367.45					
Carmel Mtn Rd S of Via de las Lenas	45.0	point133	133	37,684,052.0	11,961,995.0	350.00				Average	
		point110	110	37,684,284.0	11,962,377.0	375.00					
Carmel Mtn Rd Extnsn	45.0	point158	158	37,683,132.0	11,961,508.0	367.50				Average	
		point154	154	37,683,560.0	11,961,699.0	360.00				Average	
		point155	155	37,683,916.0	11,961,864.0	355.00				Average	
		point156	156	37,684,028.0	11,961,962.0	350.00					
Camino del Sur NB N of SR 56	70.0	point159	159	37,682,712.0	11,964,597.0	377.30				Average	
		point49	49	37,682,692.0	11,964,825.0	387.10				Average	
		point50	50	37,682,708.0	11,965,056.0	390.00				Average	
		point51	51	37,682,812.0	11,965,370.0	390.00				Average	
		point52	52	37,682,964.0	11,965,587.0	390.00				Average	
		point53	53	37,683,208.0	11,965,818.0	390.00					
Camino del Sur SB S of SR 56	70.0	point160	160	37,682,656.0	11,964,271.0	377.30				Average	
		point62	62	37,682,676.0	11,964,029.0	367.50				Average	
		point46	46	37,682,692.0	11,963,615.0	367.50					
Carmel Mtn Rd N of SR 56	45.0	point161	161	37,684,616.0	11,962,912.0	400.00				Average	
		point112	112	37,685,064.0	11,963,593.0	365.00				Average	
		point113	113	37,685,720.0	11,964,531.0	370.00					
SR56 EB- E of Camino del Sur	55.0	point166	166	37,682,688.0	11,964,345.0	393.70				Average	
		point10	10	37,682,916.0	11,964,159.0	387.14				Average	
		point11	11	37,683,140.0	11,963,937.0	377.30				Average	
		point12	12	37,683,384.0	11,963,681.0	377.30				Average	
		point13	13	37,683,600.0	11,963,454.0	374.02				Average	
		point14	14	37,683,756.0	11,963,315.0	374.02				Average	
		point16	16	37,684,224.0	11,962,951.0	370.73				Average	
		point17	17	37,684,516.0	11,962,788.0	370.73				Average	
		point18	18	37,684,832.0	11,962,635.0	374.02				Average	

		point19	19	37,685,172.0	11,962,502.0	383.86				Average	
		point20	20	37,685,472.0	11,962,417.0	387.14				Average	
		point21	21	37,685,908.0	11,962,339.0	396.98				Average	
		point22	22	37,686,432.0	11,962,273.0	393.70				Average	
		point2	2	37,687,512.0	11,962,229.0	393.70					
SR56 WB- W of Camino del Sur	55.0	point167	167	37,682,748.0	11,964,441.0	393.70				Average	
		point38	38	37,682,580.0	11,964,576.0	393.70				Average	
		point39	39	37,682,292.0	11,964,767.0	387.14				Average	
		point40	40	37,682,052.0	11,964,914.0	377.30				Average	
		point41	41	37,681,588.0	11,965,181.0	367.45				Average	
		point42	42	37,680,736.0	11,965,659.0	354.33				Average	
		point43	43	37,679,612.0	11,966,291.0	337.93				Average	
		point24	24	37,678,848.0	11,966,725.0	328.08					
Camino del Sur Extnsn at Proj Site NB	70.0	point168	168	37,683,076.0	11,961,470.0	367.45				Average	
		point148	148	37,682,964.0	11,961,640.0	367.45				Average	
		point149	149	37,682,840.0	11,961,886.0	367.45				Average	
		point150	150	37,682,764.0	11,962,260.0	367.45				Average	
		point151	151	37,682,736.0	11,962,615.0	367.45				Average	
		point152	152	37,682,748.0	11,963,530.0	367.45					
Carmel Mtn Rd S of SR 56-2	45.0	point170	170	37,684,284.0	11,962,377.0	375.00				Average	
		point111	111	37,684,524.0	11,962,769.0	400.00					
Camino del Sur ExtnsnS of Proj SiteNB	70.0	point136	136	37,683,624.0	11,958,960.0	295.28				Average	
		point138	138	37,683,712.0	11,959,148.0	311.68				Average	
		point139	139	37,683,752.0	11,959,245.0	321.52				Average	
		point140	140	37,683,868.0	11,959,477.0	334.65				Average	
		point141	141	37,683,928.0	11,959,715.0	344.49				Average	
		point142	142	37,683,944.0	11,960,125.0	351.05				Average	
		point143	143	37,683,880.0	11,960,438.0	357.61				Average	
		point144	144	37,683,792.0	11,960,643.0	360.89				Average	
		point145	145	37,683,612.0	11,960,921.0	364.17				Average	
		point146	146	37,683,328.0	11,961,210.0	367.45				Average	
		point147	147	37,683,076.0	11,961,470.0	367.45					
Camino del Sur ExtnsnS of Proj SiteSB	70.0	point169	169	37,683,044.0	11,961,439.0	367.45				Average	
		point120	120	37,683,308.0	11,961,181.0	367.45				Average	
		point121	121	37,683,596.0	11,960,901.0	364.17				Average	
		point122	122	37,683,768.0	11,960,617.0	360.89				Average	
		point123	123	37,683,856.0	11,960,420.0	357.61				Average	
		point124	124	37,683,920.0	11,960,120.0	351.05				Average	
		point125	125	37,683,908.0	11,959,715.0	344.49				Average	
		point126	126	37,683,840.0	11,959,478.0	334.65				Average	

		point127	127	37,683,736.0	11,959,253.0	321.52				Average	
		point134	134	37,683,688.0	11,959,149.0	311.68				Average	
		point135	135	37,683,604.0	11,958,956.0	295.28					

Dudek **26 February 2016**
M Greene **TNM 2.5**

INPUT: TRAFFIC FOR LAeq1h Volumes
PROJECT/CONTRACT: **9063**
RUN: **TorreyHghlndsOfficePrj Opng Day wo Prj**

Roadway	Points											
Name	Name	No.	Segment									
			Autos		MTrucks		HTrucks		Buses		Motorcycles	
			V	S	V	S	V	S	V	S	V	S
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
SR56 EB W of Camino del Sur	point1	1	4464	65	240	65	96	65	0	0	0	0
	point3	3	4464	65	240	65	96	65	0	0	0	0
	point4	4	4464	65	240	65	96	65	0	0	0	0
	point5	5	4464	65	240	65	96	65	0	0	0	0
	point6	6	4464	65	240	65	96	65	0	0	0	0
	point7	7	4464	65	240	65	96	65	0	0	0	0
	point8	8	4464	65	240	65	96	65	0	0	0	0
	point9	9										
SR56 WB - E of Camino del Sur	point23	23	3534	65	190	65	76	65	0	0	0	0
	point25	25	3534	65	190	65	76	65	0	0	0	0
	point26	26	3534	65	190	65	76	65	0	0	0	0
	point27	27	3534	65	190	65	76	65	0	0	0	0
	point28	28	3534	65	190	65	76	65	0	0	0	0
	point29	29	3534	65	190	65	76	65	0	0	0	0
	point30	30	3534	65	190	65	76	65	0	0	0	0
	point31	31	3534	65	190	65	76	65	0	0	0	0
	point32	32	3534	65	190	65	76	65	0	0	0	0
	point33	33	3534	65	190	65	76	65	0	0	0	0
	point34	34	3534	65	190	65	76	65	0	0	0	0
	point35	35	3534	65	190	65	76	65	0	0	0	0
	point36	36	3534	65	190	65	76	65	0	0	0	0
	point37	37										
Camino del Sur NB S of SR 56	point45	45	1289	45	27	45	13	45	0	0	0	0
	point47	47	1289	45	27	45	13	45	0	0	0	0
	point48	48										

Camino del Sur SB N of SR 56	point64	64	1035	45	21	45	11	45	0	0	0	0
	point55	55	1035	45	21	45	11	45	0	0	0	0
	point56	56	1035	45	21	45	11	45	0	0	0	0
	point58	58	1035	45	21	45	11	45	0	0	0	0
	point59	59	1035	45	21	45	11	45	0	0	0	0
	point60	60										
SR56 EB Offramp	point65	65	1005	45	21	45	10	45	0	0	0	0
	point66	66	1005	45	21	45	10	45	0	0	0	0
	point67	67	1005	45	21	45	10	45	0	0	0	0
	point68	68	1005	45	21	45	10	45	0	0	0	0
	point69	69	1005	45	21	45	10	45	0	0	0	0
	point70	70	1005	45	21	45	10	45	0	0	0	0
	point71	71	1005	45	21	45	10	45	0	0	0	0
	point72	72	1005	45	21	45	10	45	0	0	0	0
	point73	73										
SR56 EB Onramp	point74	74	1334	45	28	45	14	45	0	0	0	0
	point75	75	1334	45	28	45	14	45	0	0	0	0
	point76	76	1334	45	28	45	14	45	0	0	0	0
	point77	77	1334	45	28	45	14	45	0	0	0	0
	point78	78	1334	45	28	45	14	45	0	0	0	0
	point79	79	1334	45	28	45	14	45	0	0	0	0
	point80	80	1334	45	28	45	14	45	0	0	0	0
	point81	81										
SR56 WB Offramp	point82	82	1219	45	25	45	13	45	0	0	0	0
	point83	83	1219	45	25	45	13	45	0	0	0	0
	point84	84	1219	45	25	45	13	45	0	0	0	0
	point85	85	1219	45	25	45	13	45	0	0	0	0
	point86	86	1219	45	25	45	13	45	0	0	0	0
	point87	87	1219	45	25	45	13	45	0	0	0	0
	point88	88	1219	45	25	45	13	45	0	0	0	0
	point89	89	1219	45	25	45	13	45	0	0	0	0
	point90	90										
SR56 WB Onramp	point91	91	671	45	14	45	7	45	0	0	0	0
	point93	93	671	45	14	45	7	45	0	0	0	0
	point94	94	671	45	14	45	7	45	0	0	0	0
	point95	95	671	45	14	45	7	45	0	0	0	0
	point96	96										

Torrey Santa Fe Rd	point129	129	398	35	8	35	4	35	0	0	0	0
	point98	98	398	35	8	35	4	35	0	0	0	0
	point99	99	398	35	8	35	4	35	0	0	0	0
	point100	100	398	35	8	35	4	35	0	0	0	0
	point101	101	398	35	8	35	4	35	0	0	0	0
	point102	102	398	35	8	35	4	35	0	0	0	0
	point103	103	398	35	8	35	4	35	0	0	0	0
	point104	104	398	35	8	35	4	35	0	0	0	0
	point105	105	398	35	8	35	4	35	0	0	0	0
	point106	106	398	35	8	35	4	35	0	0	0	0
	point107	107	398	35	8	35	4	35	0	0	0	0
	point108	108										
Camino del Sur Extnsn at Proj Site SB	point130	130	1320	45	27	45	14	45	0	0	0	0
	point115	115	1320	45	27	45	14	45	0	0	0	0
	point116	116	1320	45	27	45	14	45	0	0	0	0
	point117	117	1320	45	27	45	14	45	0	0	0	0
	point118	118	1320	45	27	45	14	45	0	0	0	0
	point119	119										
Carmel Mtn Rd S of Via de las Lenas	point133	133	165	45	3	45	2	45	0	0	0	0
	point110	110										
Carmel Mtn Rd Extnsn	point158	158	165	45	3	45	2	45	0	0	0	0
	point154	154	165	45	3	45	2	45	0	0	0	0
	point155	155	165	45	3	45	2	45	0	0	0	0
	point156	156										
Camino del Sur NB N of SR 56	point159	159	1552	45	32	45	16	45	0	0	0	0
	point49	49	1552	45	32	45	16	45	0	0	0	0
	point50	50	1552	45	32	45	16	45	0	0	0	0
	point51	51	1552	45	32	45	16	45	0	0	0	0
	point52	52	1552	45	32	45	16	45	0	0	0	0
	point53	53										
Camino del Sur SB S of SR 56	point160	160	1320	45	27	45	14	45	0	0	0	0
	point62	62	1320	45	27	45	14	45	0	0	0	0
	point46	46										
Carmel Mtn Rd N of SR 56	point161	161	732	45	15	45	8	45	0	0	0	0
	point112	112	732	45	15	45	8	45	0	0	0	0
	point113	113										
SR56 EB- E of Camino del Sur	point166	166	3534	65	190	65	76	65	0	0	0	0

	point10	10	3534	65	190	65	76	65	0	0	0	0
	point11	11	3534	65	190	65	76	65	0	0	0	0
	point12	12	3534	65	190	65	76	65	0	0	0	0
	point13	13	3534	65	190	65	76	65	0	0	0	0
	point14	14	3534	65	190	65	76	65	0	0	0	0
	point16	16	3534	65	190	65	76	65	0	0	0	0
	point17	17	3534	65	190	65	76	65	0	0	0	0
	point18	18	3534	65	190	65	76	65	0	0	0	0
	point19	19	3534	65	190	65	76	65	0	0	0	0
	point20	20	3534	65	190	65	76	65	0	0	0	0
	point21	21	3534	65	190	65	76	65	0	0	0	0
	point22	22	3534	65	190	65	76	65	0	0	0	0
	point2	2										
SR56 WB- W of Camino del Sur	point167	167	4464	65	240	65	96	65	0	0	0	0
	point38	38	4464	65	240	65	96	65	0	0	0	0
	point39	39	4464	65	240	65	96	65	0	0	0	0
	point40	40	4464	65	240	65	96	65	0	0	0	0
	point41	41	4464	65	240	65	96	65	0	0	0	0
	point42	42	4464	65	240	65	96	65	0	0	0	0
	point43	43	4464	65	240	65	96	65	0	0	0	0
	point24	24										
Camino del Sur Extnsn at Proj Site NB	point168	168	1289	45	27	45	13	45	0	0	0	0
	point148	148	1289	45	27	45	13	45	0	0	0	0
	point149	149	1289	45	27	45	13	45	0	0	0	0
	point150	150	1289	45	27	45	13	45	0	0	0	0
	point151	151	1289	45	27	45	13	45	0	0	0	0
	point152	152										
Carmel Mtn Rd S of SR 56-2	point170	170	737	45	15	45	8	45	0	0	0	0
	point111	111										
Camino del Sur ExtnsnS of Proj SiteNB	point136	136	203	45	4	45	2	45	0	0	0	0
	point138	138	203	45	4	45	2	45	0	0	0	0
	point139	139	203	45	4	45	2	45	0	0	0	0
	point140	140	203	45	4	45	2	45	0	0	0	0
	point141	141	203	45	4	45	2	45	0	0	0	0
	point142	142	203	45	4	45	2	45	0	0	0	0
	point143	143	203	45	4	45	2	45	0	0	0	0
	point144	144	203	45	4	45	2	45	0	0	0	0

	point145	145	203	45	4	45	2	45	0	0	0	0
	point146	146	203	45	4	45	2	45	0	0	0	0
	point147	147										
Camino del Sur ExtnsnS of Proj SiteSB	point169	169	247	45	5	45	3	45	0	0	0	0
	point120	120	247	45	5	45	3	45	0	0	0	0
	point121	121	247	45	5	45	3	45	0	0	0	0
	point122	122	247	45	5	45	3	45	0	0	0	0
	point123	123	247	45	5	45	3	45	0	0	0	0
	point124	124	247	45	5	45	3	45	0	0	0	0
	point125	125	247	45	5	45	3	45	0	0	0	0
	point126	126	247	45	5	45	3	45	0	0	0	0
	point127	127	247	45	5	45	3	45	0	0	0	0
	point134	134	247	45	5	45	3	45	0	0	0	0
	point135	135										

Dudek **26 February 2016**
M Greene **TNM 2.5**

INPUT: RECEIVERS
PROJECT/CONTRACT: **9063**
RUN: **TorreyHghlndsOfficePrj Opng Day wo Prj**

Receiver Name	No.	#DUs	Coordinates (ground) X	Y	Z	Height above Ground	Input Sound Levels and Criteria Existing LAeq1h	Impact Criteria LAeq1h	Sub'l	NR Goal	Active in Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
M1	1	1	37,682,468.0	11,962,297.0	370.00	5.00	0.00	65	10.0	8.0	Y
M2	2	1	37,684,116.0	11,962,032.0	352.00	5.00	0.00	65	10.0	8.0	Y
M3 / R9	3	1	37,682,992.0	11,962,679.0	370.00	5.00	0.00	65	10.0	8.0	Y
M4 / R10	4	1	37,680,932.0	11,963,552.0	360.00	5.00	0.00	65	10.0	8.0	Y
M5	5	1	37,682,784.0	11,965,090.0	395.00	5.00	0.00	65	10.0	8.0	Y
R1	6	1	37,684,128.0	11,962,025.0	352.00	5.00	0.00	65	10.0	8.0	Y
R2	7	1	37,684,068.0	11,961,925.0	350.00	5.00	0.00	65	10.0	8.0	Y
R3	8	1	37,682,616.0	11,962,274.0	370.00	5.00	0.00	65	10.0	8.0	Y
R4	10	1	37,680,684.0	11,963,998.0	360.00	5.00	0.00	65	10.0	8.0	Y
R5	11	1	37,683,520.0	11,960,036.0	426.00	5.00	0.00	65	10.0	8.0	Y
R6	13	1	37,683,804.0	11,963,646.0	375.00	5.00	0.00	65	10.0	8.0	Y
R7	17	1	37,685,260.0	11,963,740.0	368.00	5.00	0.00	66	10.0	8.0	Y
R8	19	1	37,682,828.0	11,965,081.0	410.00	5.00	0.00	66	10.0	8.0	Y

Dudek 26 February 2016
M Greene TNM 2.5

INPUT: BARRIERS
PROJECT/CONTRACT: 9063
RUN: TorreyHghlndsOfficePrj Opng Day wo Prj

Barrier Name	Type	Height Min	Height Max	If Wall $ per Unit Area	If Berm $ per Unit Vol.	Top Width	Run:Rise	Add'tnl $ per Unit Length	Points Name	No.	Coordinates (bottom) X	Y	Z	Height at Point	Segment Seg Ht Increment	Perturbs #Up	Perturbs #Dn	On Struct?	Important Reflections?
		ft	ft	$/sq ft	$/cu yd	ft	ft:ft	$/ft			ft	ft	ft	ft	ft				
Barrier14	W	0.00	100.00	0.00				0.00	point67	67	37,681,024.0	11,963,592.0	360.00	30.00	0.00	0	0		
									point68	68	37,681,248.0	11,963,589.0	360.00	30.00	0.00	0	0		
									point69	69	37,681,248.0	11,963,706.0	360.00	30.00	0.00	0	0		
									point70	70	37,681,020.0	11,963,708.0	360.00	30.00	0.00	0	0		
									point71	71	37,681,024.0	11,963,593.0	360.00	30.00					
Barrier15	W	0.00	100.00	0.00				0.00	point72	72	37,681,076.0	11,964,088.0	360.00	30.00	0.00	0	0		
									point73	73	37,681,076.0	11,963,812.0	360.00	30.00	0.00	0	0		
									point74	74	37,681,192.0	11,963,811.0	360.00	30.00	0.00	0	0		
									point75	75	37,681,192.0	11,964,086.0	360.00	30.00					
Barrier16	W	0.00	100.00	0.00				0.00	point76	76	37,681,068.0	11,964,462.0	360.00	30.00	0.00	0	0		
									point77	77	37,681,068.0	11,964,178.0	360.00	30.00	0.00	0	0		
									point78	78	37,681,188.0	11,964,181.0	360.00	30.00	0.00	0	0		
									point79	79	37,681,192.0	11,964,465.0	360.00	30.00					
Barrier17	W	0.00	100.00	0.00				0.00	point80	80	37,681,012.0	11,964,558.0	360.00	30.00	0.00	0	0		
									point81	81	37,681,232.0	11,964,558.0	360.00	30.00	0.00	0	0		
									point82	82	37,681,232.0	11,964,670.0	360.00	30.00	0.00	0	0		
									point83	83	37,681,012.0	11,964,670.0	360.00	30.00					
Barrier18	W	0.00	100.00	0.00				0.00	point84	84	37,681,248.0	11,963,778.0	360.00	30.00	0.00	0	0		
									point85	85	37,681,424.0	11,963,775.0	360.00	30.00	0.00	0	0		
									point86	86	37,681,428.0	11,964,478.0	360.00	30.00	0.00	0	0		
									point87	87	37,681,232.0	11,964,480.0	360.00	30.00					
Barrier20	W	0.00	99.99	0.00				0.00	point89	89	37,681,076.0	11,964,088.0	360.00	30.00	0.00	0	0		
									point90	90	37,681,192.0	11,964,086.0	360.00	30.00					
Barrier21	W	0.00	99.99	0.00				0.00	point91	91	37,681,068.0	11,964,462.0	360.00	30.00	0.00	0	0		
									point92	92	37,681,192.0	11,964,465.0	360.00	30.00					
Barrier22	W	0.00	99.99	0.00				0.00	point93	93	37,681,012.0	11,964,670.0	360.00	30.00	0.00	0	0		
									point94	94	37,681,012.0	11,964,558.0	360.00	30.00					
Barrier23	W	0.00	99.99	0.00				0.00	point95	95	37,681,248.0	11,963,778.0	360.00	30.00	0.00	0	0		
									point96	96	37,681,232.0	11,964,480.0	360.00	30.00					
Barrier24	W	0.00	99.99	0.00				0.00	point97	97	37,681,824.0	11,964,895.0	367.45	3.00	0.00	0	0		
									point98	98	37,681,980.0	11,964,813.0	377.30	3.00	0.00	0	0		
									point99	99	37,682,220.0	11,964,664.0	387.10	3.00	0.00	0	0		
									point100	100	37,682,508.0	11,964,446.0	393.70	3.00	0.00	0	0		
									point101	101	37,682,672.0	11,964,314.0	393.70	3.00	0.00	0	0		
									point102	102	37,682,892.0	11,964,130.0	387.10	3.00	0.00	0	0		
									point103	103	37,683,116.0	11,963,918.0	377.30	3.00	0.00	0	0		
									point104	104	37,683,360.0	11,963,662.0	377.30	3.00					

Barrier25	W	0.00	99.99	0.00				0.00	point105	105	37,683,480.0	11,963,791.0	377.30	3.00	0.00	0	0		
									point106	106	37,683,240.0	11,964,046.0	377.30	3.00	0.00	0	0		
									point107	107	37,683,004.0	11,964,275.0	387.10	3.00	0.00	0	0		
									point108	108	37,682,768.0	11,964,479.0	393.70	3.00	0.00	0	0		
									point109	109	37,682,604.0	11,964,614.0	393.70	3.00	0.00	0	0		
									point110	110	37,682,312.0	11,964,803.0	387.10	3.00	0.00	0	0		
									point111	111	37,682,064.0	11,964,947.0	377.30	3.00	0.00	0	0		
									point112	112	37,681,896.0	11,965,040.0	370.73	3.00					
Barrier26	W	0.00	99.99	0.00				0.00	point114	114	37,682,788.0	11,964,974.0	410.00	6.00	0.00	0	0		
									point115	115	37,682,880.0	11,965,339.0	410.00	6.00	0.00	0	0		
									point116	116	37,683,024.0	11,965,540.0	410.00	6.00	0.00	0	0		
									point117	117	37,683,192.0	11,965,698.0	410.00	6.00					

Dudek			26 February 2016	
M Greene			TNM 2.5	
INPUT: TERRAIN LINES				
PROJECT/CONTRACT:	9063			
RUN:	TorreyHghlndsOfficePrj Opng Day wo Prj			
Terrain Line	Points			
Name	No.	Coordinates (ground)		
		X	Y	Z
		ft	ft	ft
Terrain Line2	1	37,683,704.0	11,963,188.0	380.00
	2	37,684,172.0	11,962,872.0	390.00
	3	37,684,460.0	11,962,733.0	400.00
Terrain Line4	4	37,684,504.0	11,962,705.0	400.00
	5	37,684,772.0	11,962,568.0	395.00
	6	37,685,164.0	11,962,413.0	390.00
	7	37,685,464.0	11,962,342.0	395.00
	8	37,685,880.0	11,962,259.0	400.00
Terrain Line5	9	37,682,744.0	11,964,995.0	410.00
	10	37,682,868.0	11,964,917.0	420.00
	11	37,683,132.0	11,964,849.0	420.00
	12	37,683,308.0	11,964,858.0	410.00
Terrain Line6	13	37,682,584.0	11,965,072.0	400.00
	14	37,682,516.0	11,965,027.0	410.00
	15	37,682,348.0	11,965,018.0	420.00
	16	37,682,116.0	11,965,133.0	420.00
	17	37,681,832.0	11,965,257.0	410.00
	18	37,681,700.0	11,965,321.0	400.00
Terrain Line7	19	37,684,340.0	11,963,107.0	385.00
	20	37,683,872.0	11,963,488.0	390.00
	21	37,683,732.0	11,963,621.0	390.00
	22	37,683,532.0	11,963,854.0	392.00
	23	37,683,376.0	11,964,129.0	392.00
	24	37,683,288.0	11,964,382.0	395.00
	25	37,683,212.0	11,964,586.0	395.00
	26	37,683,124.0	11,964,722.0	398.00

Dudek **26 February 2016**
M Greene **TNM 2.5**
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: 9063
RUN: TorreyHghlndsOfficePrj Opng Day wo Prj
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver												
Name	No.	#DUs	Existing	No Barrier					With Barrier			
			LAeq1h	LAeq1h		Increase over existing		Type	Calculated	Noise Reduction		
				Calculated	Crit'n	Calculated	Crit'n	Impact	LAeq1h	Calculated	Goal	Calculated
							Sub'l Inc					minus
												Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
M1	1	1	0.0	62.9	65	62.9	10	----	62.9	0.0	8	-8.0
M2	2	1	0.0	61.3	65	61.3	10	----	61.3	0.0	8	-8.0
M3 / R9	3	1	0.0	63.4	65	63.4	10	----	63.4	0.0	8	-8.0
M4 / R10	4	1	0.0	49.5	65	49.5	10	----	49.5	0.0	8	-8.0
M5	5	1	0.0	70.2	65	70.2	10	Snd Lvl	70.2	0.0	8	-8.0
R1	6	1	0.0	59.5	65	59.5	10	----	59.5	0.0	8	-8.0
R2	7	1	0.0	58.7	65	58.7	10	----	58.7	0.0	8	-8.0
R3	8	1	0.0	67.1	65	67.1	10	Snd Lvl	67.1	0.0	8	-8.0
R4	10	1	0.0	51.9	65	51.9	10	----	51.9	0.0	8	-8.0
R5	11	1	0.0	55.0	65	55.0	10	----	55.0	0.0	8	-8.0
R6	13	1	0.0	59.4	65	59.4	10	----	59.4	0.0	8	-8.0
R7	17	1	0.0	64.8	66	64.8	10	----	64.8	0.0	8	-8.0
R8	19	1	0.0	60.4	66	60.4	10	----	60.4	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction		
		Min	Avg	Max
		dB	dB	dB
All Selected	13	0.0	0.0	0.0
All Impacted	2	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

Dudek 26 February 2016
M Greene TNM 2.5

INPUT: ROADWAYS
PROJECT/CONTRACT: 9063
RUN: TorreyHghlndsOfficePrj Opng Day w Proj

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA

Roadway Name	Width	Points Name	No.	Coordinates (pavement) X	Y	Z	Flow Control Control Device	Speed Constraint	Percent Vehicles Affected	Segment Pvmt Type	On Struct?
	ft			ft	ft	ft		mph	%		
SR56 EB W of Camino del Sur	55.0	point1	1	37,678,768.0	11,966,663.0	328.08				Average	
		point3	3	37,679,540.0	11,966,200.0	337.93				Average	
		point4	4	37,680,676.0	11,965,565.0	354.33				Average	
		point5	5	37,681,516.0	11,965,094.0	367.45				Average	
		point6	6	37,682,000.0	11,964,839.0	377.30				Average	
		point7	7	37,682,236.0	11,964,694.0	387.14				Average	
		point8	8	37,682,528.0	11,964,478.0	393.70				Average	
		point9	9	37,682,688.0	11,964,345.0	393.70					
SR56 WB - E of Camino del Sur	55.0	point23	23	37,687,496.0	11,962,344.0	393.70				Average	
		point25	25	37,686,424.0	11,962,375.0	393.70				Average	
		point26	26	37,685,880.0	11,962,450.0	396.98				Average	
		point27	27	37,685,500.0	11,962,528.0	387.14				Average	
		point28	28	37,685,196.0	11,962,628.0	383.86				Average	
		point29	29	37,684,876.0	11,962,745.0	374.02				Average	
		point30	30	37,684,588.0	11,962,891.0	370.73				Average	
		point31	31	37,684,304.0	11,963,049.0	370.73				Average	
		point32	32	37,683,844.0	11,963,396.0	374.02				Average	
		point33	33	37,683,680.0	11,963,532.0	374.02				Average	
		point34	34	37,683,464.0	11,963,757.0	377.30				Average	
		point35	35	37,683,220.0	11,964,008.0	377.30				Average	
		point36	36	37,682,984.0	11,964,236.0	387.14				Average	
		point37	37	37,682,748.0	11,964,441.0	393.70					
Camino del Sur NB S of SR 56	70.0	point45	45	37,682,764.0	11,963,599.0	367.50				Average	
		point47	47	37,682,744.0	11,964,027.0	367.50				Average	
		point48	48	37,682,728.0	11,964,212.0	377.30					
Camino del Sur SB N of SR 56	70.0	point64	64	37,683,168.0	11,965,881.0	390.00				Average	
		point55	55	37,682,912.0	11,965,650.0	390.00				Average	

		point56	56	37,682,748.0	11,965,418.0	390.00				Average	
		point58	58	37,682,636.0	11,965,074.0	390.00				Average	
		point59	59	37,682,620.0	11,964,820.0	387.10				Average	
		point60	60	37,682,628.0	11,964,646.0	377.30					
SR56 EB Offramp	30.0	point65	65	37,681,496.0	11,965,086.0	367.45				Average	
		point66	66	37,681,812.0	11,964,846.0	367.45				Average	
		point67	67	37,681,968.0	11,964,690.0	367.45				Average	
		point68	68	37,682,064.0	11,964,577.0	367.45				Average	
		point69	69	37,682,184.0	11,964,362.0	367.45				Average	
		point70	70	37,682,304.0	11,964,194.0	367.45				Average	
		point71	71	37,682,396.0	11,964,108.0	367.45				Average	
		point72	72	37,682,528.0	11,964,068.0	367.45				Average	
		point73	73	37,682,656.0	11,964,054.0	367.45					
SR56 EB Onramp	30.0	point74	74	37,682,760.0	11,964,037.0	367.45				Average	
		point75	75	37,682,852.0	11,964,012.0	367.45				Average	
		point76	76	37,682,924.0	11,963,967.0	367.45				Average	
		point77	77	37,683,036.0	11,963,873.0	367.45				Average	
		point78	78	37,683,300.0	11,963,640.0	370.73				Average	
		point79	79	37,683,496.0	11,963,463.0	370.73				Average	
		point80	80	37,683,800.0	11,963,225.0	374.02				Average	
		point81	81	37,684,020.0	11,963,071.0	374.02					
SR56 WB Offramp	30.0	point82	82	37,683,836.0	11,963,430.0	374.02				Average	
		point83	83	37,683,696.0	11,963,563.0	374.02				Average	
		point84	84	37,683,496.0	11,963,796.0	377.30				Average	
		point85	85	37,683,340.0	11,964,071.0	377.30				Average	
		point86	86	37,683,252.0	11,964,324.0	380.58				Average	
		point87	87	37,683,176.0	11,964,528.0	380.58				Average	
		point88	88	37,683,088.0	11,964,664.0	383.86				Average	
		point89	89	37,682,932.0	11,964,750.0	383.86				Average	
		point90	90	37,682,712.0	11,964,803.0	387.14					
SR56 WB Onramp	30.0	point91	91	37,682,592.0	11,964,835.0	387.14				Average	
		point93	93	37,682,380.0	11,964,877.0	380.58				Average	
		point94	94	37,682,180.0	11,964,955.0	377.30				Average	
		point95	95	37,681,924.0	11,965,066.0	370.73				Average	
		point96	96	37,681,424.0	11,965,290.0	367.45					
Torrey Santa Fe Rd	75.0	point129	129	37,680,924.0	11,964,802.0	360.00				Average	
		point98	98	37,681,240.0	11,964,797.0	360.00				Average	
		point99	99	37,681,380.0	11,964,775.0	360.00				Average	
		point100	100	37,681,508.0	11,964,706.0	360.00				Average	
		point101	101	37,681,612.0	11,964,623.0	360.00				Average	

		point102	102	37,681,692.0	11,964,484.0	360.00				Average	
		point103	103	37,681,848.0	11,964,151.0	360.00				Average	
		point104	104	37,681,960.0	11,963,889.0	360.00				Average	
		point105	105	37,682,136.0	11,963,707.0	360.00				Average	
		point106	106	37,682,384.0	11,963,598.0	362.00				Average	
		point107	107	37,682,528.0	11,963,567.0	365.00				Average	
		point108	108	37,682,692.0	11,963,576.0	367.50					
Camino del Sur Extnsn at Proj Site SB	70.0	point130	130	37,682,692.0	11,963,501.0	367.45				Average	
		point115	115	37,682,700.0	11,962,612.0	367.45				Average	
		point116	116	37,682,728.0	11,962,244.0	367.45				Average	
		point117	117	37,682,808.0	11,961,866.0	367.45				Average	
		point118	118	37,682,928.0	11,961,611.0	367.45				Average	
		point119	119	37,683,044.0	11,961,439.0	367.45					
Carmel Mtn Rd S of Via de las Lenas	45.0	point133	133	37,684,052.0	11,961,995.0	350.00				Average	
		point110	110	37,684,284.0	11,962,377.0	375.00					
Carmel Mtn Rd Extnsn	45.0	point158	158	37,683,132.0	11,961,508.0	367.50				Average	
		point154	154	37,683,560.0	11,961,699.0	360.00				Average	
		point155	155	37,683,916.0	11,961,864.0	355.00				Average	
		point156	156	37,684,028.0	11,961,962.0	350.00					
Camino del Sur NB N of SR 56	70.0	point159	159	37,682,712.0	11,964,597.0	377.30				Average	
		point49	49	37,682,692.0	11,964,825.0	387.10				Average	
		point50	50	37,682,708.0	11,965,056.0	390.00				Average	
		point51	51	37,682,812.0	11,965,370.0	390.00				Average	
		point52	52	37,682,964.0	11,965,587.0	390.00				Average	
		point53	53	37,683,208.0	11,965,818.0	390.00					
Camino del Sur SB S of SR 56	70.0	point160	160	37,682,656.0	11,964,271.0	377.30				Average	
		point62	62	37,682,676.0	11,964,029.0	367.50				Average	
		point46	46	37,682,692.0	11,963,615.0	367.50					
Carmel Mtn Rd N of SR 56	45.0	point161	161	37,684,616.0	11,962,912.0	400.00				Average	
		point112	112	37,685,064.0	11,963,593.0	365.00				Average	
		point113	113	37,685,720.0	11,964,531.0	370.00					
SR56 EB- E of Camino del Sur	55.0	point166	166	37,682,688.0	11,964,345.0	393.70				Average	
		point10	10	37,682,916.0	11,964,159.0	387.14				Average	
		point11	11	37,683,140.0	11,963,937.0	377.30				Average	
		point12	12	37,683,384.0	11,963,681.0	377.30				Average	
		point13	13	37,683,600.0	11,963,454.0	374.02				Average	
		point14	14	37,683,756.0	11,963,315.0	374.02				Average	
		point16	16	37,684,224.0	11,962,951.0	370.73				Average	
		point17	17	37,684,516.0	11,962,788.0	370.73				Average	
		point18	18	37,684,832.0	11,962,635.0	374.02				Average	

		point19	19	37,685,172.0	11,962,502.0	383.86				Average	
		point20	20	37,685,472.0	11,962,417.0	387.14				Average	
		point21	21	37,685,908.0	11,962,339.0	396.98				Average	
		point22	22	37,686,432.0	11,962,273.0	393.70				Average	
		point2	2	37,687,512.0	11,962,229.0	393.70					
SR56 WB- W of Camino del Sur	55.0	point167	167	37,682,748.0	11,964,441.0	393.70				Average	
		point38	38	37,682,580.0	11,964,576.0	393.70				Average	
		point39	39	37,682,292.0	11,964,767.0	387.14				Average	
		point40	40	37,682,052.0	11,964,914.0	377.30				Average	
		point41	41	37,681,588.0	11,965,181.0	367.45				Average	
		point42	42	37,680,736.0	11,965,659.0	354.33				Average	
		point43	43	37,679,612.0	11,966,291.0	337.93				Average	
		point24	24	37,678,848.0	11,966,725.0	328.08					
Camino del Sur Extnsn at Proj Site NB	70.0	point168	168	37,683,076.0	11,961,470.0	367.45				Average	
		point148	148	37,682,964.0	11,961,640.0	367.45				Average	
		point149	149	37,682,840.0	11,961,886.0	367.45				Average	
		point150	150	37,682,764.0	11,962,260.0	367.45				Average	
		point151	151	37,682,736.0	11,962,615.0	367.45				Average	
		point152	152	37,682,748.0	11,963,530.0	367.45					
Carmel Mtn Rd S of SR 56-2	45.0	point170	170	37,684,284.0	11,962,377.0	375.00				Average	
		point111	111	37,684,524.0	11,962,769.0	400.00					
Camino del Sur ExtnsnS of Proj SiteNB	70.0	point136	136	37,683,624.0	11,958,960.0	295.28				Average	
		point138	138	37,683,712.0	11,959,148.0	311.68				Average	
		point139	139	37,683,752.0	11,959,245.0	321.52				Average	
		point140	140	37,683,868.0	11,959,477.0	334.65				Average	
		point141	141	37,683,928.0	11,959,715.0	344.49				Average	
		point142	142	37,683,944.0	11,960,125.0	351.05				Average	
		point143	143	37,683,880.0	11,960,438.0	357.61				Average	
		point144	144	37,683,792.0	11,960,643.0	360.89				Average	
		point145	145	37,683,612.0	11,960,921.0	364.17				Average	
		point146	146	37,683,328.0	11,961,210.0	367.45				Average	
		point147	147	37,683,076.0	11,961,470.0	367.45					
Camino del Sur ExtnsnS of Proj SiteSB	70.0	point169	169	37,683,044.0	11,961,439.0	367.45				Average	
		point120	120	37,683,308.0	11,961,181.0	367.45				Average	
		point121	121	37,683,596.0	11,960,901.0	364.17				Average	
		point122	122	37,683,768.0	11,960,617.0	360.89				Average	
		point123	123	37,683,856.0	11,960,420.0	357.61				Average	
		point124	124	37,683,920.0	11,960,120.0	351.05				Average	
		point125	125	37,683,908.0	11,959,715.0	344.49				Average	
		point126	126	37,683,840.0	11,959,478.0	334.65				Average	

		point127	127	37,683,736.0	11,959,253.0	321.52				Average	
		point134	134	37,683,688.0	11,959,149.0	311.68				Average	
		point135	135	37,683,604.0	11,958,956.0	295.28					

Dudek 26 February 2016
M Greene TNM 2.5

INPUT: TRAFFIC FOR LAeq1h Volumes
PROJECT/CONTRACT: 9063
RUN: TorreyHghlndsOfficePrj Opng Day w Proj

Roadway	Points		Segment									
Name	Name	No.	Autos		MTrucks		HTrucks		Buses		Motorcycles	
			V	S	V	S	V	S	V	S	V	S
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
SR56 EB W of Camino del Sur	point1	1	4464	65	240	65	96	65	0	0	0	0
	point3	3	4464	65	240	65	96	65	0	0	0	0
	point4	4	4464	65	240	65	96	65	0	0	0	0
	point5	5	4464	65	240	65	96	65	0	0	0	0
	point6	6	4464	65	240	65	96	65	0	0	0	0
	point7	7	4464	65	240	65	96	65	0	0	0	0
	point8	8	4464	65	240	65	96	65	0	0	0	0
	point9	9										
SR56 WB - E of Camino del Sur	point23	23	3534	65	190	65	76	65	0	0	0	0
	point25	25	3534	65	190	65	76	65	0	0	0	0
	point26	26	3534	65	190	65	76	65	0	0	0	0
	point27	27	3534	65	190	65	76	65	0	0	0	0
	point28	28	3534	65	190	65	76	65	0	0	0	0
	point29	29	3534	65	190	65	76	65	0	0	0	0
	point30	30	3534	65	190	65	76	65	0	0	0	0
	point31	31	3534	65	190	65	76	65	0	0	0	0
	point32	32	3534	65	190	65	76	65	0	0	0	0
	point33	33	3534	65	190	65	76	65	0	0	0	0
	point34	34	3534	65	190	65	76	65	0	0	0	0
	point35	35	3534	65	190	65	76	65	0	0	0	0
	point36	36	3534	65	190	65	76	65	0	0	0	0
	point37	37										
Camino del Sur NB S of SR 56	point45	45	1506	45	31	45	16	45	0	0	0	0
	point47	47	1506	45	31	45	16	45	0	0	0	0
	point48	48										

Camino del Sur SB N of SR 56	point64	64	1053	45	22	45	11	45	0	0	0	0
	point55	55	1053	45	22	45	11	45	0	0	0	0
	point56	56	1053	45	22	45	11	45	0	0	0	0
	point58	58	1053	45	22	45	11	45	0	0	0	0
	point59	59	1053	45	22	45	11	45	0	0	0	0
	point60	60										
SR56 EB Offramp	point65	65	1041	45	21	45	11	45	0	0	0	0
	point66	66	1041	45	21	45	11	45	0	0	0	0
	point67	67	1041	45	21	45	11	45	0	0	0	0
	point68	68	1041	45	21	45	11	45	0	0	0	0
	point69	69	1041	45	21	45	11	45	0	0	0	0
	point70	70	1041	45	21	45	11	45	0	0	0	0
	point71	71	1041	45	21	45	11	45	0	0	0	0
	point72	72	1041	45	21	45	11	45	0	0	0	0
	point73	73										
SR56 EB Onramp	point74	74	1529	45	32	45	16	45	0	0	0	0
	point75	75	1529	45	32	45	16	45	0	0	0	0
	point76	76	1529	45	32	45	16	45	0	0	0	0
	point77	77	1529	45	32	45	16	45	0	0	0	0
	point78	78	1529	45	32	45	16	45	0	0	0	0
	point79	79	1529	45	32	45	16	45	0	0	0	0
	point80	80	1529	45	32	45	16	45	0	0	0	0
	point81	81										
SR56 WB Offramp	point82	82	1268	45	26	45	13	45	0	0	0	0
	point83	83	1268	45	26	45	13	45	0	0	0	0
	point84	84	1268	45	26	45	13	45	0	0	0	0
	point85	85	1268	45	26	45	13	45	0	0	0	0
	point86	86	1268	45	26	45	13	45	0	0	0	0
	point87	87	1268	45	26	45	13	45	0	0	0	0
	point88	88	1268	45	26	45	13	45	0	0	0	0
	point89	89	1268	45	26	45	13	45	0	0	0	0
	point90	90										
SR56 WB Onramp	point91	91	814	45	17	45	8	45	0	0	0	0
	point93	93	814	45	17	45	8	45	0	0	0	0
	point94	94	814	45	17	45	8	45	0	0	0	0
	point95	95	814	45	17	45	8	45	0	0	0	0
	point96	96										

Torrey Santa Fe Rd	point129	129	404	35	8	35	4	35	0	0	0	0
	point98	98	404	35	8	35	4	35	0	0	0	0
	point99	99	404	35	8	35	4	35	0	0	0	0
	point100	100	404	35	8	35	4	35	0	0	0	0
	point101	101	404	35	8	35	4	35	0	0	0	0
	point102	102	404	35	8	35	4	35	0	0	0	0
	point103	103	404	35	8	35	4	35	0	0	0	0
	point104	104	404	35	8	35	4	35	0	0	0	0
	point105	105	404	35	8	35	4	35	0	0	0	0
	point106	106	404	35	8	35	4	35	0	0	0	0
	point107	107	404	35	8	35	4	35	0	0	0	0
	point108	108										
Camino del Sur Extnsn at Proj Site SB	point130	130	1387	45	29	45	14	45	0	0	0	0
	point115	115	1387	45	29	45	14	45	0	0	0	0
	point116	116	1387	45	29	45	14	45	0	0	0	0
	point117	117	1387	45	29	45	14	45	0	0	0	0
	point118	118	1387	45	29	45	14	45	0	0	0	0
	point119	119										
Carmel Mtn Rd S of Via de las Lenas	point133	133	208	45	4	45	2	45	0	0	0	0
	point110	110										
Carmel Mtn Rd Extnsn	point158	158	208	45	4	45	2	45	0	0	0	0
	point154	154	208	45	4	45	2	45	0	0	0	0
	point155	155	208	45	4	45	2	45	0	0	0	0
	point156	156										
Camino del Sur NB N of SR 56	point159	159	1627	45	34	45	17	45	0	0	0	0
	point49	49	1627	45	34	45	17	45	0	0	0	0
	point50	50	1627	45	34	45	17	45	0	0	0	0
	point51	51	1627	45	34	45	17	45	0	0	0	0
	point52	52	1627	45	34	45	17	45	0	0	0	0
	point53	53										
Camino del Sur SB S of SR 56	point160	160	1387	45	29	45	14	45	0	0	0	0
	point62	62	1387	45	29	45	14	45	0	0	0	0
	point46	46										
Carmel Mtn Rd N of SR 56	point161	161	811	45	17	45	8	45	0	0	0	0
	point112	112	811	45	17	45	8	45	0	0	0	0
	point113	113										
SR56 EB- E of Camino del Sur	point166	166	3534	65	190	65	76	65	0	0	0	0

	point10	10	3534	65	190	65	76	65	0	0	0	0
	point11	11	3534	65	190	65	76	65	0	0	0	0
	point12	12	3534	65	190	65	76	65	0	0	0	0
	point13	13	3534	65	190	65	76	65	0	0	0	0
	point14	14	3534	65	190	65	76	65	0	0	0	0
	point16	16	3534	65	190	65	76	65	0	0	0	0
	point17	17	3534	65	190	65	76	65	0	0	0	0
	point18	18	3534	65	190	65	76	65	0	0	0	0
	point19	19	3534	65	190	65	76	65	0	0	0	0
	point20	20	3534	65	190	65	76	65	0	0	0	0
	point21	21	3534	65	190	65	76	65	0	0	0	0
	point22	22	3534	65	190	65	76	65	0	0	0	0
	point2	2										
SR56 WB- W of Camino del Sur	point167	167	4464	65	240	65	96	65	0	0	0	0
	point38	38	4464	65	240	65	96	65	0	0	0	0
	point39	39	4464	65	240	65	96	65	0	0	0	0
	point40	40	4464	65	240	65	96	65	0	0	0	0
	point41	41	4464	65	240	65	96	65	0	0	0	0
	point42	42	4464	65	240	65	96	65	0	0	0	0
	point43	43	4464	65	240	65	96	65	0	0	0	0
	point24	24										
Camino del Sur Extnsn at Proj Site NB	point168	168	1506	45	31	45	16	45	0	0	0	0
	point148	148	1506	45	31	45	16	45	0	0	0	0
	point149	149	1506	45	31	45	16	45	0	0	0	0
	point150	150	1506	45	31	45	16	45	0	0	0	0
	point151	151	1506	45	31	45	16	45	0	0	0	0
	point152	152										
Carmel Mtn Rd S of SR 56-2	point170	170	816	45	17	45	8	45	0	0	0	0
	point111	111										
Camino del Sur ExtnsnS of Proj SiteNB	point136	136	217	45	4	45	2	45	0	0	0	0
	point138	138	217	45	4	45	2	45	0	0	0	0
	point139	139	217	45	4	45	2	45	0	0	0	0
	point140	140	217	45	4	45	2	45	0	0	0	0
	point141	141	217	45	4	45	2	45	0	0	0	0
	point142	142	217	45	4	45	2	45	0	0	0	0
	point143	143	217	45	4	45	2	45	0	0	0	0
	point144	144	217	45	4	45	2	45	0	0	0	0

	point145	145	217	45	4	45	2	45	0	0	0	0
	point146	146	217	45	4	45	2	45	0	0	0	0
	point147	147										
Camino del Sur ExtnsnS of Proj SiteSB	point169	169	305	45	6	45	3	45	0	0	0	0
	point120	120	305	45	6	45	3	45	0	0	0	0
	point121	121	305	45	6	45	3	45	0	0	0	0
	point122	122	305	45	6	45	3	45	0	0	0	0
	point123	123	305	45	6	45	3	45	0	0	0	0
	point124	124	305	45	6	45	3	45	0	0	0	0
	point125	125	305	45	6	45	3	45	0	0	0	0
	point126	126	305	45	6	45	3	45	0	0	0	0
	point127	127	305	45	6	45	3	45	0	0	0	0
	point134	134	305	45	6	45	3	45	0	0	0	0
	point135	135										

Dudek **26 February 2016**
M Greene **TNM 2.5**

INPUT: RECEIVERS
PROJECT/CONTRACT: **9063**
RUN: **TorreyHghlndsOfficePrj Opng Day w Proj**

Receiver Name	No.	#DUs	Coordinates (ground) X	Y	Z	Height above Ground	Input Sound Levels and Criteria Existing LAeq1h	Impact Criteria LAeq1h	Sub'l	NR Goal	Active in Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
M1	1	1	37,682,468.0	11,962,297.0	370.00	5.00	0.00	65	10.0	8.0	Y
M2	2	1	37,684,116.0	11,962,032.0	352.00	5.00	0.00	65	10.0	8.0	Y
M3 / R9	3	1	37,682,992.0	11,962,679.0	370.00	5.00	0.00	65	10.0	8.0	Y
M4 / R10	4	1	37,680,932.0	11,963,552.0	360.00	5.00	0.00	65	10.0	8.0	Y
M5	5	1	37,682,784.0	11,965,090.0	395.00	5.00	0.00	65	10.0	8.0	Y
R1	6	1	37,684,128.0	11,962,025.0	352.00	5.00	0.00	65	10.0	8.0	Y
R2	7	1	37,684,068.0	11,961,925.0	350.00	5.00	0.00	65	10.0	8.0	Y
R3	8	1	37,682,616.0	11,962,274.0	370.00	5.00	0.00	65	10.0	8.0	Y
R4	10	1	37,680,684.0	11,963,998.0	360.00	5.00	0.00	65	10.0	8.0	Y
R5	11	1	37,683,520.0	11,960,036.0	426.00	5.00	0.00	65	10.0	8.0	Y
R6	13	1	37,683,804.0	11,963,646.0	375.00	5.00	0.00	65	10.0	8.0	Y
R7	17	1	37,685,260.0	11,963,740.0	368.00	5.00	0.00	66	10.0	8.0	Y
R8	19	1	37,682,828.0	11,965,081.0	410.00	5.00	0.00	66	10.0	8.0	Y

Dudek **26 February 2016**
M Greene **TNM 2.5**

INPUT: BARRIERS
PROJECT/CONTRACT: **9063**
RUN: **TorreyHghlndsOfficePrj Opng Day w Proj**

Barrier Name	Type	Height Min	Height Max	If Wall $ per Unit Area	If Berm $ per Unit Vol.	Top Width	Run:Rise	Add'tnl $ per Unit Length	Points Name	No.	Coordinates (bottom) X	Y	Z	Height at Point	Segment Seg Ht Increment	Perturbs #Up	Perturbs #Dn	On Struct?	Important Reflections?
		ft	ft	$/sq ft	$/cu yd	ft	ft:ft	$/ft			ft	ft	ft	ft	ft				
Barrier1	W	0.00	100.00	0.00				0.00	point1	1	37,682,668.0	11,962,091.0	368.00	30.00	0.00	0	0		
									point3	3	37,682,664.0	11,962,208.0	368.00	30.00	0.00	0	0		
									point4	4	37,682,188.0	11,962,201.0	368.00	30.00	0.00	0	0		
									point5	5	37,682,192.0	11,962,091.0	368.00	30.00	0.00	0	0		
									point6	6	37,682,224.0	11,962,067.0	368.00	30.00	0.00	0	0		
									point7	7	37,682,632.0	11,962,073.0	368.00	30.00	0.00	0	0		
									point8	8	37,682,628.0	11,962,090.0	368.00	30.00					
Barrier2	W	0.00	100.00	0.00				0.00	point9	9	37,682,516.0	11,962,702.0	368.00	30.00	0.00	0	0		
									point11	11	37,682,456.0	11,962,703.0	368.00	30.00	0.00	0	0		
									point12	12	37,682,456.0	11,962,694.0	368.00	30.00	0.00	0	0		
									point13	13	37,682,372.0	11,962,694.0	368.00	30.00	0.00	0	0		
									point14	14	37,682,372.0	11,962,708.0	368.00	30.00	0.00	0	0		
									point15	15	37,682,276.0	11,962,708.0	368.00	30.00	0.00	0	0		
									point16	16	37,682,276.0	11,962,694.0	368.00	30.00	0.00	0	0		
									point17	17	37,682,220.0	11,962,694.0	368.00	30.00	0.00	0	0		
									point18	18	37,682,220.0	11,962,651.0	368.00	30.00	0.00	0	0		
									point19	19	37,682,232.0	11,962,651.0	368.00	30.00	0.00	0	0		
									point20	20	37,682,232.0	11,962,584.0	368.00	30.00	0.00	0	0		
									point21	21	37,682,364.0	11,962,584.0	368.00	30.00	0.00	0	0		
									point22	22	37,682,364.0	11,962,566.0	368.00	30.00	0.00	0	0		
									point23	23	37,682,424.0	11,962,567.0	368.00	30.00	0.00	0	0		
									point24	24	37,682,428.0	11,962,587.0	368.00	30.00	0.00	0	0		
									point25	25	37,682,476.0	11,962,587.0	368.00	30.00	0.00	0	0		
									point26	26	37,682,476.0	11,962,600.0	368.00	30.00	0.00	0	0		
									point10	10	37,682,520.0	11,962,600.0	368.00	30.00					
Barrier3	W	0.00	100.00	0.00				0.00	point27	27	37,682,488.0	11,962,273.0	368.00	30.00	0.00	0	0		
									point28	28	37,682,528.0	11,962,274.0	368.00	30.00					
Barrier4	W	0.00	100.00	0.00				0.00	point29	29	37,682,600.0	11,962,284.0	368.00	30.00	0.00	0	0		
									point36	36	37,682,600.0	11,962,306.0	368.00	30.00	0.00	0	0		
									point30	30	37,682,592.0	11,962,306.0	368.00	30.00	0.00	0	0		
									point31	31	37,682,588.0	11,962,530.0	368.00	30.00	0.00	0	0		
									point32	32	37,682,468.0	11,962,527.0	368.00	30.00	0.00	0	0		
									point33	33	37,682,468.0	11,962,376.0	368.00	30.00	0.00	0	0		
									point34	34	37,682,484.0	11,962,376.0	368.00	30.00	0.00	0	0		
									point35	35	37,682,484.0	11,962,282.0	368.00	30.00					
Barrier5	W	0.00	99.99	0.00				0.00	point37	37	37,682,520.0	11,962,600.0	368.00	30.00	0.00	0	0		
									point38	38	37,682,516.0	11,962,702.0	368.00	30.00					

Barrier6	W	0.00	100.00	0.00				0.00	point39	39	37,682,376.0	11,962,397.0	368.00	30.00	0.00	0	0		
									point40	40	37,682,420.0	11,962,396.0	368.00	30.00	0.00	0	0		
									point41	41	37,682,420.0	11,962,525.0	368.00	30.00	0.00	0	0		
									point42	42	37,682,376.0	11,962,525.0	368.00	30.00					
Barrier7	W	0.00	100.00	0.00				0.00	point43	43	37,682,192.0	11,962,275.0	368.00	30.00	0.00	0	0		
									point45	45	37,682,272.0	11,962,275.0	368.00	30.00	0.00	0	0		
									point46	46	37,682,272.0	11,962,283.0	368.00	30.00	0.00	0	0		
									point47	47	37,682,300.0	11,962,283.0	368.00	30.00	0.00	0	0		
									point48	48	37,682,300.0	11,962,323.0	368.00	30.00	0.00	0	0		
									point49	49	37,682,312.0	11,962,323.0	368.00	30.00	0.00	0	0		
									point50	50	37,682,312.0	11,962,340.0	368.00	30.00	0.00	0	0		
									point51	51	37,682,296.0	11,962,339.0	368.00	30.00	0.00	0	0		
									point52	52	37,682,296.0	11,962,400.0	368.00	30.00	0.00	0	0		
									point53	53	37,682,288.0	11,962,400.0	368.00	30.00	0.00	0	0		
									point54	54	37,682,288.0	11,962,528.0	368.00	30.00	0.00	0	0		
									point55	55	37,682,196.0	11,962,528.0	368.00	30.00	0.00	0	0		
									point56	56	37,682,196.0	11,962,428.0	368.00	30.00	0.00	0	0		
									point57	57	37,682,164.0	11,962,428.0	368.00	30.00	0.00	0	0		
									point58	58	37,682,164.0	11,962,387.0	368.00	30.00	0.00	0	0		
									point59	59	37,682,184.0	11,962,386.0	368.00	30.00	0.00	0	0		
									point44	44	37,682,188.0	11,962,278.0	368.00	30.00					
Barrier8	W	0.00	99.99	0.00				0.00	point60	60	37,682,376.0	11,962,525.0	368.00	30.00	0.00	0	0		
									point61	61	37,682,376.0	11,962,397.0	368.00	30.00					
Barrier11	W	0.00	99.99	0.00				0.00	point63	63	37,682,484.0	11,962,282.0	368.00	30.00	0.00	0	0		
									point64	64	37,682,488.0	11,962,273.0	368.00	30.00					
Barrier13	W	0.00	99.99	0.00				0.00	point65	65	37,682,528.0	11,962,274.0	368.00	30.00	0.00	0	0		
									point66	66	37,682,600.0	11,962,284.0	368.00	30.00					
Barrier14	W	0.00	100.00	0.00				0.00	point67	67	37,681,024.0	11,963,592.0	360.00	30.00	0.00	0	0		
									point68	68	37,681,248.0	11,963,589.0	360.00	30.00	0.00	0	0		
									point69	69	37,681,248.0	11,963,706.0	360.00	30.00	0.00	0	0		
									point70	70	37,681,020.0	11,963,708.0	360.00	30.00	0.00	0	0		
									point71	71	37,681,024.0	11,963,593.0	360.00	30.00					
Barrier15	W	0.00	100.00	0.00				0.00	point72	72	37,681,076.0	11,964,088.0	360.00	30.00	0.00	0	0		
									point73	73	37,681,076.0	11,963,812.0	360.00	30.00	0.00	0	0		
									point74	74	37,681,192.0	11,963,811.0	360.00	30.00	0.00	0	0		
									point75	75	37,681,192.0	11,964,086.0	360.00	30.00					
Barrier16	W	0.00	100.00	0.00				0.00	point76	76	37,681,068.0	11,964,462.0	360.00	30.00	0.00	0	0		
									point77	77	37,681,068.0	11,964,178.0	360.00	30.00	0.00	0	0		
									point78	78	37,681,188.0	11,964,181.0	360.00	30.00	0.00	0	0		
									point79	79	37,681,192.0	11,964,465.0	360.00	30.00					
Barrier17	W	0.00	100.00	0.00				0.00	point80	80	37,681,012.0	11,964,558.0	360.00	30.00	0.00	0	0		
									point81	81	37,681,232.0	11,964,558.0	360.00	30.00	0.00	0	0		
									point82	82	37,681,232.0	11,964,670.0	360.00	30.00	0.00	0	0		
									point83	83	37,681,012.0	11,964,670.0	360.00	30.00					
Barrier18	W	0.00	100.00	0.00				0.00	point84	84	37,681,248.0	11,963,778.0	360.00	30.00	0.00	0	0		
									point85	85	37,681,424.0	11,963,775.0	360.00	30.00	0.00	0	0		
									point86	86	37,681,428.0	11,964,478.0	360.00	30.00	0.00	0	0		
									point87	87	37,681,232.0	11,964,480.0	360.00	30.00					
Barrier20	W	0.00	99.99	0.00				0.00	point89	89	37,681,076.0	11,964,088.0	360.00	30.00	0.00	0	0		
									point90	90	37,681,192.0	11,964,086.0	360.00	30.00					

Barrier21	W	0.00	99.99	0.00				0.00	point91	91	37,681,068.0	11,964,462.0	360.00	30.00	0.00	0	0		
									point92	92	37,681,192.0	11,964,465.0	360.00	30.00					
Barrier22	W	0.00	99.99	0.00				0.00	point93	93	37,681,012.0	11,964,670.0	360.00	30.00	0.00	0	0		
									point94	94	37,681,012.0	11,964,558.0	360.00	30.00					
Barrier23	W	0.00	99.99	0.00				0.00	point95	95	37,681,248.0	11,963,778.0	360.00	30.00	0.00	0	0		
									point96	96	37,681,232.0	11,964,480.0	360.00	30.00					
Barrier24	W	0.00	99.99	0.00				0.00	point97	97	37,681,824.0	11,964,895.0	367.45	3.00	0.00	0	0		
									point98	98	37,681,980.0	11,964,813.0	377.30	3.00	0.00	0	0		
									point99	99	37,682,220.0	11,964,664.0	387.10	3.00	0.00	0	0		
									point100	100	37,682,508.0	11,964,446.0	393.70	3.00	0.00	0	0		
									point101	101	37,682,672.0	11,964,314.0	393.70	3.00	0.00	0	0		
									point102	102	37,682,892.0	11,964,130.0	387.10	3.00	0.00	0	0		
									point103	103	37,683,116.0	11,963,918.0	377.30	3.00	0.00	0	0		
									point104	104	37,683,360.0	11,963,662.0	377.30	3.00					
Barrier25	W	0.00	99.99	0.00				0.00	point105	105	37,683,480.0	11,963,791.0	377.30	3.00	0.00	0	0		
									point106	106	37,683,240.0	11,964,046.0	377.30	3.00	0.00	0	0		
									point107	107	37,683,004.0	11,964,275.0	387.10	3.00	0.00	0	0		
									point108	108	37,682,768.0	11,964,479.0	393.70	3.00	0.00	0	0		
									point109	109	37,682,604.0	11,964,614.0	393.70	3.00	0.00	0	0		
									point110	110	37,682,312.0	11,964,803.0	387.10	3.00	0.00	0	0		
									point111	111	37,682,064.0	11,964,947.0	377.30	3.00	0.00	0	0		
									point112	112	37,681,896.0	11,965,040.0	370.73	3.00					
Barrier26	W	0.00	99.99	0.00				0.00	point114	114	37,682,788.0	11,964,974.0	410.00	6.00	0.00	0	0		
									point115	115	37,682,880.0	11,965,339.0	410.00	6.00	0.00	0	0		
									point116	116	37,683,024.0	11,965,540.0	410.00	6.00	0.00	0	0		
									point117	117	37,683,192.0	11,965,698.0	410.00	6.00					

Dudek			26 February 2016	
M Greene			TNM 2.5	
INPUT: TERRAIN LINES				
PROJECT/CONTRACT:	9063			
RUN:	TorreyHghlndsOfficePrj Opng Day w Proj			
Terrain Line	Points			
Name	No.	Coordinates (ground)		
		X	Y	Z
		ft	ft	ft
Terrain Line2	1	37,683,704.0	11,963,188.0	380.00
	2	37,684,172.0	11,962,872.0	390.00
	3	37,684,460.0	11,962,733.0	400.00
Terrain Line4	4	37,684,504.0	11,962,705.0	400.00
	5	37,684,772.0	11,962,568.0	395.00
	6	37,685,164.0	11,962,413.0	390.00
	7	37,685,464.0	11,962,342.0	395.00
	8	37,685,880.0	11,962,259.0	400.00
Terrain Line5	9	37,682,744.0	11,964,995.0	410.00
	10	37,682,868.0	11,964,917.0	420.00
	11	37,683,132.0	11,964,849.0	420.00
	12	37,683,308.0	11,964,858.0	410.00
Terrain Line6	13	37,682,584.0	11,965,072.0	400.00
	14	37,682,516.0	11,965,027.0	410.00
	15	37,682,348.0	11,965,018.0	420.00
	16	37,682,116.0	11,965,133.0	420.00
	17	37,681,832.0	11,965,257.0	410.00
	18	37,681,700.0	11,965,321.0	400.00
Terrain Line7	19	37,684,340.0	11,963,107.0	385.00
	20	37,683,872.0	11,963,488.0	390.00
	21	37,683,732.0	11,963,621.0	390.00
	22	37,683,532.0	11,963,854.0	392.00
	23	37,683,376.0	11,964,129.0	392.00
	24	37,683,288.0	11,964,382.0	395.00
	25	37,683,212.0	11,964,586.0	395.00
	26	37,683,124.0	11,964,722.0	398.00

Dudek **26 February 2016**
M Greene **TNM 2.5**
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: 9063
RUN: TorreyHghlndsOfficePrj Opng Day w Proj
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver												
Name	No.	#DUs	Existing	No Barrier					With Barrier			
			LAeq1h	LAeq1h		Increase over existing		Type	Calculated	Noise Reduction		
				Calculated	Crit'n	Calculated	Crit'n	Impact	LAeq1h	Calculated	Goal	Calculated
							Sub'l Inc					minus
												Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
M1	1	1	0.0	42.2	65	42.2	10	----	42.2	0.0	8	-8.0
M2	2	1	0.0	62.1	65	62.1	10	----	62.1	0.0	8	-8.0
M3 / R9	3	1	0.0	63.8	65	63.8	10	----	63.8	0.0	8	-8.0
M4 / R10	4	1	0.0	49.4	65	49.4	10	----	49.4	0.0	8	-8.0
M5	5	1	0.0	70.4	65	70.4	10	Snd Lvl	70.4	0.0	8	-8.0
R1	6	1	0.0	60.3	65	60.3	10	----	60.3	0.0	8	-8.0
R2	7	1	0.0	59.4	65	59.4	10	----	59.4	0.0	8	-8.0
R3	8	1	0.0	67.2	65	67.2	10	Snd Lvl	67.2	0.0	8	-8.0
R4	10	1	0.0	51.9	65	51.9	10	----	51.9	0.0	8	-8.0
R5	11	1	0.0	55.3	65	55.3	10	----	55.3	0.0	8	-8.0
R6	13	1	0.0	59.4	65	59.4	10	----	59.4	0.0	8	-8.0
R7	17	1	0.0	65.1	66	65.1	10	----	65.1	0.0	8	-8.0
R8	19	1	0.0	60.5	66	60.5	10	----	60.5	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction		
		Min	Avg	Max
		dB	dB	dB
All Selected	13	0.0	0.0	0.0
All Impacted	2	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

APPENDIX J

Energy Calculations

Construction Worker Gasoline Demand

Phase	Trips	Vehicle CO_2 (MT)	Kg/CO2/Gallon	Gallons
Site Preparation	120	1.09	9.13	118.87
Grading	340	2.90	9.13	317.43
Utilities	1,320	11.94	9.13	1,307.61
Building Construction 1	175,100	1443.71	9.13	158,127.79
Building Construction 2	128,775	1011.91	9.13	110,834.05
Building Construction 3	156,825	1176.08	9.13	128,814.88
Sitework	1,950	17.13	9.13	1,875.89
Architectural Coating 2	20,400	140.13	9.13	15,348.42
Parking Structure	9,775	72.24	9.13	7,912.30
Cafe	74,800	531.62	9.13	58,228.06
Architectural Coating 3	17,595	116.93	9.13	12,806.71
Architectural Coating 1	13,005	84.78	9.13	9,285.96
Landscape	535	4.56	9.13	499.49
Paving	860	6.11	9.13	668.69
Total				**506,146.16**

Construction Vendor Diesel Demand

Phase	Trips	Vehicle CO_2 (MT)	Kg/CO2/Gallon	Gallons
Site Preparation	96	3.82	10.35	368.64
Grading	272	10.64	10.35	1,028.34
Utilities	660	26.23	10.35	2,534.39
Building Construction 1	75,808	2940.03	10.35	284,061.10
Building Construction 2	55,752	2134.90	10.35	206,270.09
Building Construction 3	67,896	2546.61	10.35	246,049.51
Sitework	0	0.00	10.35	0.00
Architectural Coating 2	0	0.00	10.35	0.00
Parking Structure	4,232	157.32	10.35	15,199.97
Cafe	32,384	1197.65	10.35	115,714.98
Architectural Coating 3	0	0.00	10.35	0.00
Architectural Coating 1	0	0.00	10.35	0.00
Landscape	0	0.00	10.35	0.00
Paving	0	0.00	10.35	0.00
Total				**871,227.00**

Construction Haul Diesel Demand

Phase	Trips	Vehicle CO_2 (MT)	Kg/CO2/Gallon	Gallons
Site Preparation	24	0.95	10.35	92.15
Grading	6,468	252.12	10.35	24,359.51
Utilities	110	4.37	10.35	422.39
Building Construction 1	0	0.00	10.35	0.00
Building Construction 2	0	0.00	10.35	0.00
Building Construction 3	0	0.00	10.35	0.00
Sitework	0	0.00	10.35	0.00
Architectural Coating 2	0	0.00	10.35	0.00
Parking Structure	0	0.00	10.35	0.00
Cafe	0	0.00	10.35	0.00
Architectural Coating 3	0	0.00	10.35	0.00
Architectural Coating 1	0	0.00	10.35	0.00
Landscape	0	0.00	10.35	0.00
Paving	0	0.00	10.35	0.00
Total				**24,874.05**

Construction Equipment Diesel Demand

Phase	Pieces of Equipment	Equipment CO_2 (MT)	Kg/CO2/Gallon	Gallons
Site Preparation	6	11.70	10.35	1,130.21
Grading	12	82.34	10.35	7,955.85
Utilities	5	45.26	10.35	4,373.23
Building Construction 1	17	674.93	10.35	65,210.57
Building Construction 2	17	495.12	10.35	47,837.53
Building Construction 3	21	804.93	10.35	77,771.42
Sitework	2	132.77	10.35	12,827.94
Architectural Coating 2	2	81.70	10.35	7,894.11
Parking Structure	7	36.06	10.35	3,483.63
Cafe	3	79.55	10.35	7,686.29
Architectural Coating 3	2	70.47	10.35	6,808.67
Architectural Coating 1	2	52.09	10.35	5,032.49
Landscape	2	29.85	10.35	2,884.32
Paving	8	61.50	10.35	5,942.44
Total				**256,838.70**

Construction Equipment Usage

Phase	Hours of Equipment Use
Site Preparation	288
Grading	1,632
Utilities	2,200
Building Construction 1	56,032
Building Construction 2	41,208
Building Construction 3	61,992
Sitework	6,240
Architectural Coating 2	3,840
Parking Structure	2,024
Cafe	4,224
Architectural Coating 3	3,312
Architectural Coating 1	2,448
Landscape	1,712
Paving	2,752
Total	**189,904**

Mobile Source Gasoline Demand

Project Phase	Vehicle MT CO_2	Kg/CO2/ Gallon	Gallons
General Office Building	3709.90	9.13	406,341.60
Total			**406,341.60**

Mobile Source Diesel Demand

Project Phase	Vehicle MT CO_2	Kg/CO2/ Gallon	Gallons
General Office Building	301.61	10.35	29,141.36
Total			**29,141.36**

Land Use	LDA	LDA	LDT1	LDT1	LDT2	LDT2	MDV	MDV	LHD1	LHD1	LHD2	LHD2	MHD	MHD	HHD	HHD	OBUS	OBUS	UBUS	UBUS	MCY	SBUS	SBUS	MH	MH
General Office Building	54.89%	54.89%	4.32%	4.32%	20.07%	20.07%	12.03%	12.03%	1.61%	1.61%	0.59%	0.59%	2.10%	2.10%	3.35%	3.35%	0.21%	0.21%	0.19%	0.19%	0.48%	0.07%	0.07%	0.09%	0.09%
Research & Development	54.89%	54.89%	4.32%	4.32%	20.07%	20.07%	12.03%	12.03%	1.61%	1.61%	0.59%	0.59%	2.10%	2.10%	3.35%	3.35%	0.21%	0.21%	0.19%	0.19%	0.48%	0.07%	0.07%	0.09%	0.09%
General Light Industry	54.89%	54.89%	4.32%	4.32%	20.07%	20.07%	12.03%	12.03%	1.61%	1.61%	0.59%	0.59%	2.10%	2.10%	3.35%	3.35%	0.21%	0.21%	0.19%	0.19%	0.48%	0.07%	0.07%	0.09%	0.09%
Other Asphalt Surfaces	54.89%	54.89%	4.32%	4.32%	20.07%	20.07%	12.03%	12.03%	1.61%	1.61%	0.59%	0.59%	2.10%	2.10%	3.35%	3.35%	0.21%	0.21%	0.19%	0.19%	0.48%	0.07%	0.07%	0.09%	0.09%
Parking Lot	55.89%	54.89%	4.32%	4.32%	21.07%	20.07%	12.03%	12.03%	1.61%	1.61%	0.59%	0.59%	2.10%	2.10%	3.35%	3.35%	0.21%	0.21%	0.19%	0.19%	0.48%	0.07%	0.07%	0.09%	0.09%
	LDA	LDA	LDT1	LDT1	LDT2	LDT2	MDV	MDV	LHDT1	LHDT1	LHDT2	LHDT2	MHDT	MHDT	HHDT	HHDT	OBUS	OBUS	UBUS	UBUS	MCY	SBUS	SBUS	MH	MH
	GAS	DSL	GAS	DSL	GAS	DSL	GAS	DSL	GAS	DSL	GAS	DSL	GAS	DSL	GAS	DSL	GAS	DSL	GAS	DSL	GAS	GAS	DSL	GAS	DSL
	95.15%	1.00%	99.84%	0.09%	99.81%	0.19%	98.10%	1.90%	49.62%	50.38%	35.04%	64.96%	11.24%	88.76%	0.77%	99.23%	46.48%	53.52%	35.05%	64.95%	100.00%	30.81%	69.19%	78.30%	21.70%
	0.53	0.01	0.04	0.00	0.21	0.00	0.12	0.00	0.01	0.01	0.00	0.00	0.00	0.02	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	2133.1617	22.10963	173.1617	0.162178	843.624	1.548442	473.4324	9.188602	32.10686	32.60284	8.224073	15.24728	9.482637	74.8955	1.038424	133.263	3.859675	4.444155	2.639002	4.890606	19.32345	0.873707	1.962432	2.905368	0.805281

APPENDIX K

Hazards Assessment Memo

DUDEK

MAIN OFFICE
605 THIRD STREET
ENCINITAS, CALIFORNIA 92024
T 760.942.5147 T 800.450.1818 F 760.632.0164

MEMORANDUM

To: Jason Wood – The Preserve At Torrey Highlands, LLC
From: Nicole Peacock, Keith Blackmon – Hydrogeology/HazWaste
Subject: Hazards Assessment of the Office Project in the Torrey Highlands Community
Date: August 10, 2015
Attachment(s): Figure 1 – Vicinity Map
A - EDR Radius Report
B – Topographic Maps

This Hazards Assessment was conducted for the proposed office project in the Torrey Highlands community of San Diego (the Site). The proposed project involves construction of a 450,000 square foot office building. The Site is located south of State Route (SR) 56 along the future extension of Camino Del Sur. The Site and surrounding properties are vacant land, with residential and commercial properties farther north, south, and east. The Site is surrounded on three sides by the City's Multi-Habitat Preservation Area, and the Site is approximately 11.1 acres in size. The proposed project requires a General Plan Amendment, Zone Change, Parcel Map, Conditional Use Permit, and Site Plan Review.

The objective of the Hazards Assessment is to determine if there have been any impacts to the Site due to current or past hazardous materials storage or use. This Hazards Assessment consists of review and summary of the following information: 1) regulatory agency records, 2) historical aerial photographs, 3) topographic maps, and 4) GeoTracker and EnviroStor records (online databases maintained by the Regional Water Quality Control Board [RWQCB] and Department of Toxic Substances Control [DTSC], respectively).

REGULATORY RECORDS

A search of regulatory records was conducted by Environmental Data Resources (EDR) in July 2015. The search was conducted according to the American Society for Testing and Materials (ASTM) Standard E 1527-13 using standard search radii, which are listed in the EDR report (Attachment A). The EDR report gives a listing of sites, within an approximately one-mile radius of the Site, which are known to be chemical handlers, hazardous waste generators, or polluters.

Information in these listings includes the location of the site relative to the Site, sources of pollution, and the status of the listed site.

The Site was not listed in any of the regulatory databases searched by EDR. Four sites were identified within the ASTM-specified search distances of the Site.

- Of the four sites listed within the EDR search radius, two sites were listed in the regulatory database SCH. These two sites are located more than ½ mile from the Site, with one site north and the other site south of the Site. According to Envirostor, these sites were school sites seeking approval for renovations. These two sites have not reported releases to the subsurface.

- One of the four sites was listed in the HAZNET database, which indicates storage, bulking, and/or transferring of hazardous materials; this site is located approximately ½ mile north of the Site. There have been no documented releases to the subsurface at this site.

- The last site was listed in the RCRA-SQG database and is located less than ¼ mile north of the Site. This site is a small quantity generator of hazardous waste. There have been no documented releases to the subsurface at this site.

No additional sites were identified within ½ mile of the Site in the GeoTracker and Envirostor databases.

AERIAL PHOTOGRAPHS

Historical aerial photographs (historicaerials.com) were reviewed to determine if evidence of recognized environmental conditions was present on the Site. Historical aerial photographs from 1953, 1964, 1966, 1967, 1972, 1980, 1989, 1994, 1996, 2002, 2003, 2005, 2009, 2010 and 2012 were reviewed. Observations are presented in the table below.

Date	Description
1953 1964 1966 1967 1972	The Site and surrounding areas appear to be undeveloped land.
1980	A dirt road or trail runs north to south on the eastern portion of the Site. Many dirt roads are visible to the northeast, east, and southeast of the Site. Residential housing is visible

Date	Description
	farther east of the Site.
1989	The Site appears to be similar to the 1980 photograph. Most of the dirt roads to the northeast, east, and southeast of the Site are no longer visible. More residential housing is visible farther east of the Site.
1994 1996	The Site and surrounding areas appear to be similar to the 1989 photograph.
2002	Several dirt roads are visible throughout the Site. Residential housing is visible farther southeast and north of the Site. Grading for SR 56 is visible to the northeast of the Site. Camino Del Sur is visible north of the Site.
2003	The Site appears to be similar to the 2002 photograph. SR 56 appears to be completed northeast of the Site. SR 56 is still under construction to the north of the Site. More residential housing is visible to the north and northeast of the Site.
2005 2009 2010 2012	The Site appears to be similar to the 2003 photograph. SR 56 appears to be completed north of the Site.

The Site and surrounding land have been undeveloped from at least 1953 to 2012. Residential housing is present farther north, northeast, east, and southeast of the Site from at least 1980 to 2012.

TOPOGRAPHIC MAPS

Historical topographic maps were obtained from EDR for the years 1903, 1904, 1967, 1975, and 1994 (Attachment B). The topographic maps show the following:

Date	Scale	Description
1903	1:62,500	The Site appears to be south of McGenigle Canyon and north of Los Penasquitos Canyon. Black Mountain is visible northeast of the Site.
1904	1:250,000	The Site appears to be similar to the 1903 topographic map.
1967	1:24,000	The Site appears to be just south of Deer Canyon and north of Los Penasquitos Canyon. A sewage disposal pond is located approximately 1 mile south of the Site.
1975	1:50,000	The Site appears be similar to the 1967 topographic map. Residential housing is visible to the east of the Site. Black Mountain is visible northeast of the Site.

1994	1:24,000	The Site appears to be just south of Deer Canyon and north of Los Penasquitos Canyon. The sewage disposal pond is not labeled on the map, but the outline is still visible.

SUMMARY & RECOMMENDATIONS

This Hazards Assessment was conducted for the proposed office project in the Torrey Highlands community of San Diego, located south of State Route (SR) 56 along the future extension of Camino Del Sur. The proposed project would include the construction of a 450,000 square foot office building.

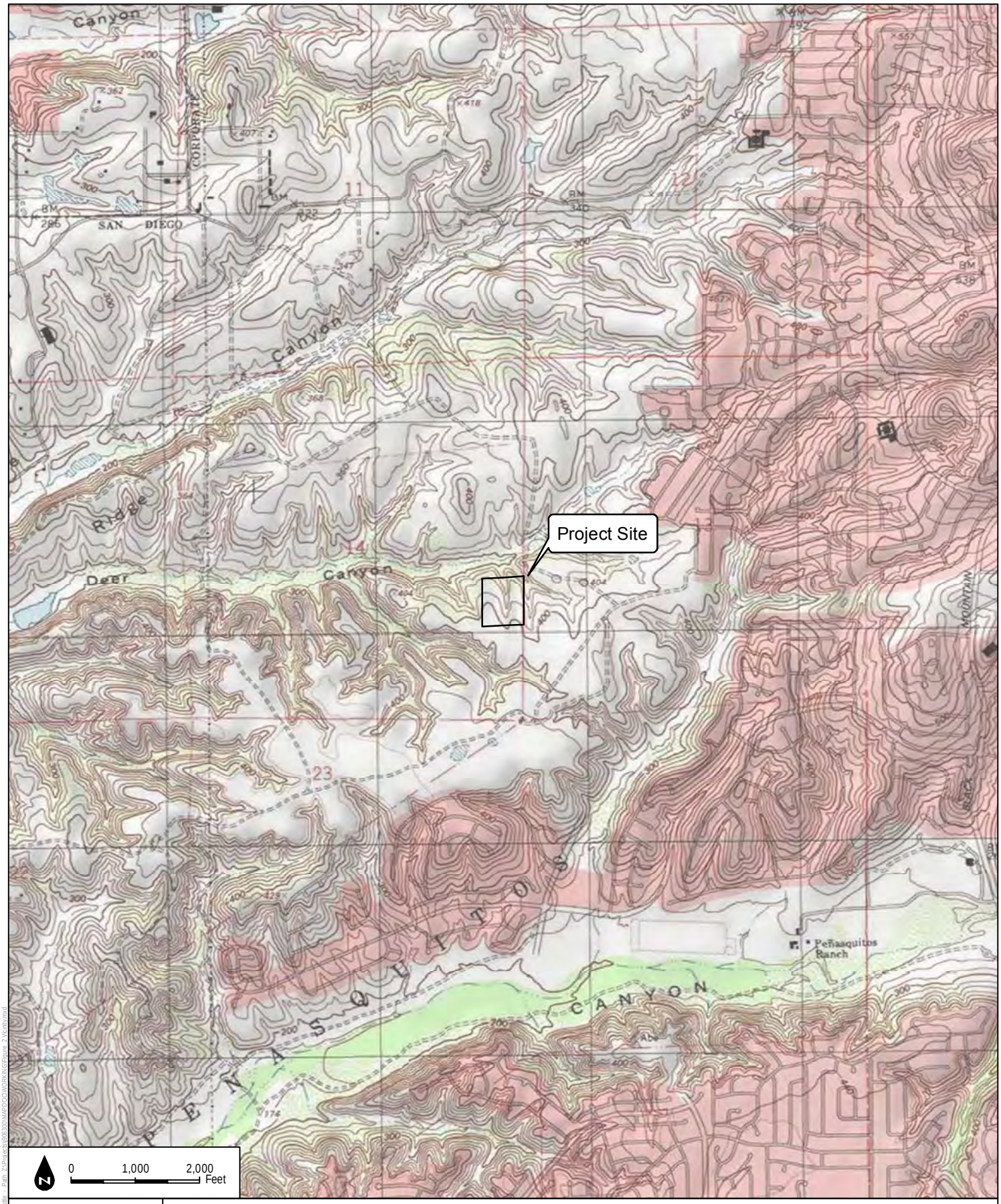
Based on review of the EDR report and the on-line Geotracker and Envirostor databases, there are no existing hazardous materials impacts at the Site. The Site was not listed in any of the federal, state, local, or EDR proprietary databases. A total of four sites, beyond the Site but within the ASTM-specified search distances of the Site, were listed in regulatory agency databases. The information provided did not indicate that the Site has been impacted by contamination from any of these nearby sites.

Based on the review of historical aerial photographs, the Site and surrounding areas were undeveloped from at least 1953 to 2012. Residential housing was present farther north, northeast, east, and southeast of the Site from at least 1980 to 2012.

A variety of hazardous substances and wastes would be stored, used, and generated on the Site during construction of the proposed project. These would include fuels for machinery and vehicles, new and used motor oils, cleaning solvents, paints, and storage containers and applicators containing such materials. Accidental spills, leaks, fires, explosions or pressure releases involving hazardous materials represent a potential threat to human health and the environment if not properly treated. Accident prevention and containment are the responsibility of the construction contractors, and provisions to properly manage hazardous substances and wastes are typically included in construction specifications. The developer should monitor all contractors for compliance with applicable regulations, including regulations regarding hazardous materials and hazardous wastes, including disposal. Adherence to the construction specifications and applicable regulations regarding hazardous materials and hazardous waste, including disposal, would ensure that construction of the proposed project would not create a significant hazard to the public or the environment.

Hazardous materials should not be disposed of or released onto the ground, the underlying groundwater, or any surface water. Totally enclosed containment should be provided for all

refuse. All construction waste, including trash, litter, garbage, solid waste, petroleum products and any other potentially hazardous materials, shall be removed to a waste facility permitted to treat, store, or dispose of such materials. A hazardous substance management plan should be prepared and implemented during construction.



SOURCE: USGS 7.5-Minute Series Del Mar Quadrangle.

FIGURE 1

Vicinity Map

DUDEK

Torrey Highlands Office Project

Date: 7/10/2015 - Last saved by: cbattle - Path: Z:\Projects\906300\MAPDOC\WORKING\Figure_2_Vicinity.mxd

ATTACHMENT A

EDR Report

Torrey Highlands Office Project
Torrey Santa Fe Rd/Camino Del Sur
San Diego, CA 92129

Inquiry Number: 4364314.2s
July 24, 2015

The EDR Radius Map™ Report with GeoCheck®

EDR® Environmental Data Resources Inc

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

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Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

TORREY SANTA FE RD/CAMINO DEL SUR
SAN DIEGO, CA 92129

COORDINATES

Latitude (North):	32.9536000 - 32˚ 57' 12.96''
Longitude (West):	117.1542000 - 117˚ 9' 15.12''
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	485587.4
UTM Y (Meters):	3645962.8
Elevation:	355 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	5622814 DEL MAR, CA
Version Date:	2012

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	20120519
Source:	USDA

MAPPED SITES SUMMARY

Target Property Address:
TORREY SANTA FE RD/CAMINO DEL SUR
SAN DIEGO, CA 92129

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
1	EXXONMOBIL	13007 CAMINO	RCRA-SQG, FINDS, ENF	Lower	904, 0.171, NNE
2	ALBERTSONS #6742	7895 HIGHLAND VILLAG	SWRCY, San Diego Co. HMMD, HAZNET	Higher	2422, 0.459, North
3	MESA VERDE MIDDLE SC	3375 ENTREKEN WAY	SCH, ENVIROSTOR	Higher	4089, 0.774, NE
4	PARK VILLAGE ELEMENT	7930 PARK VILLAGE RO	SCH, ENVIROSTOR	Lower	4493, 0.851, SSE

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL ..... National Priority List
Proposed NPL ..... Proposed National Priority List Sites
NPL LIENS ..... Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL ..... National Priority List Deletions

Federal CERCLIS list

CERCLIS ..... Comprehensive Environmental Response, Compensation, and Liability Information System
FEDERAL FACILITY ..... Federal Facility Site Information listing

Federal CERCLIS NFRAP site List

CERC-NFRAP ..... CERCLIS No Further Remedial Action Planned

Federal RCRA CORRACTS facilities list

CORRACTS ..... Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF ..... RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-LQG ..... RCRA - Large Quantity Generators
RCRA-CESQG ..... RCRA - Conditionally Exempt Small Quantity Generator

Federal institutional controls / engineering controls registries

US ENG CONTROLS ..... Engineering Controls Sites List
US INST CONTROL ..... Sites with Institutional Controls
LUCIS ..... Land Use Control Information System

EXECUTIVE SUMMARY

Federal ERNS list

ERNS ..... Emergency Response Notification System

State- and tribal - equivalent NPL

RESPONSE ..... State Response Sites

State and tribal landfill and/or solid waste disposal site lists

SWF/LF ..... Solid Waste Information System

State and tribal leaking storage tank lists

LUST ..... Geotracker's Leaking Underground Fuel Tank Report
SLIC ..... Statewide SLIC Cases
SAN DIEGO CO. SAM ..... Environmental Case Listing
INDIAN LUST ..... Leaking Underground Storage Tanks on Indian Land

State and tribal registered storage tank lists

UST ..... Active UST Facilities
AST ..... Aboveground Petroleum Storage Tank Facilities
INDIAN UST ..... Underground Storage Tanks on Indian Land
FEMA UST ..... Underground Storage Tank Listing

State and tribal voluntary cleanup sites

INDIAN VCP ..... Voluntary Cleanup Priority Listing
VCP ..... Voluntary Cleanup Program Properties

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS ..... A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

DEBRIS REGION 9 ..... Torres Martinez Reservation Illegal Dump Site Locations
ODI ..... Open Dump Inventory
HAULERS ..... Registered Waste Tire Haulers Listing
INDIAN ODI ..... Report on the Status of Open Dumps on Indian Lands
WMUDS/SWAT ..... Waste Management Unit Database

Local Lists of Hazardous waste / Contaminated Sites

US CDL ..... Clandestine Drug Labs
HIST Cal-Sites ..... Historical Calsites Database
SCH ..... School Property Evaluation Program
Toxic Pits ..... Toxic Pits Cleanup Act Sites
CDL ..... Clandestine Drug Labs
San Diego Co. HMMD ..... Hazardous Materials Management Division Database

EXECUTIVE SUMMARY

US HIST CDL	National Clandestine Laboratory Register

Local Lists of Registered Storage Tanks

CA FID UST	Facility Inventory Database
HIST UST	Hazardous Substance Storage Container Database
SWEEPS UST	SWEEPS UST Listing

Local Land Records

LIENS 2	CERCLA Lien Information
LIENS	Environmental Liens Listing
DEED	Deed Restriction Listing

Records of Emergency Release Reports

HMIRS	Hazardous Materials Information Reporting System
CHMIRS	California Hazardous Material Incident Report System
LDS	Land Disposal Sites Listing
MCS	Military Cleanup Sites Listing
SPILLS 90	SPILLS 90 data from FirstSearch

Other Ascertainable Records

RCRA NonGen / NLR	RCRA - Non Generators / No Longer Regulated
DOT OPS	Incident and Accident Data
DOD	Department of Defense Sites
FUDS	Formerly Used Defense Sites
CONSENT	Superfund (CERCLA) Consent Decrees
ROD	Records Of Decision
UMTRA	Uranium Mill Tailings Sites
US MINES	Mines Master Index File
TRIS	Toxic Chemical Release Inventory System
TSCA	Toxic Substances Control Act
FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing
SSTS	Section 7 Tracking Systems
ICIS	Integrated Compliance Information System
PADS	PCB Activity Database System
MLTS	Material Licensing Tracking System
RADINFO	Radiation Information Database
FINDS	Facility Index System/Facility Registry System
RAATS	RCRA Administrative Action Tracking System
RMP	Risk Management Plans
CA BOND EXP. PLAN	Bond Expenditure Plan
NPDES	NPDES Permits Listing
UIC	UIC Listing
Cortese	"Cortese" Hazardous Waste & Substances Sites List
HIST CORTESE	Hazardous Waste & Substance Site List
CUPA Listings	CUPA Resources List
Notify 65	Proposition 65 Records
DRYCLEANERS	Cleaner Facilities
WIP	Well Investigation Program Case List
ENF	Enforcement Action Listing

EXECUTIVE SUMMARY

HAZNET	Facility and Manifest Data
EMI	Emissions Inventory Data
INDIAN RESERV	Indian Reservations
SCRD DRYCLEANERS	State Coalition for Remediation of Drycleaners Listing
WDS	Waste Discharge System
Financial Assurance	Financial Assurance Information Listing
PROC	Certified Processors Database
HWT	Registered Hazardous Waste Transporter Database
HWP	EnviroStor Permitted Facilities Listing
MWMP	Medical Waste Management Program Listing
LEAD SMELTERS	Lead Smelter Sites
US AIRS	Aerometric Information Retrieval System Facility Subsystem
EPA WATCH LIST	EPA WATCH LIST
US FIN ASSUR	Financial Assurance Information
COAL ASH EPA	Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER	PCB Transformer Registration Database
COAL ASH DOE	Steam-Electric Plant Operation Data
2020 COR ACTION	2020 Corrective Action Program List
PRP	Potentially Responsible Parties

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP	EDR Proprietary Manufactured Gas Plants
EDR US Hist Auto Stat	EDR Exclusive Historic Gas Stations
EDR US Hist Cleaners	EDR Exclusive Historic Dry Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LUST	Recovered Government Archive Leaking Underground Storage Tank
RGA LF	Recovered Government Archive Solid Waste Facilities List

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

EXECUTIVE SUMMARY

STANDARD ENVIRONMENTAL RECORDS

Federal RCRA generators list

RCRA-SQG: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

A review of the RCRA-SQG list, as provided by EDR, and dated 03/10/2015 has revealed that there is 1 RCRA-SQG site within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
EXXONMOBIL	***13007 CAMINO***	***NNE 1/8 - 1/4 (0.171 mi.)***	***1***	***8***

State- and tribal - equivalent CERCLIS

ENVIROSTOR: The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

A review of the ENVIROSTOR list, as provided by EDR, and dated 05/04/2015 has revealed that there are 2 ENVIROSTOR sites within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
MESA VERDE MIDDLE SC Status: Inactive - Withdrawn Facility Id: 60000016	***3375 ENTREKEN WAY***	***NE 1/2 - 1 (0.774 mi.)***	***3***	***20***

Lower Elevation	Address	Direction / Distance	Map ID	Page
PARK VILLAGE ELEMENT Status: Inactive - Withdrawn Facility Id: 60000014	***7930 PARK VILLAGE RO***	***SSE 1/2 - 1 (0.851 mi.)***	***4***	***22***

ADDITIONAL ENVIRONMENTAL RECORDS

Local Lists of Landfill / Solid Waste Disposal Sites

SWRCY: A listing of recycling facilities in California.

A review of the SWRCY list, as provided by EDR, and dated 03/16/2015 has revealed that there is 1

EXECUTIVE SUMMARY

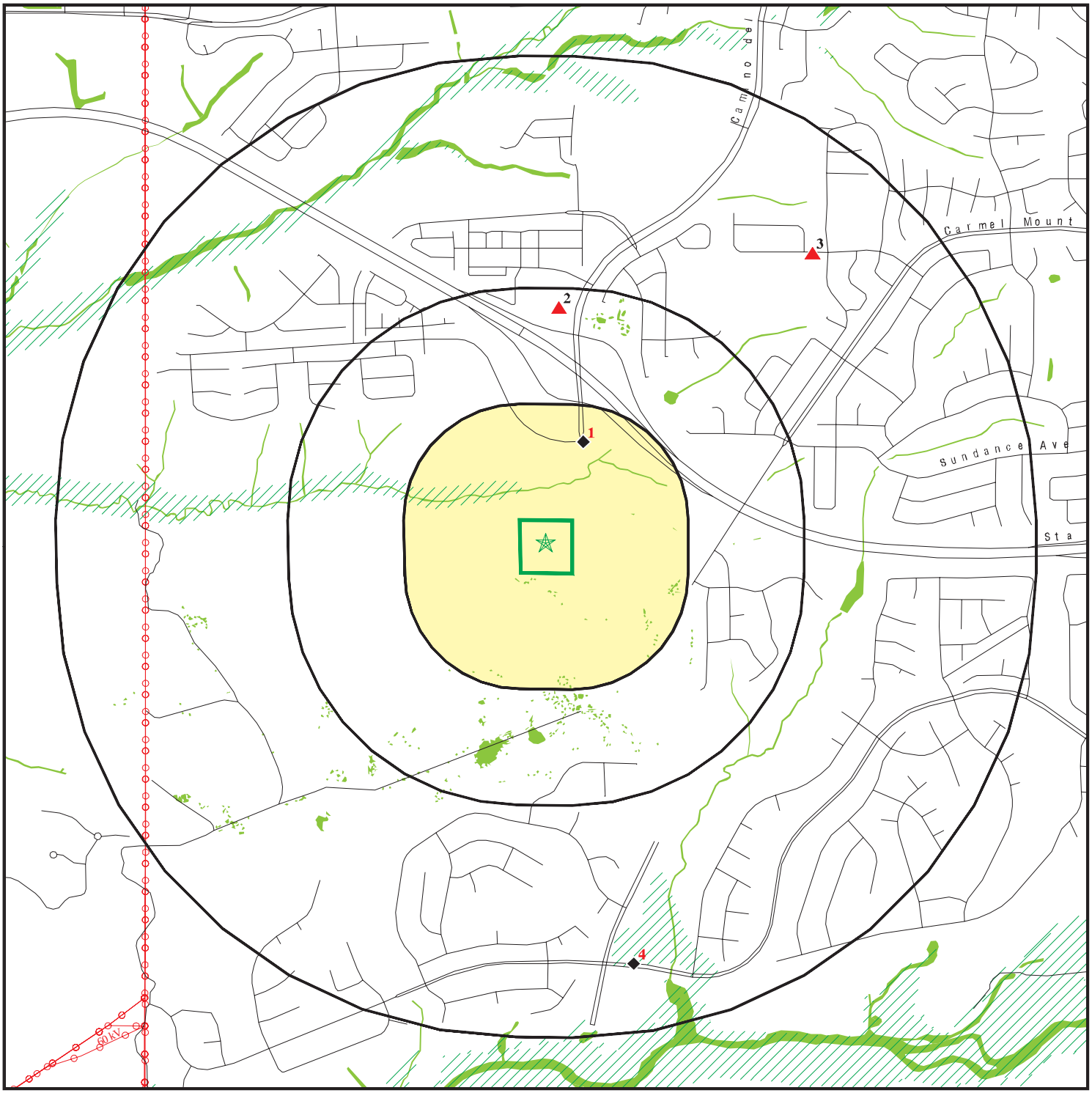
SWRCY site within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
ALBERTSONS #6742	***7895 HIGHLAND VILLAG***	***N 1/4 - 1/2 (0.459 mi.)***	***2***	***11***
Cert Id: RC156857.001				

EXECUTIVE SUMMARY

There were no unmapped sites in this report.

OVERVIEW MAP - 4364314.2S



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

National Priority List Sites

Dept. Defense Sites

0 1/4 1/2 1 Miles

Indian Reservations BIA

Power transmission lines

100-year flood zone

500-year flood zone

National Wetland Inventory

Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Torrey Highlands Office Project	CLIENT: Dudek & Associates
ADDRESS: Torrey Santa Fe Rd/Camino Del Sur San Diego CA 92129	CONTACT: Khristina Leyba INQUIRY #: 4364314.2s
LAT/LONG: 32.9536 / 117.1542	DATE: July 24, 2015 3:01 pm

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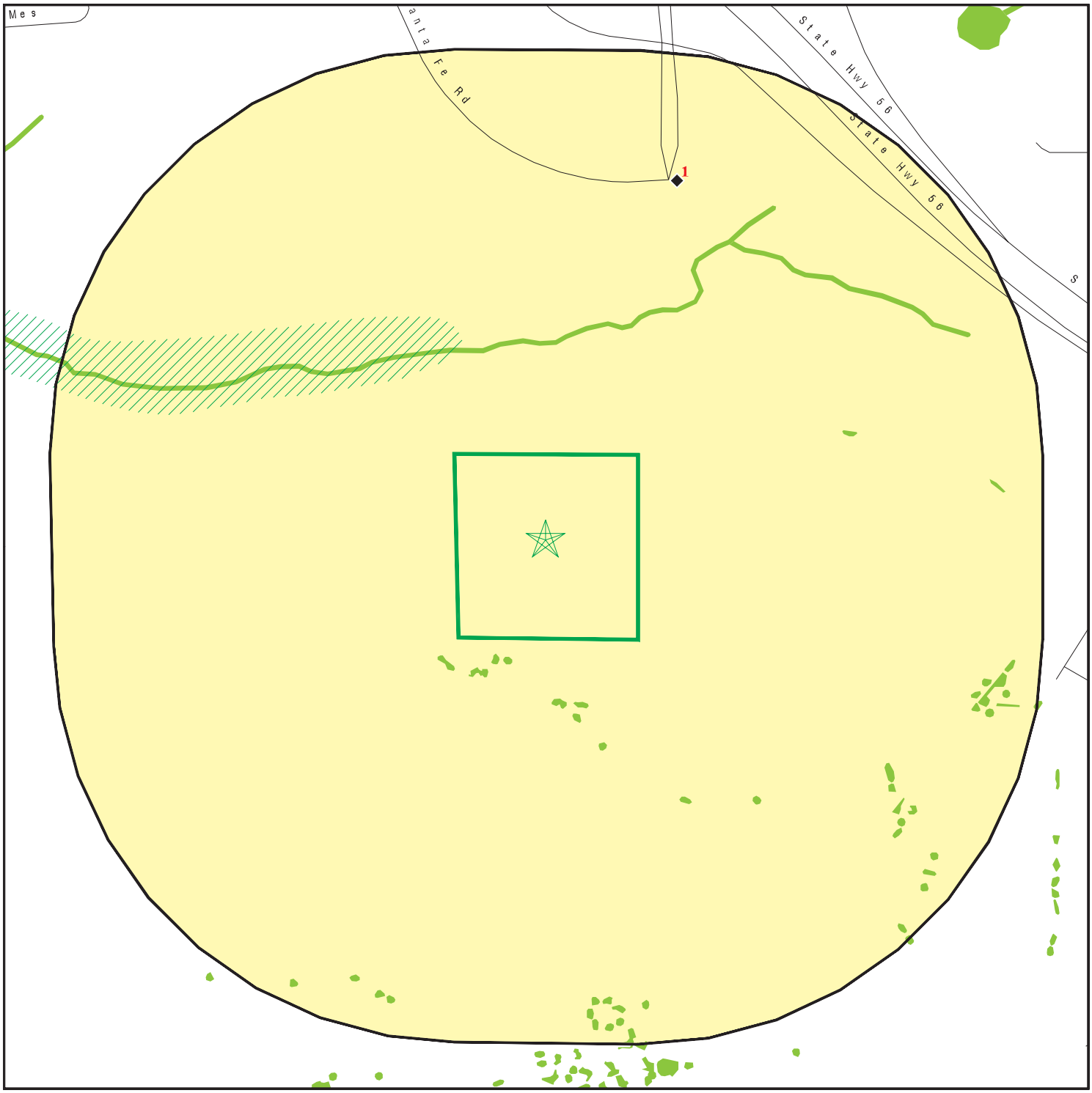
DETAIL MAP - 4364314.2S



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

Sensitive Receptors

National Priority List Sites

Dept. Defense Sites

0 1/16 1/8 1/4 Miles

Indian Reservations BIA

100-year flood zone

500-year flood zone

National Wetland Inventory

Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Torrey Highlands Office Project	CLIENT: Dudek & Associates
ADDRESS: Torrey Santa Fe Rd/Camino Del Sur San Diego CA 92129	CONTACT: Khristina Leyba INQUIRY #: 4364314.2s
LAT/LONG: 32.9536 / 117.1542	DATE: July 24, 2015 3:03 pm

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MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	0.001		0	NR	NR	NR	NR	0
Federal Delisted NPL site list								
Delisted NPL	1.000		0	0	0	0	NR	0
Federal CERCLIS list								
CERCLIS	0.500		0	0	0	NR	NR	0
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
Federal CERCLIS NFRAP site List								
CERC-NFRAP	0.500		0	0	0	NR	NR	0
Federal RCRA CORRACTS facilities list								
CORRACTS	1.000		0	0	0	0	NR	0
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Federal RCRA generators list								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	1	NR	NR	NR	1
RCRA-CESQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROL	0.500		0	0	0	NR	NR	0
LUCIS	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	0.001		0	NR	NR	NR	NR	0
State- and tribal - equivalent NPL								
RESPONSE	1.000		0	0	0	0	NR	0
State- and tribal - equivalent CERCLIS								
ENVIROSTOR	1.000		0	0	0	2	NR	2
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF	0.500		0	0	0	NR	NR	0
State and tribal leaking storage tank lists								
LUST	0.500		0	0	0	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
SLIC	0.500		0	0	0	NR	NR	0
SAN DIEGO CO. SAM	0.500		0	0	0	NR	NR	0
INDIAN LUST	0.500		0	0	0	NR	NR	0
State and tribal registered storage tank lists								
UST	0.250		0	0	NR	NR	NR	0
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
FEMA UST	0.250		0	0	NR	NR	NR	0
State and tribal voluntary cleanup sites								
INDIAN VCP	0.500		0	0	0	NR	NR	0
VCP	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
SWRCY	0.500		0	0	1	NR	NR	1
HAULERS	0.001		0	NR	NR	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
WMUDS/SWAT	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US CDL	0.001		0	NR	NR	NR	NR	0
HIST Cal-Sites	1.000		0	0	0	0	NR	0
SCH	0.250		0	0	NR	NR	NR	0
Toxic Pits	1.000		0	0	0	0	NR	0
CDL	0.001		0	NR	NR	NR	NR	0
San Diego Co. HMMD	0.001		0	NR	NR	NR	NR	0
US HIST CDL	0.001		0	NR	NR	NR	NR	0
Local Lists of Registered Storage Tanks								
CA FID UST	0.250		0	0	NR	NR	NR	0
HIST UST	0.250		0	0	NR	NR	NR	0
SWEEPS UST	0.250		0	0	NR	NR	NR	0
Local Land Records								
LIENS 2	0.001		0	NR	NR	NR	NR	0
LIENS	0.001		0	NR	NR	NR	NR	0
DEED	0.500		0	0	0	NR	NR	0
Records of Emergency Release Reports								
HMIRS	0.001		0	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
CHMIRS	0.001		0	NR	NR	NR	NR	0
LDS	0.001		0	NR	NR	NR	NR	0
MCS	0.001		0	NR	NR	NR	NR	0
SPILLS 90	0.001		0	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0
DOT OPS	0.001		0	NR	NR	NR	NR	0
DOD	1.000		0	0	0	0	NR	0
FUDS	1.000		0	0	0	0	NR	0
CONSENT	1.000		0	0	0	0	NR	0
ROD	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
TRIS	0.001		0	NR	NR	NR	NR	0
TSCA	0.001		0	NR	NR	NR	NR	0
FTTS	0.001		0	NR	NR	NR	NR	0
HIST FTTS	0.001		0	NR	NR	NR	NR	0
SSTS	0.001		0	NR	NR	NR	NR	0
ICIS	0.001		0	NR	NR	NR	NR	0
PADS	0.001		0	NR	NR	NR	NR	0
MLTS	0.001		0	NR	NR	NR	NR	0
RADINFO	0.001		0	NR	NR	NR	NR	0
FINDS	0.001		0	NR	NR	NR	NR	0
RAATS	0.001		0	NR	NR	NR	NR	0
RMP	0.001		0	NR	NR	NR	NR	0
CA BOND EXP. PLAN	1.000		0	0	0	0	NR	0
NPDES	0.001		0	NR	NR	NR	NR	0
UIC	0.001		0	NR	NR	NR	NR	0
Cortese	0.500		0	0	0	NR	NR	0
HIST CORTESE	0.500		0	0	0	NR	NR	0
CUPA Listings	0.250		0	0	NR	NR	NR	0
Notify 65	1.000		0	0	0	0	NR	0
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
WIP	0.250		0	0	NR	NR	NR	0
ENF	0.001		0	NR	NR	NR	NR	0
HAZNET	0.001		0	NR	NR	NR	NR	0
EMI	0.001		0	NR	NR	NR	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
WDS	0.001		0	NR	NR	NR	NR	0
Financial Assurance	0.001		0	NR	NR	NR	NR	0
PROC	0.500		0	0	0	NR	NR	0
HWT	0.250		0	0	NR	NR	NR	0
HWP	1.000		0	0	0	0	NR	0
MWMP	0.250		0	0	NR	NR	NR	0
LEAD SMELTERS	0.001		0	NR	NR	NR	NR	0
US AIRS	0.001		0	NR	NR	NR	NR	0
EPA WATCH LIST	0.001		0	NR	NR	NR	NR	0
US FIN ASSUR	0.001		0	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
PCB TRANSFORMER	0.001		0	NR	NR	NR	NR	0
COAL ASH DOE	0.001		0	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
PRP	0.001		0	NR	NR	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR US Hist Auto Stat	0.250		0	0	NR	NR	NR	0
EDR US Hist Cleaners	0.250		0	0	NR	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA LUST	0.001		0	NR	NR	NR	NR	0
RGA LF	0.001		0	NR	NR	NR	NR	0
- Totals --		0	0	1	1	2	0	4

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

1 NNE 1/8-1/4 0.171 mi. 904 ft. | **EXXONMOBIL 13007 CAMINO DEL SUR SAN DIEGO, CA 92126** | **RCRA-SQG FINDS ENF** | **1010313713 CAR000177048**

Relative: Lower

Actual: 352 ft.

RCRA-SQG:

Date form received by agency:	08/28/2006
Facility name:	EXXONMOBIL OIL CORPORATION 19104
Facility address:	13007 CAMINO DEL SUR SAN DIEGO, CA 92126
EPA ID:	CAR000177048
Mailing address:	16945 NORTHCHASE DRIVE ROOM 538 HOUSTON, TX 77060
Contact:	DALE VIATOR
Contact address:	16945 NORTHCHASE DRIVE ROOM 538 HOUSTON, TX 77060
Contact country:	US
Contact telephone:	281-654-8470
Contact email:	DALE.VIATOR@EXXONMOBIL.COM
EPA Region:	09
Classification:	Small Small Quantity Generator
Description:	Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:

Owner/operator name:	EXXONMOBIL OIL CORPORATION
Owner/operator address:	Not reported Not reported
Owner/operator country:	US
Owner/operator telephone:	Not reported
Legal status:	Private
Owner/Operator Type:	Operator
Owner/Op start date:	08/23/2006
Owner/Op end date:	Not reported

Owner/operator name:	EXXONMOBIL OIL CORPORATION
Owner/operator address:	3225 GALLOWS ROAD FAIRFAX, VA 22037
Owner/operator country:	US
Owner/operator telephone:	Not reported
Legal status:	Private
Owner/Operator Type:	Owner
Owner/Op start date:	12/01/1999
Owner/Op end date:	Not reported

Handler Activities Summary:

U.S. importer of hazardous waste:	No
Mixed waste (haz. and radioactive):	No
Recycler of hazardous waste:	No
Transporter of hazardous waste:	No
Treater, storer or disposer of HW:	No
Underground injection activity:	No
On-site burner exemption:	No

EXXONMOBIL (Continued) **1010313713**

Furnace exemption:	No
Used oil fuel burner:	No
Used oil processor:	No
User oil refiner:	No
Used oil fuel marketer to burner:	No
Used oil Specification marketer:	No
Used oil transfer facility:	No
Used oil transporter:	No

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: D018
. Waste name: BENZENE

Violation Status: No violations found

FINDS:

Registry ID: 110058314836

Environmental Interest/Information System
CRITERIA AND HAZARDOUS AIR POLLUTANT INVENTORY

ENF:

Region:	9
Facility Id:	625236
Agency Name:	Not reported
Place Type:	Facility
Place Subtype:	Not reported
Facility Type:	Not reported
Agency Type:	Not reported
# Of Agencies:	Not reported
Place Latitude:	Not reported
Place Longitude:	Not reported
SIC Code 1:	Not reported
SIC Desc 1:	Not reported
SIC Code 2:	Not reported
SIC Desc 2:	Not reported
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Enf Action
Design Flow:	Not reported
Threat To Water Quality:	Not reported
Complexity:	Not reported
Pretreatment:	Not reported
Facility Waste Type:	Not reported
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported

EXXONMOBIL (Continued) **1010313713**

Facility Waste Type 4:	Not reported
Program:	Not reported
Program Category1:	Not reported
Program Category2:	TANKS
# Of Programs:	Not reported
WDID:	Not reported
Reg Measure Id:	Not reported
Reg Measure Type:	Not reported
Region:	Not reported
Order #:	Not reported
Npdes# CA#:	Not reported
Major-Minor:	Not reported
Npdes Type:	Not reported
Reclamation:	Not reported
Dredge Fill Fee:	Not reported
301H:	Not reported
Application Fee Amt Received:	Not reported
Status:	Not reported
Status Date:	Not reported
Effective Date:	Not reported
Expiration/Review Date:	Not reported
Termination Date:	Not reported
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	Not reported
Individual/General:	Not reported
Fee Code:	Not reported
Direction/Voice:	Not reported
Enforcement Id(EID):	327475
Region:	9
Order / Resolution Number:	R9-2006-0119
Enforcement Action Type:	Notice of Violation
Effective Date:	09/28/2006
Adoption/Issuance Date:	Not reported
Achieve Date:	Not reported
Termination Date:	09/28/2006
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Historical
Title:	Notice of Violation R9-2006-0119
Description:	Failure to submit electronic data as required by Investigative Order R9-2006-0030
Program:	UST
Latest Milestone Completion Date:	Not reported
# Of Programs1:	1
Total Assessment Amount:	0.00
Initial Assessed Amount:	0.00
Liability $ Amount:	0.00
Project $ Amount:	0.00
Liability $ Paid:	0.00
Project $ Completed:	0.00
Total $ Paid/Completed Amount:	0.00

2 North 1/4-1/2 0.459 mi. 2422 ft.

ALBERTSONS #6742
7895 HIGHLAND VILLAGE PL
SAN DIEGO, CA 92129

SWRCY
San Diego Co. HMMD
HAZNET

S108197107
N/A

Relative: Higher

Actual: 403 ft.

SWRCY:

Reg Id:	156857
Cert Id:	RC156857.001
Mailing Address:	800 N Haven Ave Suite 120
Mailing City:	Ontario
Mailing State:	CA
Mailing Zip Code:	91764
Website:	http://www.replanetusa.com
Email:	jennifer.june@replanet.com
Phone Number:	(951) 520-1700
Grand Father:	N
Rural:	N
Operation Begin Date:	05/01/2012
Aluminium:	Y
Glass:	Y
Plastic:	Y
Bimetal:	Y
Agency:	N/A
Monday Hours Of Operation:	CLOSED
Tuesday Hours Of Operation:	10:00 am - 4:30 pm; Closed 1:00 pm - 1:30 pm
Wednesday Hours Of Operation:	10:00 am - 4:30 pm; Closed 1:00 pm - 1:30 pm
Thursday Hours Of Operation:	10:00 am - 4:30 pm; Closed 1:00 pm - 1:30 pm
Friday Hours Of Operation:	10:00 am - 4:30 pm; Closed 1:00 pm - 1:30 pm
Saturday Hours Of Operation:	10:00 am - 4:30 pm; Closed 1:00 pm - 1:30 pm
Sunday Hours Of Operation:	CLOSED
Organization ID:	151891
Organization Name:	rePLANET LLC

SAN DIEGO CO. HMMD:

Facility Id:	202390
Business Type:	6HK42
EPA Id Number:	CAL000307411
APN:	306-390-02-00
Last HMMD Inspection:	05/06/2011
Permit Status:	OPEN
Permit Expiration:	04/30/2013
Facility Owner:	NEW ALBERTSON'S INC
Facility Address:	P O BOX 20 DEPT 72405
Facility City:	BOISE
Facility State:	ID
Facility Zip:	83726
UST Owner:	Not reported
Handle Regulated Hazmat:	Y
Own Or Operate UST:	Not reported
Subject To APSA:	Not reported
Generate Haz Waste:	Y
Treat Haz Waste:	Not reported
Generate Medical Waste:	Y

Active Permits:

Facility Id:	202390
Update Date:	11/02/2012
Case Number:	Not reported

ALBERTSONS #6742 (Continued) **S108197107**

Name: WASTE 791 LIQUIDS WITH PH <OR= 2
Other Information: WASTE CORROSIVE - ACIDIC
Material Waste: Waste
Hazardous Categories 1: Not reported
Hazardous Categories 2: Not reported

Facility Id: 202390
Update Date: 11/02/2012
Case Number: Not reported
Name: WASTE 902 INFECTIOUS WASTE, SHARPS
Other Information: SHARPS WASTE
Material Waste: Waste
Hazardous Categories 1: Not reported
Hazardous Categories 2: Not reported

Facility Id: 202390
Update Date: 11/02/2012
Case Number: Not reported
Name: WASTE 131 AQUEOUS SOL'N W/REACTIVE ANION
Other Information: WASTE OXIDIZERS
Material Waste: Waste
Hazardous Categories 1: Not reported
Hazardous Categories 2: Not reported

Facility Id: 202390
Update Date: 11/02/2012
Case Number: Not reported
Name: WASTE 141 OFF-SPEC,AGED,SURPL INORGANICS
Other Information: WASTE FLAMMABLE SOLIDS
Material Waste: Waste
Hazardous Categories 1: Not reported
Hazardous Categories 2: Not reported

Facility Id: 202390
Update Date: 11/02/2012
Case Number: Not reported
Name: WASTE 214 UNSPEC SOLVENT MIXTURE
Other Information: AEROSOLS & FLAMMABLES
Material Waste: Waste
Hazardous Categories 1: Not reported
Hazardous Categories 2: Not reported

Facility Id: 202390
Update Date: 11/02/2012
Case Number: Not reported
Name: WASTE 123 UNSPECIFIED ALKALINE SOL'N
Other Information: WASTE CORROSIVE - BASES
Material Waste: Waste
Hazardous Categories 1: Not reported
Hazardous Categories 2: Not reported

Facility Id: 202390
Update Date: 11/02/2012
Case Number: 74-98-6
Name: PROPANE
Other Information: EM GENERATOR
Material Waste: Material

ALBERTSONS #6742 (Continued) **S108197107**

Hazardous Categories 1: FIRE
Hazardous Categories 2: PRESSURE RELEASE

Facility Id: 202390
Update Date: 11/02/2012
Case Number: Not reported
Name: WASTE 311 PHARMACEUTICAL WASTE
Other Information: NON-RCRA HAZARDOUS WASTE
Material Waste: Waste
Hazardous Categories 1: Not reported
Hazardous Categories 2: Not reported

Violations Active Permits:

Facility Id: 202390
Update Date: 11/02/2012
Inspection Date: 04/10/2009
Violation Code: 6HV1002
Violation: HMBP NOT ESTABISHED/IMPLEMENTED.
Violation Citation: Hazardous materials handler has not established/implemented a business plan. HSC 25503.5(a)
Activity: ACTIVE

Facility Id: 202390
Update Date: 11/02/2012
Inspection Date: 04/10/2009
Violation Code: 6HV0225
Violation: ACCUMULATED HW>180 OR >270 DAYS
Violation Citation: Accumulated waste too long (>180 or 270 days). 66262.34(d), CFR 262.34(e)&(f), &/or 25201(a) [>90 days for AHW waste]
Activity: ACTIVE

Facility Id: 202390
Update Date: 11/02/2012
Inspection Date: 05/06/2011
Violation Code: 6HV0137
Violation: MANIFEST NOT COMPLETED PROPERLY
Violation Citation: Generator of hazardous waste has not completed the hazardous waste manifest with all information required. CCR 66262.23(a)
Activity: ACTIVE

Facility Id: 202390
Update Date: 11/02/2012
Inspection Date: 04/10/2009
Violation Code: 6HV0135
Violation: MANIFESTS/RECEIPTS FOR 3 YEARS NOT ONSIT
Violation Citation: Hazardous waste manifests/receipts for 3 years are not maintained onsite to document proper disposal of hazardous waste. CCR 66262.40(a) & 25160.2(b)(3)
Activity: ACTIVE

Facility Id: 202390
Update Date: 11/02/2012
Inspection Date: 05/06/2011
Violation Code: 6HV4306
Violation: FULL SHARPS STORED > 30 DAYS AT >0C
Violation Citation: Storage time exceeded for full sharps container(s), stored greater than 30 days at greater than 0C room temperatures. 118285(c)

ALBERTSONS #6742 (Continued) **S108197107**

Activity: ACTIVE

Facility Id: 202390
Update Date: 11/02/2012
Inspection Date: 05/06/2011
Violation Code: 6HV1009
Violation: HMBP: INADEQUATE SITE MAP
Violation Citation: Business Plan does not have a site map which provides sufficient or complete information for emergency response agencies. HSC 25509(a)(5) & 25505(a)(2)
Activity: ACTIVE

Facility Id: 202390
Update Date: 11/02/2012
Inspection Date: 05/06/2011
Violation Code: 6HV4303
Violation: SQG:NO MED WASTE DISPOSAL RECORDS
Violation Citation: Generator did not retain on file disposal receipts and/or tracking documents for waste shipped offsite for at least 2 years (SQG). 117945(b)
Activity: ACTIVE

Facility Id: 202390
Business Type: 6HK42
EPA Id Number: CAL000307411
APN: 306-390-02-00
Last HMMD Inspection: 05/06/2011
Permit Status: OPEN
Permit Expiration: 04/30/2013
Facility Owner: NEW ALBERTSON'S INC
Facility Address: P O BOX 20 DEPT 72405
Facility City: BOISE
Facility State: ID
Facility Zip: 83726
UST Owner: Not reported
Handle Regulated Hazmat: Y
Own Or Operate UST: Not reported
Subject To APSA: Not reported
Generate Haz Waste: N
Treat Haz Waste: Not reported
Generate Medical Waste: Not reported

Active Permits:

Facility Id: 202390
Update Date: 11/02/2012
Case Number: Not reported
Name: WASTE 791 LIQUIDS WITH PH <OR= 2
Other Information: WASTE CORROSIVE - ACIDIC
Material Waste: Waste
Hazardous Categories 1: Not reported
Hazardous Categories 2: Not reported

Facility Id: 202390
Update Date: 11/02/2012
Case Number: Not reported
Name: WASTE 902 INFECTIOUS WASTE, SHARPS
Other Information: SHARPS WASTE

ALBERTSONS #6742 (Continued) **S108197107**

Material Waste: Waste
Hazardous Categories 1: Not reported
Hazardous Categories 2: Not reported

Facility Id: 202390
Update Date: 11/02/2012
Case Number: Not reported
Name: WASTE 131 AQUEOUS SOL'N W/REACTIVE ANION
Other Information: WASTE OXIDIZERS
Material Waste: Waste
Hazardous Categories 1: Not reported
Hazardous Categories 2: Not reported

Facility Id: 202390
Update Date: 11/02/2012
Case Number: Not reported
Name: WASTE 141 OFF-SPEC,AGED,SURPL INORGANICS
Other Information: WASTE FLAMMABLE SOLIDS
Material Waste: Waste
Hazardous Categories 1: Not reported
Hazardous Categories 2: Not reported

Facility Id: 202390
Update Date: 11/02/2012
Case Number: Not reported
Name: WASTE 214 UNSPEC SOLVENT MIXTURE
Other Information: AEROSOLS & FLAMMABLES
Material Waste: Waste
Hazardous Categories 1: Not reported
Hazardous Categories 2: Not reported

Facility Id: 202390
Update Date: 11/02/2012
Case Number: Not reported
Name: WASTE 123 UNSPECIFIED ALKALINE SOL'N
Other Information: WASTE CORROSIVE - BASES
Material Waste: Waste
Hazardous Categories 1: Not reported
Hazardous Categories 2: Not reported

Facility Id: 202390
Update Date: 11/02/2012
Case Number: 74-98-6
Name: PROPANE
Other Information: EM GENERATOR
Material Waste: Material
Hazardous Categories 1: FIRE
Hazardous Categories 2: PRESSURE RELEASE

Facility Id: 202390
Update Date: 11/02/2012
Case Number: Not reported
Name: WASTE 311 PHARMACEUTICAL WASTE
Other Information: NON-RCRA HAZARDOUS WASTE
Material Waste: Waste
Hazardous Categories 1: Not reported
Hazardous Categories 2: Not reported

ALBERTSONS #6742 (Continued) **S108197107**

Violations Active Permits:

Facility Id:	202390
Update Date:	11/02/2012
Inspection Date:	04/10/2009
Violation Code:	6HV1002
Violation:	HMBP NOT ESTABISHED/IMPLEMENTED.
Violation Citation:	Hazardous materials handler has not established/implemented a business plan. HSC 25503.5(a)
Activity:	ACTIVE

Facility Id:	202390
Update Date:	11/02/2012
Inspection Date:	04/10/2009
Violation Code:	6HV0225
Violation:	ACCUMULATED HW>180 OR >270 DAYS
Violation Citation:	Accumulated waste too long (>180 or 270 days). 66262.34(d), CFR 262.34(e)&(f), &/or 25201(a) [>90 days for AHW waste]
Activity:	ACTIVE

Facility Id:	202390
Update Date:	11/02/2012
Inspection Date:	05/06/2011
Violation Code:	6HV0137
Violation:	MANIFEST NOT COMPLETED PROPERLY
Violation Citation:	Generator of hazardous waste has not completed the hazardous waste manifest with all information required. CCR 66262.23(a)
Activity:	ACTIVE

Facility Id:	202390
Update Date:	11/02/2012
Inspection Date:	04/10/2009
Violation Code:	6HV0135
Violation:	MANIFESTS/RECEIPTS FOR 3 YEARS NOT ONSIT
Violation Citation:	Hazardous waste manifests/receipts for 3 years are not maintained onsite to document proper disposal of hazardous waste. CCR 66262.40(a) & 25160.2(b)(3)
Activity:	ACTIVE

Facility Id:	202390
Update Date:	11/02/2012
Inspection Date:	05/06/2011
Violation Code:	6HV4306
Violation:	FULL SHARPS STORED > 30 DAYS AT >0C
Violation Citation:	Storage time exceeded for full sharps container(s), stored greater than 30 days at greater than 0C room temperatures. 118285(c)
Activity:	ACTIVE

Facility Id:	202390
Update Date:	11/02/2012
Inspection Date:	05/06/2011
Violation Code:	6HV1009
Violation:	HMBP: INADEQUATE SITE MAP
Violation Citation:	Business Plan does not have a site map which provides sufficient or complete information for emergency response agencies. HSC 25509(a)(5) & 25505(a)(2)
Activity:	ACTIVE

ALBERTSONS #6742 (Continued) **S108197107**

Facility Id:	202390
Update Date:	11/02/2012
Inspection Date:	05/06/2011
Violation Code:	6HV4303
Violation:	SQG:NO MED WASTE DISPOSAL RECORDS
Violation Citation:	Generator did not retain on file disposal receipts and/or tracking documents for waste shipped offsite for at least 2 years (SQG). 117945(b)
Activity:	ACTIVE

Facility Id:	202390
Business Type:	6HK42
EPA Id Number:	CAL000307411
APN:	306-390-02-00
Last HMMD Inspection:	05/06/2011
Permit Status:	OPEN
Permit Expiration:	04/30/2013
Facility Owner:	NEW ALBERTSON'S INC
Facility Address:	P O BOX 20 DEPT 72405
Facility City:	BOISE
Facility State:	ID
Facility Zip:	83726
UST Owner:	Not reported
Handle Regulated Hazmat:	Y
Own Or Operate UST:	Not reported
Subject To APSA:	Not reported
Generate Haz Waste:	Y
Treat Haz Waste:	Not reported
Generate Medical Waste:	Not reported

Active Permits:

Facility Id:	202390
Update Date:	11/02/2012
Case Number:	Not reported
Name:	WASTE 791 LIQUIDS WITH PH <OR= 2
Other Information:	WASTE CORROSIVE - ACIDIC
Material Waste:	Waste
Hazardous Categories 1:	Not reported
Hazardous Categories 2:	Not reported

Facility Id:	202390
Update Date:	11/02/2012
Case Number:	Not reported
Name:	WASTE 902 INFECTIOUS WASTE, SHARPS
Other Information:	SHARPS WASTE
Material Waste:	Waste
Hazardous Categories 1:	Not reported
Hazardous Categories 2:	Not reported

Facility Id:	202390
Update Date:	11/02/2012
Case Number:	Not reported
Name:	WASTE 131 AQUEOUS SOL'N W/REACTIVE ANION
Other Information:	WASTE OXIDIZERS
Material Waste:	Waste
Hazardous Categories 1:	Not reported
Hazardous Categories 2:	Not reported

ALBERTSONS #6742 (Continued) **S108197107**

Facility Id: 202390
Update Date: 11/02/2012
Case Number: Not reported
Name: WASTE 141 OFF-SPEC,AGED,SURPL INORGANICS
Other Information: WASTE FLAMMABLE SOLIDS
Material Waste: Waste
Hazardous Categories 1: Not reported
Hazardous Categories 2: Not reported

Facility Id: 202390
Update Date: 11/02/2012
Case Number: Not reported
Name: WASTE 214 UNSPEC SOLVENT MIXTURE
Other Information: AEROSOLS & FLAMMABLES
Material Waste: Waste
Hazardous Categories 1: Not reported
Hazardous Categories 2: Not reported

Facility Id: 202390
Update Date: 11/02/2012
Case Number: Not reported
Name: WASTE 123 UNSPECIFIED ALKALINE SOL'N
Other Information: WASTE CORROSIVE - BASES
Material Waste: Waste
Hazardous Categories 1: Not reported
Hazardous Categories 2: Not reported

Facility Id: 202390
Update Date: 11/02/2012
Case Number: 74-98-6
Name: PROPANE
Other Information: EM GENERATOR
Material Waste: Material
Hazardous Categories 1: FIRE
Hazardous Categories 2: PRESSURE RELEASE

Facility Id: 202390
Update Date: 11/02/2012
Case Number: Not reported
Name: WASTE 311 PHARMACEUTICAL WASTE
Other Information: NON-RCRA HAZARDOUS WASTE
Material Waste: Waste
Hazardous Categories 1: Not reported
Hazardous Categories 2: Not reported

Violations Active Permits:
Facility Id: 202390
Update Date: 11/02/2012
Inspection Date: 04/10/2009
Violation Code: 6HV1002
Violation: HMBP NOT ESTABISHED/IMPLEMENTED.
Violation Citation: Hazardous materials handler has not established/implemented a business plan. HSC 25503.5(a)
Activity: ACTIVE

Facility Id: 202390
Update Date: 11/02/2012

ALBERTSONS #6742 (Continued) **S108197107**

Inspection Date:	04/10/2009
Violation Code:	6HV0225
Violation:	ACCUMULATED HW>180 OR >270 DAYS
Violation Citation:	Accumulated waste too long (>180 or 270 days). 66262.34(d), CFR 262.34(e)&(f), &/or 25201(a) [>90 days for AHW waste]
Activity:	ACTIVE

Facility Id:	202390
Update Date:	11/02/2012
Inspection Date:	05/06/2011
Violation Code:	6HV0137
Violation:	MANIFEST NOT COMPLETED PROPERLY
Violation Citation:	Generator of hazardous waste has not completed the hazardous waste manifest with all information required. CCR 66262.23(a)
Activity:	ACTIVE

Facility Id:	202390
Update Date:	11/02/2012
Inspection Date:	04/10/2009
Violation Code:	6HV0135
Violation:	MANIFESTS/RECEIPTS FOR 3 YEARS NOT ONSIT
Violation Citation:	Hazardous waste manifests/receipts for 3 years are not maintained onsite to document proper disposal of hazardous waste. CCR 66262.40(a) & 25160.2(b)(3)
Activity:	ACTIVE

Facility Id:	202390
Update Date:	11/02/2012
Inspection Date:	05/06/2011
Violation Code:	6HV4306
Violation:	FULL SHARPS STORED > 30 DAYS AT >0C
Violation Citation:	Storage time exceeded for full sharps container(s), stored greater than 30 days at greater than 0C room temperatures. 118285(c)
Activity:	ACTIVE

Facility Id:	202390
Update Date:	11/02/2012
Inspection Date:	05/06/2011
Violation Code:	6HV1009
Violation:	HMBP: INADEQUATE SITE MAP
Violation Citation:	Business Plan does not have a site map which provides sufficient or complete information for emergency response agencies. HSC 25509(a)(5) & 25505(a)(2)
Activity:	ACTIVE

Facility Id:	202390
Update Date:	11/02/2012
Inspection Date:	05/06/2011
Violation Code:	6HV4303
Violation:	SQG:NO MED WASTE DISPOSAL RECORDS
Violation Citation:	Generator did not retain on file disposal receipts and/or tracking documents for waste shipped offsite for at least 2 years (SQG). 117945(b)
Activity:	ACTIVE

ALBERTSONS #6742 (Continued) **S108197107**

HAZNET:

envid:	S108197107
Year:	2013
GEPAID:	CAL000384656
Contact:	Jill Washburn
Telephone:	2083953949
Mailing Name:	Not reported
Mailing Address:	PO BOX 20 DEPT 72405
Mailing City,St,Zip:	BOISE, ID 837260000
Gen County:	San Diego
TSD EPA ID:	INR000110197
TSD County:	Not reported
Waste Category:	Not reported
Disposal Method:	Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons:	0.0245
Facility County:	Not reported

envid:	S108197107
Year:	2013
GEPAID:	CAL000384656
Contact:	Jill Washburn
Telephone:	2083953949
Mailing Name:	Not reported
Mailing Address:	PO BOX 20 DEPT 72405
Mailing City,St,Zip:	BOISE, ID 837260000
Gen County:	San Diego
TSD EPA ID:	INR000110197
TSD County:	Not reported
Waste Category:	Not reported
Disposal Method:	Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons:	0.01
Facility County:	Not reported

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3 **MESA VERDE MIDDLE SCHOOL** **SCH** **S107736729**
NE **3375 ENTREKEN WAY** **ENVIROSTOR** **N/A**
1/2-1 **SAN DIEGO, CA 92129**
0.774 mi.
4089 ft.

Relative:
Higher

Actual:
435 ft.

SCH:

Facility ID:	60000016
Site Type:	School Investigation
Site Type Detail:	School
Site Mgmt. Req.:	NONE SPECIFIED
Acres:	10
National Priorities List:	NO
Cleanup Oversight Agencies:	SMBRP
Lead Agency:	SMBRP
Lead Agency Description:	DTSC - Site Cleanup Program
Project Manager:	Not reported
Supervisor:	Shahir Haddad
Division Branch:	Southern California Schools & Brownfields Outreach
Site Code:	404402
Assembly:	77

MESA VERDE MIDDLE SCHOOL (Continued) **S107736729**

Senate:	39
Special Program Status:	Not reported
Status:	Inactive - Withdrawn
Status Date:	02/20/2013
Restricted Use:	NO
Funding:	School District
Latitude:	32.9627
Longitude:	-117.1443
APN:	NONE SPECIFIED
Past Use:	* EDUCATIONAL SERVICES
Potential COC:	DDD, DDE, DDT
Confirmed COC:	30006-NO, 30007-NO, 30008-NO
Potential Description:	SOIL
Alias Name:	POWAY USD-MESA VERDE MIDDLE REPLACE
Alias Type:	Alternate Name
Alias Name:	404402
Alias Type:	Project Code (Site Code)
Alias Name:	60000016
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Cost Recovery Closeout Memo
Completed Date:	04/28/2003
Comments:	Not reported
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

ENVIROSTOR:

Facility ID:	60000016
Status:	Inactive - Withdrawn
Status Date:	02/20/2013
Site Code:	404402
Site Type:	School Investigation
Site Type Detailed:	School
Acres:	10
NPL:	NO
Regulatory Agencies:	SMBRP
Lead Agency:	SMBRP
Program Manager:	Not reported
Supervisor:	Shahir Haddad
Division Branch:	Southern California Schools & Brownfields Outreach
Assembly:	77
Senate:	39
Special Program:	Not reported
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	School District

MESA VERDE MIDDLE SCHOOL (Continued) **S107736729**

Latitude:	32.9627
Longitude:	-117.1443
APN:	NONE SPECIFIED
Past Use:	* EDUCATIONAL SERVICES
Potential COC:	DDD DDE DDT
Confirmed COC:	30006-NO 30007-NO 30008-NO
Potential Description:	SOIL
Alias Name:	POWAY USD-MESA VERDE MIDDLE REPLACE
Alias Type:	Alternate Name
Alias Name:	404402
Alias Type:	Project Code (Site Code)
Alias Name:	60000016
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Cost Recovery Closeout Memo
Completed Date:	04/28/2003
Comments:	Not reported
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

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4 **PARK VILLAGE ELEMENTARY SCHOOL** **SCH** **S108407560**
SSE **7930 PARK VILLAGE ROAD** **ENVIROSTOR** **N/A**
1/2-1 **SAN DIEGO, CA 92129**
0.851 mi.
4493 ft.

Relative:
Lower

Actual:
231 ft.

SCH:

Facility ID:	60000014
Site Type:	School Investigation
Site Type Detail:	School
Site Mgmt. Req.:	NONE SPECIFIED
Acres:	12
National Priorities List:	NO
Cleanup Oversight Agencies:	SMBRP
Lead Agency:	SMBRP
Lead Agency Description:	DTSC - Site Cleanup Program
Project Manager:	Not reported
Supervisor:	Shahir Haddad
Division Branch:	Southern California Schools & Brownfields Outreach
Site Code:	404401
Assembly:	77
Senate:	39
Special Program Status:	Not reported
Status:	Inactive - Withdrawn
Status Date:	10/06/2003
Restricted Use:	NO

PARK VILLAGE ELEMENTARY SCHOOL (Continued) **S108407560**

Funding:	School District
Latitude:	32.9476
Longitude:	-117.1342
APN:	NONE SPECIFIED
Past Use:	NONE
Potential COC:	NONE SPECIFIED, No Contaminants found
Confirmed COC:	NONE SPECIFIED
Potential Description:	NMA
Alias Name:	POWAY USD-PARK VILLAGE ELEM REPLACE
Alias Type:	Alternate Name
Alias Name:	110021883256
Alias Type:	EPA (FRS #)
Alias Name:	404401
Alias Type:	Project Code (Site Code)
Alias Name:	60000014
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Cost Recovery Closeout Memo
Completed Date:	10/06/2003
Comments:	Not reported
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

ENVIROSTOR:

Facility ID:	60000014
Status:	Inactive - Withdrawn
Status Date:	10/06/2003
Site Code:	404401
Site Type:	School Investigation
Site Type Detailed:	School
Acres:	12
NPL:	NO
Regulatory Agencies:	SMBRP
Lead Agency:	SMBRP
Program Manager:	Not reported
Supervisor:	Shahir Haddad
Division Branch:	Southern California Schools & Brownfields Outreach
Assembly:	77
Senate:	39
Special Program:	Not reported
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	School District
Latitude:	32.9476
Longitude:	-117.1342
APN:	NONE SPECIFIED

PARK VILLAGE ELEMENTARY SCHOOL (Continued) **S108407560**

Past Use: NONE
Potential COC: NONE SPECIFIED No Contaminants found
Confirmed COC: NONE SPECIFIED
Potential Description: NMA
Alias Name: POWAY USD-PARK VILLAGE ELEM REPLACE
Alias Type: Alternate Name
Alias Name: 110021883256
Alias Type: EPA (FRS #)
Alias Name: 404401
Alias Type: Project Code (Site Code)
Alias Name: 60000014
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 10/06/2003
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

Count: 0 records.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
		NO SITES FOUND			

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 03/26/2015
Date Data Arrived at EDR: 04/08/2015
Date Made Active in Reports: 06/22/2015
Number of Days to Update: 75

Source: EPA
Telephone: N/A
Last EDR Contact: 07/09/2015
Next Scheduled EDR Contact: 10/19/2015
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 03/26/2015
Date Data Arrived at EDR: 04/08/2015
Date Made Active in Reports: 06/22/2015
Number of Days to Update: 75

Source: EPA
Telephone: N/A
Last EDR Contact: 07/09/2015
Next Scheduled EDR Contact: 10/19/2015
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

Federal Delisted NPL site list

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 03/26/2015	Source: EPA
Date Data Arrived at EDR: 04/08/2015	Telephone: N/A
Date Made Active in Reports: 06/22/2015	Last EDR Contact: 07/09/2015
Number of Days to Update: 75	Next Scheduled EDR Contact: 10/19/2015
	Data Release Frequency: Quarterly

Federal CERCLIS list

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System

CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 10/25/2013	Source: EPA
Date Data Arrived at EDR: 11/11/2013	Telephone: 703-412-9810
Date Made Active in Reports: 02/13/2014	Last EDR Contact: 05/29/2015
Number of Days to Update: 94	Next Scheduled EDR Contact: 09/07/2015
	Data Release Frequency: Quarterly

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 03/26/2015	Source: Environmental Protection Agency
Date Data Arrived at EDR: 04/08/2015	Telephone: 703-603-8704
Date Made Active in Reports: 06/11/2015	Last EDR Contact: 07/10/2015
Number of Days to Update: 64	Next Scheduled EDR Contact: 10/19/2015
	Data Release Frequency: Varies

Federal CERCLIS NFRAP site List

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned

Archived sites are sites that have been removed and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Date of Government Version: 10/25/2013	Source: EPA
Date Data Arrived at EDR: 11/11/2013	Telephone: 703-412-9810
Date Made Active in Reports: 02/13/2014	Last EDR Contact: 05/29/2015
Number of Days to Update: 94	Next Scheduled EDR Contact: 09/07/2015
	Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 03/10/2015
Date Data Arrived at EDR: 03/31/2015
Date Made Active in Reports: 06/11/2015
Number of Days to Update: 72

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 06/26/2015
Next Scheduled EDR Contact: 10/12/2015
Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 03/10/2015
Date Data Arrived at EDR: 03/31/2015
Date Made Active in Reports: 06/11/2015
Number of Days to Update: 72

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 06/26/2015
Next Scheduled EDR Contact: 10/12/2015
Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 03/10/2015
Date Data Arrived at EDR: 03/31/2015
Date Made Active in Reports: 06/11/2015
Number of Days to Update: 72

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 06/26/2015
Next Scheduled EDR Contact: 10/12/2015
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 03/10/2015
Date Data Arrived at EDR: 03/31/2015
Date Made Active in Reports: 06/11/2015
Number of Days to Update: 72

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 06/26/2015
Next Scheduled EDR Contact: 10/12/2015
Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 03/10/2015
Date Data Arrived at EDR: 03/31/2015
Date Made Active in Reports: 06/11/2015
Number of Days to Update: 72

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 06/26/2015
Next Scheduled EDR Contact: 10/12/2015
Data Release Frequency: Varies

Federal institutional controls / engineering controls registries

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 03/16/2015
Date Data Arrived at EDR: 03/17/2015
Date Made Active in Reports: 06/02/2015
Number of Days to Update: 77

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 06/01/2015
Next Scheduled EDR Contact: 09/14/2015
Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 03/16/2015
Date Data Arrived at EDR: 03/17/2015
Date Made Active in Reports: 06/02/2015
Number of Days to Update: 77

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 06/01/2015
Next Scheduled EDR Contact: 09/14/2015
Data Release Frequency: Varies

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 05/28/2015
Date Data Arrived at EDR: 05/29/2015
Date Made Active in Reports: 06/11/2015
Number of Days to Update: 13

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 05/18/2015
Next Scheduled EDR Contact: 08/31/2015
Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 03/30/2015
Date Data Arrived at EDR: 03/31/2015
Date Made Active in Reports: 06/02/2015
Number of Days to Update: 63

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 06/26/2015
Next Scheduled EDR Contact: 10/12/2015
Data Release Frequency: Annually

State- and tribal - equivalent NPL

RESPONSE: State Response Sites

Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

Date of Government Version: 05/04/2015
Date Data Arrived at EDR: 05/05/2015
Date Made Active in Reports: 05/14/2015
Number of Days to Update: 9

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 05/05/2015
Next Scheduled EDR Contact: 08/17/2015
Data Release Frequency: Quarterly

State- and tribal - equivalent CERCLIS

ENVIROSTOR: EnviroStor Database

The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

Date of Government Version: 05/04/2015
Date Data Arrived at EDR: 05/05/2015
Date Made Active in Reports: 05/14/2015
Number of Days to Update: 9

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 05/05/2015
Next Scheduled EDR Contact: 08/17/2015
Data Release Frequency: Quarterly

State and tribal landfill and/or solid waste disposal site lists

SWF/LF (SWIS): Solid Waste Information System

Active, Closed and Inactive Landfills. SWF/LF records typically contain an inve ntory of solid waste disposal facilities or landfills. These may be active or i nactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 05/18/2015
Date Data Arrived at EDR: 05/20/2015
Date Made Active in Reports: 06/05/2015
Number of Days to Update: 16

Source: Department of Resources Recycling and Recovery
Telephone: 916-341-6320
Last EDR Contact: 05/20/2015
Next Scheduled EDR Contact: 08/31/2015
Data Release Frequency: Quarterly

State and tribal leaking storage tank lists

LUST REG 6V: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Inyo, Kern, Los Angeles, Mono, San Bernardino counties.

Date of Government Version: 06/07/2005
Date Data Arrived at EDR: 06/07/2005
Date Made Active in Reports: 06/29/2005
Number of Days to Update: 22

Source: California Regional Water Quality Control Board Victorville Branch Office (6)
Telephone: 760-241-7365
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 7: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Imperial, Riverside, San Diego, Santa Barbara counties.

Date of Government Version: 02/26/2004
Date Data Arrived at EDR: 02/26/2004
Date Made Active in Reports: 03/24/2004
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Colorado River Basin Region (7)
Telephone: 760-776-8943
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 6L: Leaking Underground Storage Tank Case Listing

For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/09/2003
Date Data Arrived at EDR: 09/10/2003
Date Made Active in Reports: 10/07/2003
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Lahontan Region (6)
Telephone: 530-542-5572
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 5: Leaking Underground Storage Tank Database
Leaking Underground Storage Tank locations. Alameda, Alpine, Amador, Butte, Colusa, Contra Costa, Calveras, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba counties.

Date of Government Version: 07/01/2008
Date Data Arrived at EDR: 07/22/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 9

Source: California Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-4834
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

LUST REG 4: Underground Storage Tank Leak List
Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6710
Last EDR Contact: 09/06/2011
Next Scheduled EDR Contact: 12/19/2011
Data Release Frequency: No Update Planned

LUST REG 3: Leaking Underground Storage Tank Database
Leaking Underground Storage Tank locations. Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz counties.

Date of Government Version: 05/19/2003
Date Data Arrived at EDR: 05/19/2003
Date Made Active in Reports: 06/02/2003
Number of Days to Update: 14

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-542-4786
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

LUST REG 9: Leaking Underground Storage Tank Report
Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 03/01/2001
Date Data Arrived at EDR: 04/23/2001
Date Made Active in Reports: 05/21/2001
Number of Days to Update: 28

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-637-5595
Last EDR Contact: 09/26/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: No Update Planned

LUST REG 8: Leaking Underground Storage Tanks
California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/2005
Date Data Arrived at EDR: 02/15/2005
Date Made Active in Reports: 03/28/2005
Number of Days to Update: 41

Source: California Regional Water Quality Control Board Santa Ana Region (8)
Telephone: 909-782-4496
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Varies

LUST REG 2: Fuel Leak List
Leaking Underground Storage Tank locations. Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma counties.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: California Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-622-2433
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

LUST REG 1: Active Toxic Site Investigation
Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/01/2001
Date Data Arrived at EDR: 02/28/2001
Date Made Active in Reports: 03/29/2001
Number of Days to Update: 29

Source: California Regional Water Quality Control Board North Coast (1)
Telephone: 707-570-3769
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST: Geotracker's Leaking Underground Fuel Tank Report
Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state. For more information on a particular leaking underground storage tank sites, please contact the appropriate regulatory agency.

Date of Government Version: 06/15/2015
Date Data Arrived at EDR: 06/17/2015
Date Made Active in Reports: 07/14/2015
Number of Days to Update: 27

Source: State Water Resources Control Board
Telephone: see region list
Last EDR Contact: 06/17/2015
Next Scheduled EDR Contact: 09/28/2015
Data Release Frequency: Quarterly

SLIC: Statewide SLIC Cases
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 06/15/2015
Date Data Arrived at EDR: 06/17/2015
Date Made Active in Reports: 07/14/2015
Number of Days to Update: 27

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/17/2015
Next Scheduled EDR Contact: 09/28/2015
Data Release Frequency: Varies

SLIC REG 1: Active Toxic Site Investigations
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2003
Date Data Arrived at EDR: 04/07/2003
Date Made Active in Reports: 04/25/2003
Number of Days to Update: 18

Source: California Regional Water Quality Control Board, North Coast Region (1)
Telephone: 707-576-2220
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/18/2006
Date Data Arrived at EDR: 05/18/2006
Date Made Active in Reports: 06/15/2006
Number of Days to Update: 28

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: Semi-Annually

SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/17/2004
Date Data Arrived at EDR: 11/18/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 47

Source: Region Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: Varies

SLIC REG 5: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/01/2005
Date Data Arrived at EDR: 04/05/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 16

Source: Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-3291
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Semi-Annually

SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/24/2005
Date Data Arrived at EDR: 05/25/2005
Date Made Active in Reports: 06/16/2005
Number of Days to Update: 22

Source: Regional Water Quality Control Board, Victorville Branch
Telephone: 619-241-6583
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Semi-Annually

SLIC REG 6L: SLIC Sites
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board, Lahontan Region
Telephone: 530-542-5574
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 7: SLIC List
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/24/2004
Date Data Arrived at EDR: 11/29/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 36

Source: California Regional Quality Control Board, Colorado River Basin Region
Telephone: 760-346-7491
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2008
Date Data Arrived at EDR: 04/03/2008
Date Made Active in Reports: 04/14/2008
Number of Days to Update: 11

Source: California Region Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-3298
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Semi-Annually

SLIC REG 9: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/10/2007
Date Data Arrived at EDR: 09/11/2007
Date Made Active in Reports: 09/28/2007
Number of Days to Update: 17

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980
Last EDR Contact: 08/08/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: Annually

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land
Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 04/30/2015
Date Data Arrived at EDR: 05/29/2015
Date Made Active in Reports: 06/22/2015
Number of Days to Update: 24

Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 07/22/2015
Next Scheduled EDR Contact: 11/09/2015
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 09/30/2014
Date Data Arrived at EDR: 03/03/2015
Date Made Active in Reports: 03/13/2015
Number of Days to Update: 10

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 07/22/2015
Next Scheduled EDR Contact: 11/09/2015
Data Release Frequency: Semi-Annually

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 02/03/2015
Date Data Arrived at EDR: 04/30/2015
Date Made Active in Reports: 06/22/2015
Number of Days to Update: 53

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 04/03/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Varies

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 02/03/2015
Date Data Arrived at EDR: 02/12/2015
Date Made Active in Reports: 03/13/2015
Number of Days to Update: 29

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 07/22/2015
Next Scheduled EDR Contact: 11/09/2015
Data Release Frequency: Quarterly

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 01/08/2015
Date Data Arrived at EDR: 01/08/2015
Date Made Active in Reports: 02/09/2015
Number of Days to Update: 32

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 01/08/2015
Next Scheduled EDR Contact: 05/11/2015
Data Release Frequency: Quarterly

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 03/17/2015
Date Data Arrived at EDR: 05/01/2015
Date Made Active in Reports: 06/22/2015
Number of Days to Update: 52

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 07/22/2015
Next Scheduled EDR Contact: 11/09/2015
Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 03/30/2015
Date Data Arrived at EDR: 04/28/2015
Date Made Active in Reports: 06/22/2015
Number of Days to Update: 55

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 07/22/2015
Next Scheduled EDR Contact: 11/09/2015
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 04/30/2015
Date Data Arrived at EDR: 05/05/2015
Date Made Active in Reports: 06/22/2015
Number of Days to Update: 48

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 07/22/2015
Next Scheduled EDR Contact: 11/09/2015
Data Release Frequency: Quarterly

State and tribal registered storage tank lists

UST: Active UST Facilities
Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 06/15/2015
Date Data Arrived at EDR: 06/17/2015
Date Made Active in Reports: 07/06/2015
Number of Days to Update: 19

Source: SWRCB
Telephone: 916-341-5851
Last EDR Contact: 06/17/2015
Next Scheduled EDR Contact: 09/28/2015
Data Release Frequency: Semi-Annually

AST: Aboveground Petroleum Storage Tank Facilities
A listing of aboveground storage tank petroleum storage tank locations.

Date of Government Version: 08/01/2009
Date Data Arrived at EDR: 09/10/2009
Date Made Active in Reports: 10/01/2009
Number of Days to Update: 21

Source: California Environmental Protection Agency
Telephone: 916-327-5092
Last EDR Contact: 07/13/2015
Next Scheduled EDR Contact: 10/12/2015
Data Release Frequency: Quarterly

INDIAN UST R10: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 05/06/2015
Date Data Arrived at EDR: 05/19/2015
Date Made Active in Reports: 06/22/2015
Number of Days to Update: 34

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 07/22/2015
Next Scheduled EDR Contact: 11/09/2015
Data Release Frequency: Quarterly

INDIAN UST R1: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 02/03/2015
Date Data Arrived at EDR: 04/30/2015
Date Made Active in Reports: 06/22/2015
Number of Days to Update: 53

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 04/28/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 04/30/2015
Date Data Arrived at EDR: 05/05/2015
Date Made Active in Reports: 06/22/2015
Number of Days to Update: 48

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 07/22/2015
Next Scheduled EDR Contact: 11/09/2015
Data Release Frequency: Quarterly

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 12/14/2014
Date Data Arrived at EDR: 02/13/2015
Date Made Active in Reports: 03/13/2015
Number of Days to Update: 28

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 01/26/2015
Next Scheduled EDR Contact: 05/11/2015
Data Release Frequency: Quarterly

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 09/23/2014
Date Data Arrived at EDR: 11/25/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 65

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 07/22/2015
Next Scheduled EDR Contact: 11/09/2015
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 03/17/2015
Date Data Arrived at EDR: 05/01/2015
Date Made Active in Reports: 06/22/2015
Number of Days to Update: 52

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 07/22/2015
Next Scheduled EDR Contact: 11/09/2015
Data Release Frequency: Semi-Annually

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 09/30/2014
Date Data Arrived at EDR: 03/03/2015
Date Made Active in Reports: 03/13/2015
Number of Days to Update: 10

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 07/22/2015
Next Scheduled EDR Contact: 11/09/2015
Data Release Frequency: Semi-Annually

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 04/30/2015
Date Data Arrived at EDR: 05/26/2015
Date Made Active in Reports: 06/22/2015
Number of Days to Update: 27

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 07/22/2015
Next Scheduled EDR Contact: 11/09/2015
Data Release Frequency: Varies

FEMA UST: Underground Storage Tank Listing
A listing of all FEMA owned underground storage tanks.

Date of Government Version: 01/01/2010
Date Data Arrived at EDR: 02/16/2010
Date Made Active in Reports: 04/12/2010
Number of Days to Update: 55

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 07/10/2015
Next Scheduled EDR Contact: 10/28/2015
Data Release Frequency: Varies

State and tribal voluntary cleanup sites

VCP: Voluntary Cleanup Program Properties
Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Date of Government Version: 05/04/2015
Date Data Arrived at EDR: 05/05/2015
Date Made Active in Reports: 05/14/2015
Number of Days to Update: 9

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 05/05/2015
Next Scheduled EDR Contact: 08/17/2015
Data Release Frequency: Quarterly

INDIAN VCP R1: Voluntary Cleanup Priority Listing
A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 09/29/2014
Date Data Arrived at EDR: 10/01/2014
Date Made Active in Reports: 11/06/2014
Number of Days to Update: 36

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 06/26/2015
Next Scheduled EDR Contact: 10/12/2015
Data Release Frequency: Varies

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng
A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites
Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 03/23/2015
Date Data Arrived at EDR: 03/24/2015
Date Made Active in Reports: 06/02/2015
Number of Days to Update: 70

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 06/24/2015
Next Scheduled EDR Contact: 10/05/2015
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

ODI: Open Dump Inventory
An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations
A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 07/22/2015
Next Scheduled EDR Contact: 11/09/2015
Data Release Frequency: No Update Planned

SWRCY: Recycler Database
A listing of recycling facilities in California.

Date of Government Version: 03/16/2015
Date Data Arrived at EDR: 03/18/2015
Date Made Active in Reports: 03/26/2015
Number of Days to Update: 8

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 06/17/2015
Next Scheduled EDR Contact: 09/28/2015
Data Release Frequency: Quarterly

HAULERS: Registered Waste Tire Haulers Listing
A listing of registered waste tire haulers.

Date of Government Version: 05/26/2015
Date Data Arrived at EDR: 05/28/2015
Date Made Active in Reports: 06/05/2015
Number of Days to Update: 8

Source: Integrated Waste Management Board
Telephone: 916-341-6422
Last EDR Contact: 05/18/2015
Next Scheduled EDR Contact: 08/31/2015
Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands
Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 05/01/2015
Next Scheduled EDR Contact: 08/17/2015
Data Release Frequency: Varies

WMUDS/SWAT: Waste Management Unit Database
Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

Date of Government Version: 04/01/2000
Date Data Arrived at EDR: 04/10/2000
Date Made Active in Reports: 05/10/2000
Number of Days to Update: 30

Source: State Water Resources Control Board
Telephone: 916-227-4448
Last EDR Contact: 05/06/2015
Next Scheduled EDR Contact: 08/24/2015
Data Release Frequency: No Update Planned

Local Lists of Hazardous waste / Contaminated Sites

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 02/25/2015
Date Data Arrived at EDR: 03/10/2015
Date Made Active in Reports: 03/25/2015
Number of Days to Update: 15

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 05/29/2015
Next Scheduled EDR Contact: 09/14/2015
Data Release Frequency: Quarterly

HIST CAL-SITES: Calsites Database

The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

Date of Government Version: 08/08/2005
Date Data Arrived at EDR: 08/03/2006
Date Made Active in Reports: 08/24/2006
Number of Days to Update: 21

Source: Department of Toxic Substance Control
Telephone: 916-323-3400
Last EDR Contact: 02/23/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: No Update Planned

SCH: School Property Evaluation Program

This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

Date of Government Version: 05/04/2015
Date Data Arrived at EDR: 05/05/2015
Date Made Active in Reports: 05/14/2015
Number of Days to Update: 9

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 05/05/2015
Next Scheduled EDR Contact: 08/17/2015
Data Release Frequency: Quarterly

TOXIC PITS: Toxic Pits Cleanup Act Sites

Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/1995
Date Data Arrived at EDR: 08/30/1995
Date Made Active in Reports: 09/26/1995
Number of Days to Update: 27

Source: State Water Resources Control Board
Telephone: 916-227-4364
Last EDR Contact: 01/26/2009
Next Scheduled EDR Contact: 04/27/2009
Data Release Frequency: No Update Planned

CDL: Clandestine Drug Labs

A listing of drug lab locations. Listing of a location in this database does not indicate that any illegal drug lab materials were or were not present there, and does not constitute a determination that the location either requires or does not require additional cleanup work.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 03/10/2015
Date Made Active in Reports: 03/18/2015
Number of Days to Update: 8

Source: Department of Toxic Substances Control
Telephone: 916-255-6504
Last EDR Contact: 07/13/2015
Next Scheduled EDR Contact: 10/28/2015
Data Release Frequency: Varies

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 02/25/2015
Date Data Arrived at EDR: 03/10/2015
Date Made Active in Reports: 03/25/2015
Number of Days to Update: 15

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 05/29/2015
Next Scheduled EDR Contact: 09/14/2015
Data Release Frequency: No Update Planned

Local Lists of Registered Storage Tanks

CA FID UST: Facility Inventory Database

The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/1994
Date Data Arrived at EDR: 09/05/1995
Date Made Active in Reports: 09/29/1995
Number of Days to Update: 24

Source: California Environmental Protection Agency
Telephone: 916-341-5851
Last EDR Contact: 12/28/1998
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

UST MENDOCINO: Mendocino County UST Database

A listing of underground storage tank locations in Mendocino County.

Date of Government Version: 09/23/2009
Date Data Arrived at EDR: 09/23/2009
Date Made Active in Reports: 10/01/2009
Number of Days to Update: 8

Source: Department of Public Health
Telephone: 707-463-4466
Last EDR Contact: 06/01/2015
Next Scheduled EDR Contact: 09/14/2015
Data Release Frequency: Annually

HIST UST: Hazardous Substance Storage Container Database

The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/1990
Date Data Arrived at EDR: 01/25/1991
Date Made Active in Reports: 02/12/1991
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-341-5851
Last EDR Contact: 07/26/2001
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SWEEPS UST: SWEEPS UST Listing

Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

Date of Government Version: 06/01/1994
Date Data Arrived at EDR: 07/07/2005
Date Made Active in Reports: 08/11/2005
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/03/2005
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Local Land Records

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 02/18/2014
Date Data Arrived at EDR: 03/18/2014
Date Made Active in Reports: 04/24/2014
Number of Days to Update: 37

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 07/22/2015
Next Scheduled EDR Contact: 11/09/2015
Data Release Frequency: Varies

LIENS: Environmental Liens Listing

A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 06/11/2015
Date Data Arrived at EDR: 06/16/2015
Date Made Active in Reports: 07/14/2015
Number of Days to Update: 28

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 06/05/2015
Next Scheduled EDR Contact: 09/21/2015
Data Release Frequency: Varies

DEED: Deed Restriction Listing

Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Date of Government Version: 06/08/2015
Date Data Arrived at EDR: 06/09/2015
Date Made Active in Reports: 07/14/2015
Number of Days to Update: 35

Source: DTSC and SWRCB
Telephone: 916-323-3400
Last EDR Contact: 06/09/2015
Next Scheduled EDR Contact: 09/21/2015
Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 03/30/2015
Date Data Arrived at EDR: 03/31/2015
Date Made Active in Reports: 06/11/2015
Number of Days to Update: 72

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 06/26/2015
Next Scheduled EDR Contact: 10/12/2015
Data Release Frequency: Annually

CHMIRS: California Hazardous Material Incident Report System

California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

Date of Government Version: 04/14/2015
Date Data Arrived at EDR: 04/29/2015
Date Made Active in Reports: 05/21/2015
Number of Days to Update: 22

Source: Office of Emergency Services
Telephone: 916-845-8400
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Varies

LDS: Land Disposal Sites Listing

The Land Disposal program regulates of waste discharge to land for treatment, storage and disposal in waste management units.

Date of Government Version: 06/15/2015
Date Data Arrived at EDR: 06/17/2015
Date Made Active in Reports: 07/14/2015
Number of Days to Update: 27

Source: State Water Qualilty Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/17/2015
Next Scheduled EDR Contact: 09/28/2015
Data Release Frequency: Quarterly

MCS: Military Cleanup Sites Listing

The State Water Resources Control Board and nine Regional Water Quality Control Boards partner with the Department of Defense (DoD) through the Defense and State Memorandum of Agreement (DSMOA) to oversee the investigation and remediation of water quality issues at military facilities.

Date of Government Version: 06/15/2015
Date Data Arrived at EDR: 06/17/2015
Date Made Active in Reports: 07/14/2015
Number of Days to Update: 27

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/17/2015
Next Scheduled EDR Contact: 09/28/2015
Data Release Frequency: Quarterly

SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 06/06/2012
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 02/22/2013
Number of Days to Update: 50

Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 03/10/2015
Date Data Arrived at EDR: 03/31/2015
Date Made Active in Reports: 06/11/2015
Number of Days to Update: 72

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 06/26/2015
Next Scheduled EDR Contact: 10/12/2015
Data Release Frequency: Varies

DOT OPS: Incident and Accident Data

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 07/31/2012
Date Data Arrived at EDR: 08/07/2012
Date Made Active in Reports: 09/18/2012
Number of Days to Update: 42

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 05/05/2015
Next Scheduled EDR Contact: 08/17/2015
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 07/14/2015
Next Scheduled EDR Contact: 10/28/2015
Data Release Frequency: Semi-Annually

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 06/06/2014
Date Data Arrived at EDR: 09/10/2014
Date Made Active in Reports: 09/18/2014
Number of Days to Update: 8

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 07/08/2015
Next Scheduled EDR Contact: 09/21/2015
Data Release Frequency: Varies

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 04/17/2015
Date Made Active in Reports: 06/02/2015
Number of Days to Update: 46

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 06/22/2015
Next Scheduled EDR Contact: 10/12/2015
Data Release Frequency: Varies

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 11/25/2013
Date Data Arrived at EDR: 12/12/2013
Date Made Active in Reports: 02/24/2014
Number of Days to Update: 74

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 06/12/2015
Next Scheduled EDR Contact: 09/21/2015
Data Release Frequency: Annually

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 09/14/2010
Date Data Arrived at EDR: 10/07/2011
Date Made Active in Reports: 03/01/2012
Number of Days to Update: 146

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 05/26/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Varies

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 12/30/2014
Date Data Arrived at EDR: 12/31/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 29

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 06/03/2015
Next Scheduled EDR Contact: 09/14/2015
Data Release Frequency: Semi-Annually

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 02/12/2015
Date Made Active in Reports: 06/02/2015
Number of Days to Update: 110

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 01/29/2015
Next Scheduled EDR Contact: 06/08/2015
Data Release Frequency: Annually

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 01/15/2015
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 14

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 06/25/2015
Next Scheduled EDR Contact: 10/05/2015
Data Release Frequency: Every 4 Years

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 05/20/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 05/20/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing
A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing
A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

SSTS: Section 7 Tracking Systems
Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 12/10/2010
Date Made Active in Reports: 02/25/2011
Number of Days to Update: 77

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 07/22/2015
Next Scheduled EDR Contact: 11/09/2015
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 01/23/2015
Date Data Arrived at EDR: 02/06/2015
Date Made Active in Reports: 03/09/2015
Number of Days to Update: 31

Source: Environmental Protection Agency
Telephone: 202-564-5088
Last EDR Contact: 07/09/2015
Next Scheduled EDR Contact: 10/28/2015
Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 07/01/2014
Date Data Arrived at EDR: 10/15/2014
Date Made Active in Reports: 11/17/2014
Number of Days to Update: 33

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 07/17/2015
Next Scheduled EDR Contact: 10/28/2015
Data Release Frequency: Annually

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 03/31/2015
Date Data Arrived at EDR: 04/09/2015
Date Made Active in Reports: 06/11/2015
Number of Days to Update: 63

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 06/04/2015
Next Scheduled EDR Contact: 09/21/2015
Data Release Frequency: Quarterly

RADINFO: Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 04/07/2015
Date Data Arrived at EDR: 04/09/2015
Date Made Active in Reports: 06/11/2015
Number of Days to Update: 63

Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 07/09/2015
Next Scheduled EDR Contact: 10/19/2015
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 01/18/2015
Date Data Arrived at EDR: 02/27/2015
Date Made Active in Reports: 03/25/2015
Number of Days to Update: 26

Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 06/10/2015
Next Scheduled EDR Contact: 09/21/2015
Data Release Frequency: Quarterly

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 02/01/2015
Date Data Arrived at EDR: 02/13/2015
Date Made Active in Reports: 03/25/2015
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 07/22/2015
Next Scheduled EDR Contact: 11/09/2015
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2011
Date Data Arrived at EDR: 02/26/2013
Date Made Active in Reports: 04/19/2013
Number of Days to Update: 52

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 05/29/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Biennially

CA BOND EXP. PLAN: Bond Expenditure Plan

Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/1989
Date Data Arrived at EDR: 07/27/1994
Date Made Active in Reports: 08/02/1994
Number of Days to Update: 6

Source: Department of Health Services
Telephone: 916-255-2118
Last EDR Contact: 05/31/1994
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

UIC: UIC Listing

A listing of wells identified as underground injection wells, in the California Oil and Gas Wells database.

Date of Government Version: 11/19/2014
Date Data Arrived at EDR: 12/15/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 45

Source: Deaprtment of Conservation
Telephone: 916-445-2408
Last EDR Contact: 06/19/2015
Next Scheduled EDR Contact: 09/28/2015
Data Release Frequency: Varies

NPDES: NPDES Permits Listing
A listing of NPDES permits, including stormwater.

Date of Government Version: 05/18/2015
Date Data Arrived at EDR: 05/20/2015
Date Made Active in Reports: 06/11/2015
Number of Days to Update: 22

Source: State Water Resources Control Board
Telephone: 916-445-9379
Last EDR Contact: 05/20/2015
Next Scheduled EDR Contact: 08/31/2015
Data Release Frequency: Quarterly

CORTESE: "Cortese" Hazardous Waste & Substances Sites List
The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

Date of Government Version: 06/24/2015
Date Data Arrived at EDR: 06/26/2015
Date Made Active in Reports: 07/14/2015
Number of Days to Update: 18

Source: CAL EPA/Office of Emergency Information
Telephone: 916-323-3400
Last EDR Contact: 06/26/2015
Next Scheduled EDR Contact: 10/12/2015
Data Release Frequency: Quarterly

HIST CORTESE: Hazardous Waste & Substance Site List
The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

Date of Government Version: 04/01/2001
Date Data Arrived at EDR: 01/22/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/22/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

NOTIFY 65: Proposition 65 Records
Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

Date of Government Version: 10/21/1993
Date Data Arrived at EDR: 11/01/1993
Date Made Active in Reports: 11/19/1993
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 06/17/2015
Next Scheduled EDR Contact: 10/05/2015
Data Release Frequency: No Update Planned

DRYCLEANERS: Cleaner Facilities
A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; drycleaning plants, except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

Date of Government Version: 02/18/2015
Date Data Arrived at EDR: 02/20/2015
Date Made Active in Reports: 03/12/2015
Number of Days to Update: 20

Source: Department of Toxic Substance Control
Telephone: 916-327-4498
Last EDR Contact: 06/05/2015
Next Scheduled EDR Contact: 09/21/2015
Data Release Frequency: Annually

WIP: Well Investigation Program Case List
Well Investigation Program case in the San Gabriel and San Fernando Valley area.

Date of Government Version: 07/03/2009
Date Data Arrived at EDR: 07/21/2009
Date Made Active in Reports: 08/03/2009
Number of Days to Update: 13

Source: Los Angeles Water Quality Control Board
Telephone: 213-576-6726
Last EDR Contact: 06/22/2015
Next Scheduled EDR Contact: 10/12/2015
Data Release Frequency: Varies

ENF: Enforcement Action Listing

A listing of Water Board Enforcement Actions. Formal is everything except Oral/Verbal Communication, Notice of Violation, Expedited Payment Letter, and Staff Enforcement Letter.

Date of Government Version: 04/30/2015
Date Data Arrived at EDR: 05/01/2015
Date Made Active in Reports: 05/13/2015
Number of Days to Update: 12

Source: State Water Resoruces Control Board
Telephone: 916-445-9379
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Varies

HAZNET: Facility and Manifest Data

Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method. This database begins with calendar year 1993.

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 10/15/2014
Date Made Active in Reports: 11/19/2014
Number of Days to Update: 35

Source: California Environmental Protection Agency
Telephone: 916-255-1136
Last EDR Contact: 07/17/2015
Next Scheduled EDR Contact: 10/28/2015
Data Release Frequency: Annually

EMI: Emissions Inventory Data

Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 03/25/2014
Date Made Active in Reports: 04/28/2014
Number of Days to Update: 34

Source: California Air Resources Board
Telephone: 916-322-2990
Last EDR Contact: 06/25/2015
Next Scheduled EDR Contact: 10/05/2015
Data Release Frequency: Varies

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 12/08/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 34

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 07/14/2015
Next Scheduled EDR Contact: 10/28/2015
Data Release Frequency: Semi-Annually

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 03/07/2011
Date Data Arrived at EDR: 03/09/2011
Date Made Active in Reports: 05/02/2011
Number of Days to Update: 54

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 05/21/2015
Next Scheduled EDR Contact: 08/31/2015
Data Release Frequency: Varies

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 02/06/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 339

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 07/14/2015
Next Scheduled EDR Contact: 10/28/2015
Data Release Frequency: N/A

WDS: Waste Discharge System

Sites which have been issued waste discharge requirements.

Date of Government Version: 06/19/2007
Date Data Arrived at EDR: 06/20/2007
Date Made Active in Reports: 06/29/2007
Number of Days to Update: 9

Source: State Water Resources Control Board
Telephone: 916-341-5227
Last EDR Contact: 05/20/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Quarterly

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 04/22/2013
Date Data Arrived at EDR: 03/03/2015
Date Made Active in Reports: 03/09/2015
Number of Days to Update: 6

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 05/14/2015
Next Scheduled EDR Contact: 08/24/2015
Data Release Frequency: Varies

PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 10/25/2013
Date Data Arrived at EDR: 10/17/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 3

Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 05/14/2015
Next Scheduled EDR Contact: 08/24/2015
Data Release Frequency: Quarterly

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 11/25/2014
Date Data Arrived at EDR: 11/26/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 64

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 07/07/2015
Next Scheduled EDR Contact: 10/19/2015
Data Release Frequency: Varies

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 05/07/2015
Next Scheduled EDR Contact: 08/24/2015
Data Release Frequency: Quarterly

PROC: Certified Processors Database
A listing of certified processors.

Date of Government Version: 06/15/2015
Date Data Arrived at EDR: 06/17/2015
Date Made Active in Reports: 07/14/2015
Number of Days to Update: 27

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 06/17/2015
Next Scheduled EDR Contact: 09/28/2015
Data Release Frequency: Quarterly

PCB TRANSFORMER: PCB Transformer Registration Database
The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 02/01/2011
Date Data Arrived at EDR: 10/19/2011
Date Made Active in Reports: 01/10/2012
Number of Days to Update: 83

Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 05/01/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Varies

Financial Assurance 1: Financial Assurance Information Listing
Financial Assurance information

Date of Government Version: 04/30/2015
Date Data Arrived at EDR: 05/01/2015
Date Made Active in Reports: 05/13/2015
Number of Days to Update: 12

Source: Department of Toxic Substances Control
Telephone: 916-255-3628
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Varies

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)
The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/16/2014
Date Data Arrived at EDR: 10/31/2014
Date Made Active in Reports: 11/17/2014
Number of Days to Update: 17

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 06/22/2015
Next Scheduled EDR Contact: 10/05/2015
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data
A listing of minor source facilities.

Date of Government Version: 10/16/2014
Date Data Arrived at EDR: 10/31/2014
Date Made Active in Reports: 11/17/2014
Number of Days to Update: 17

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 06/22/2015
Next Scheduled EDR Contact: 10/22/2015
Data Release Frequency: Annually

HWP: EnviroStor Permitted Facilities Listing
Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

Date of Government Version: 05/26/2015
Date Data Arrived at EDR: 05/28/2015
Date Made Active in Reports: 06/05/2015
Number of Days to Update: 8

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 05/28/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Quarterly

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List
A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 07/01/2014
Date Data Arrived at EDR: 09/10/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 06/12/2015
Next Scheduled EDR Contact: 09/21/2015
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information
All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 03/09/2015
Date Data Arrived at EDR: 03/10/2015
Date Made Active in Reports: 03/25/2015
Number of Days to Update: 15

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 05/14/2015
Next Scheduled EDR Contact: 08/31/2015
Data Release Frequency: Quarterly

MWMP: Medical Waste Management Program Listing
The Medical Waste Management Program (MWMP) ensures the proper handling and disposal of medical waste by permitting and inspecting medical waste Offsite Treatment Facilities (PDF) and Transfer Stations (PDF) throughout the state. MWMP also oversees all Medical Waste Transporters.

Date of Government Version: 05/07/2015
Date Data Arrived at EDR: 06/09/2015
Date Made Active in Reports: 07/14/2015
Number of Days to Update: 35

Source: Department of Public Health
Telephone: 916-558-1784
Last EDR Contact: 06/09/2015
Next Scheduled EDR Contact: 09/21/2015
Data Release Frequency: Varies

COAL ASH DOE: Steam-Electric Plant Operation Data
A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 08/07/2009
Date Made Active in Reports: 10/22/2009
Number of Days to Update: 76

Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 07/13/2015
Next Scheduled EDR Contact: 10/28/2015
Data Release Frequency: Varies

HWT: Registered Hazardous Waste Transporter Database
A listing of hazardous waste transporters. In California, unless specifically exempted, it is unlawful for any person to transport hazardous wastes unless the person holds a valid registration issued by DTSC. A hazardous waste transporter registration is valid for one year and is assigned a unique registration number.

Date of Government Version: 04/13/2015
Date Data Arrived at EDR: 04/15/2015
Date Made Active in Reports: 04/23/2015
Number of Days to Update: 8

Source: Department of Toxic Substances Control
Telephone: 916-440-7145
Last EDR Contact: 07/14/2015
Next Scheduled EDR Contact: 10/28/2015
Data Release Frequency: Quarterly

Financial Assurance 2: Financial Assurance Information Listing
A listing of financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 05/18/2015
Date Data Arrived at EDR: 05/22/2015
Date Made Active in Reports: 06/05/2015
Number of Days to Update: 14

Source: California Integrated Waste Management Board
Telephone: 916-341-6066
Last EDR Contact: 05/18/2015
Next Scheduled EDR Contact: 08/31/2015
Data Release Frequency: Varies

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR US Hist Auto Stat: EDR Exclusive Historic Gas Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR US Hist Cleaners: EDR Exclusive Historic Dry Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the State Water Resources Control Board in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/30/2013
Number of Days to Update: 182

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Resources Recycling and Recovery in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/13/2014
Number of Days to Update: 196

Source: Department of Resources Recycling and Recovery
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

COUNTY RECORDS

ALAMEDA COUNTY:

Contaminated Sites

A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 01/21/2015
Date Data Arrived at EDR: 01/28/2015
Date Made Active in Reports: 02/26/2015
Number of Days to Update: 29

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 08/10/2015
Next Scheduled EDR Contact: 10/28/2015
Data Release Frequency: Semi-Annually

Underground Tanks

Underground storage tank sites located in Alameda county.

Date of Government Version: 01/21/2015
Date Data Arrived at EDR: 01/28/2015
Date Made Active in Reports: 02/26/2015
Number of Days to Update: 29

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 07/13/2015
Next Scheduled EDR Contact: 10/28/2015
Data Release Frequency: Semi-Annually

AMADOR COUNTY:

CUPA Facility List

Cupa Facility List

Date of Government Version: 06/05/2015
Date Data Arrived at EDR: 06/09/2015
Date Made Active in Reports: 07/10/2015
Number of Days to Update: 31

Source: Amador County Environmental Health
Telephone: 209-223-6439
Last EDR Contact: 06/05/2015
Next Scheduled EDR Contact: 09/21/2015
Data Release Frequency: Varies

BUTTE COUNTY:

CUPA Facility Listing
Cupa facility list.

Date of Government Version: 11/20/2014
Date Data Arrived at EDR: 11/24/2014
Date Made Active in Reports: 01/07/2015
Number of Days to Update: 44

Source: Public Health Department
Telephone: 530-538-7149
Last EDR Contact: 07/13/2015
Next Scheduled EDR Contact: 10/28/2015
Data Release Frequency: No Update Planned

CALVERAS COUNTY:

CUPA Facility Listing
Cupa Facility Listing

Date of Government Version: 04/17/2015
Date Data Arrived at EDR: 04/21/2015
Date Made Active in Reports: 05/07/2015
Number of Days to Update: 16

Source: Calveras County Environmental Health
Telephone: 209-754-6399
Last EDR Contact: 06/22/2015
Next Scheduled EDR Contact: 10/12/2015
Data Release Frequency: Quarterly

COLUSA COUNTY:

CUPA Facility List
Cupa facility list.

Date of Government Version: 06/11/2014
Date Data Arrived at EDR: 06/13/2014
Date Made Active in Reports: 07/07/2014
Number of Days to Update: 24

Source: Health & Human Services
Telephone: 530-458-0396
Last EDR Contact: 06/12/2015
Next Scheduled EDR Contact: 08/24/2015
Data Release Frequency: Varies

CONTRA COSTA COUNTY:

Site List
List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 05/26/2015
Date Data Arrived at EDR: 05/29/2015
Date Made Active in Reports: 06/11/2015
Number of Days to Update: 13

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 05/04/2015
Next Scheduled EDR Contact: 08/17/2015
Data Release Frequency: Semi-Annually

DEL NORTE COUNTY:

CUPA Facility List
Cupa Facility list

Date of Government Version: 05/19/2015
Date Data Arrived at EDR: 05/22/2015
Date Made Active in Reports: 06/05/2015
Number of Days to Update: 14

Source: Del Norte County Environmental Health Division
Telephone: 707-465-0426
Last EDR Contact: 05/18/2015
Next Scheduled EDR Contact: 08/17/2015
Data Release Frequency: Varies

EL DORADO COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 05/26/2015
Date Data Arrived at EDR: 05/29/2015
Date Made Active in Reports: 06/05/2015
Number of Days to Update: 7

Source: El Dorado County Environmental Management Department
Telephone: 530-621-6623
Last EDR Contact: 05/04/2015
Next Scheduled EDR Contact: 08/17/2015
Data Release Frequency: Varies

FRESNO COUNTY:

CUPA Resources List
Certified Unified Program Agency. CUPA's are responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

Date of Government Version: 03/31/2015
Date Data Arrived at EDR: 04/15/2015
Date Made Active in Reports: 04/23/2015
Number of Days to Update: 8

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 07/06/2015
Next Scheduled EDR Contact: 10/19/2015
Data Release Frequency: Semi-Annually

HUMBOLDT COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 03/11/2015
Date Data Arrived at EDR: 03/13/2015
Date Made Active in Reports: 03/24/2015
Number of Days to Update: 11

Source: Humboldt County Environmental Health
Telephone: N/A
Last EDR Contact: 07/14/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Varies

IMPERIAL COUNTY:

CUPA Facility List
Cupa facility list.

Date of Government Version: 04/27/2015
Date Data Arrived at EDR: 04/28/2015
Date Made Active in Reports: 05/13/2015
Number of Days to Update: 15

Source: San Diego Border Field Office
Telephone: 760-339-2777
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Varies

INYO COUNTY:

CUPA Facility List
Cupa facility list.

Date of Government Version: 09/10/2013
Date Data Arrived at EDR: 09/11/2013
Date Made Active in Reports: 10/14/2013
Number of Days to Update: 33

Source: Inyo County Environmental Health Services
Telephone: 760-878-0238
Last EDR Contact: 05/21/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Varies

KERN COUNTY:

Underground Storage Tank Sites & Tank Listing
Kern County Sites and Tanks Listing.

Date of Government Version: 05/19/2015
Date Data Arrived at EDR: 06/18/2015
Date Made Active in Reports: 07/22/2015
Number of Days to Update: 34

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 06/12/2015
Next Scheduled EDR Contact: 08/24/2015
Data Release Frequency: Quarterly

KINGS COUNTY:

CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 05/26/2015
Date Data Arrived at EDR: 05/28/2015
Date Made Active in Reports: 06/15/2015
Number of Days to Update: 18

Source: Kings County Department of Public Health
Telephone: 559-584-1411
Last EDR Contact: 05/21/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Varies

LAKE COUNTY:

CUPA Facility List
Cupa facility list

Date of Government Version: 05/05/2015
Date Data Arrived at EDR: 05/07/2015
Date Made Active in Reports: 05/20/2015
Number of Days to Update: 13

Source: Lake County Environmental Health
Telephone: 707-263-1164
Last EDR Contact: 07/20/2015
Next Scheduled EDR Contact: 11/02/2015
Data Release Frequency: Varies

LOS ANGELES COUNTY:

San Gabriel Valley Areas of Concern
San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office.

Date of Government Version: 03/30/2009
Date Data Arrived at EDR: 03/31/2009
Date Made Active in Reports: 10/23/2009
Number of Days to Update: 206

Source: EPA Region 9
Telephone: 415-972-3178
Last EDR Contact: 06/17/2015
Next Scheduled EDR Contact: 10/05/2015
Data Release Frequency: No Update Planned

HMS: Street Number List
Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 11/24/2014
Date Data Arrived at EDR: 01/30/2015
Date Made Active in Reports: 03/04/2015
Number of Days to Update: 33

Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 07/10/2015
Next Scheduled EDR Contact: 10/28/2015
Data Release Frequency: Semi-Annually

List of Solid Waste Facilities
Solid Waste Facilities in Los Angeles County.

Date of Government Version: 04/20/2015
Date Data Arrived at EDR: 04/20/2015
Date Made Active in Reports: 05/07/2015
Number of Days to Update: 17

Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 07/21/2015
Next Scheduled EDR Contact: 11/02/2015
Data Release Frequency: Varies

City of Los Angeles Landfills
Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 03/05/2009
Date Data Arrived at EDR: 03/10/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 29

Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 07/20/2015
Next Scheduled EDR Contact: 11/02/2015
Data Release Frequency: Varies

Site Mitigation List
Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 01/15/2015
Date Data Arrived at EDR: 01/29/2015
Date Made Active in Reports: 03/10/2015
Number of Days to Update: 40

Source: Community Health Services
Telephone: 323-890-7806
Last EDR Contact: 07/15/2015
Next Scheduled EDR Contact: 11/02/2015
Data Release Frequency: Annually

City of El Segundo Underground Storage Tank
Underground storage tank sites located in El Segundo city.

Date of Government Version: 03/30/2015
Date Data Arrived at EDR: 04/02/2015
Date Made Active in Reports: 04/13/2015
Number of Days to Update: 11

Source: City of El Segundo Fire Department
Telephone: 310-524-2236
Last EDR Contact: 07/17/2015
Next Scheduled EDR Contact: 11/02/2015
Data Release Frequency: Semi-Annually

City of Long Beach Underground Storage Tank
Underground storage tank sites located in the city of Long Beach.

Date of Government Version: 03/03/2015
Date Data Arrived at EDR: 05/26/2015
Date Made Active in Reports: 06/11/2015
Number of Days to Update: 16

Source: City of Long Beach Fire Department
Telephone: 562-570-2563
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Annually

City of Torrance Underground Storage Tank
Underground storage tank sites located in the city of Torrance.

Date of Government Version: 06/03/2015
Date Data Arrived at EDR: 06/04/2015
Date Made Active in Reports: 07/06/2015
Number of Days to Update: 32

Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 06/04/2015
Next Scheduled EDR Contact: 10/28/2015
Data Release Frequency: Semi-Annually

MADERA COUNTY:

CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 05/28/2015
Date Data Arrived at EDR: 05/29/2015
Date Made Active in Reports: 06/15/2015
Number of Days to Update: 17

Source: Madera County Environmental Health
Telephone: 559-675-7823
Last EDR Contact: 05/22/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Varies

MARIN COUNTY:

Underground Storage Tank Sites
Currently permitted USTs in Marin County.

Date of Government Version: 10/08/2014
Date Data Arrived at EDR: 10/22/2014
Date Made Active in Reports: 12/15/2014
Number of Days to Update: 54

Source: Public Works Department Waste Management
Telephone: 415-499-6647
Last EDR Contact: 07/06/2015
Next Scheduled EDR Contact: 10/19/2015
Data Release Frequency: Semi-Annually

MERCED COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 05/22/2015
Date Data Arrived at EDR: 05/26/2015
Date Made Active in Reports: 06/05/2015
Number of Days to Update: 10

Source: Merced County Environmental Health
Telephone: 209-381-1094
Last EDR Contact: 05/22/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Varies

MONO COUNTY:

CUPA Facility List
CUPA Facility List

Date of Government Version: 06/01/2015
Date Data Arrived at EDR: 06/03/2015
Date Made Active in Reports: 07/06/2015
Number of Days to Update: 33

Source: Mono County Health Department
Telephone: 760-932-5580
Last EDR Contact: 06/01/2015
Next Scheduled EDR Contact: 09/14/2015
Data Release Frequency: Varies

MONTEREY COUNTY:

CUPA Facility Listing
CUPA Program listing from the Environmental Health Division.

Date of Government Version: 06/30/2015
Date Data Arrived at EDR: 07/07/2015
Date Made Active in Reports: 07/16/2015
Number of Days to Update: 9

Source: Monterey County Health Department
Telephone: 831-796-1297
Last EDR Contact: 05/26/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Varies

NAPA COUNTY:

Sites With Reported Contamination
A listing of leaking underground storage tank sites located in Napa county.

Date of Government Version: 12/05/2011
Date Data Arrived at EDR: 12/06/2011
Date Made Active in Reports: 02/07/2012
Number of Days to Update: 63

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 06/01/2015
Next Scheduled EDR Contact: 09/14/2015
Data Release Frequency: No Update Planned

Closed and Operating Underground Storage Tank Sites
Underground storage tank sites located in Napa county.

Date of Government Version: 01/15/2008
Date Data Arrived at EDR: 01/16/2008
Date Made Active in Reports: 02/08/2008
Number of Days to Update: 23

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 06/01/2015
Next Scheduled EDR Contact: 09/14/2015
Data Release Frequency: No Update Planned

NEVADA COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 06/03/2015
Date Data Arrived at EDR: 06/04/2015
Date Made Active in Reports: 07/22/2015
Number of Days to Update: 48

Source: Community Development Agency
Telephone: 530-265-1467
Last EDR Contact: 05/04/2015
Next Scheduled EDR Contact: 08/17/2015
Data Release Frequency: Varies

ORANGE COUNTY:

List of Industrial Site Cleanups
Petroleum and non-petroleum spills.

Date of Government Version: 05/01/2015
Date Data Arrived at EDR: 05/12/2015
Date Made Active in Reports: 06/05/2015
Number of Days to Update: 24

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 05/06/2015
Next Scheduled EDR Contact: 08/24/2015
Data Release Frequency: Annually

List of Underground Storage Tank Cleanups
Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 05/01/2015
Date Data Arrived at EDR: 05/12/2015
Date Made Active in Reports: 06/08/2015
Number of Days to Update: 27

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 05/06/2015
Next Scheduled EDR Contact: 08/24/2015
Data Release Frequency: Quarterly

List of Underground Storage Tank Facilities
Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 05/01/2015
Date Data Arrived at EDR: 05/12/2015
Date Made Active in Reports: 06/11/2015
Number of Days to Update: 30

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 05/12/2015
Next Scheduled EDR Contact: 08/24/2015
Data Release Frequency: Quarterly

PLACER COUNTY:

Master List of Facilities
List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 03/10/2015
Date Data Arrived at EDR: 03/12/2015
Date Made Active in Reports: 03/18/2015
Number of Days to Update: 6

Source: Placer County Health and Human Services
Telephone: 530-745-2363
Last EDR Contact: 06/22/2015
Next Scheduled EDR Contact: 09/21/2015
Data Release Frequency: Semi-Annually

RIVERSIDE COUNTY:

Listing of Underground Tank Cleanup Sites
Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 04/28/2015
Date Data Arrived at EDR: 04/30/2015
Date Made Active in Reports: 05/13/2015
Number of Days to Update: 13

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 06/22/2015
Next Scheduled EDR Contact: 10/05/2015
Data Release Frequency: Quarterly

Underground Storage Tank Tank List
Underground storage tank sites located in Riverside county.

Date of Government Version: 04/28/2015
Date Data Arrived at EDR: 04/30/2015
Date Made Active in Reports: 05/13/2015
Number of Days to Update: 13

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 06/22/2015
Next Scheduled EDR Contact: 10/05/2015
Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

Toxic Site Clean-Up List
List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 02/02/2015
Date Data Arrived at EDR: 04/08/2015
Date Made Active in Reports: 04/16/2015
Number of Days to Update: 8

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 07/22/2015
Next Scheduled EDR Contact: 10/19/2015
Data Release Frequency: Quarterly

Master Hazardous Materials Facility List
Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 02/02/2015
Date Data Arrived at EDR: 04/08/2015
Date Made Active in Reports: 04/16/2015
Number of Days to Update: 8

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 07/22/2015
Next Scheduled EDR Contact: 10/19/2015
Data Release Frequency: Quarterly

SAN BERNARDINO COUNTY:

Hazardous Material Permits
This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

Date of Government Version: 06/30/2015
Date Data Arrived at EDR: 07/07/2015
Date Made Active in Reports: 07/14/2015
Number of Days to Update: 7

Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 05/12/2015
Next Scheduled EDR Contact: 08/24/2015
Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

Hazardous Materials Management Division Database

The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 09/23/2013
Date Data Arrived at EDR: 09/24/2013
Date Made Active in Reports: 10/17/2013
Number of Days to Update: 23

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 06/05/2015
Next Scheduled EDR Contact: 09/21/2015
Data Release Frequency: Quarterly

Solid Waste Facilities

San Diego County Solid Waste Facilities.

Date of Government Version: 10/31/2014
Date Data Arrived at EDR: 11/21/2014
Date Made Active in Reports: 12/29/2014
Number of Days to Update: 38

Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 07/22/2015
Next Scheduled EDR Contact: 11/09/2015
Data Release Frequency: Varies

Environmental Case Listing

The listing contains all underground tank release cases and projects pertaining to properties contaminated with hazardous substances that are actively under review by the Site Assessment and Mitigation Program.

Date of Government Version: 03/23/2010
Date Data Arrived at EDR: 06/15/2010
Date Made Active in Reports: 07/09/2010
Number of Days to Update: 24

Source: San Diego County Department of Environmental Health
Telephone: 619-338-2371
Last EDR Contact: 06/03/2015
Next Scheduled EDR Contact: 09/21/2015
Data Release Frequency: No Update Planned

SAN FRANCISCO COUNTY:

Local Oversite Facilities

A listing of leaking underground storage tank sites located in San Francisco county.

Date of Government Version: 09/19/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 09/29/2008
Number of Days to Update: 10

Source: Department Of Public Health San Francisco County
Telephone: 415-252-3920
Last EDR Contact: 05/06/2015
Next Scheduled EDR Contact: 08/24/2015
Data Release Frequency: Quarterly

Underground Storage Tank Information

Underground storage tank sites located in San Francisco county.

Date of Government Version: 11/29/2010
Date Data Arrived at EDR: 03/10/2011
Date Made Active in Reports: 03/15/2011
Number of Days to Update: 5

Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 05/06/2015
Next Scheduled EDR Contact: 08/24/2015
Data Release Frequency: Quarterly

SAN JOAQUIN COUNTY:

San Joaquin Co. UST
A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 06/22/2015
Date Data Arrived at EDR: 06/26/2015
Date Made Active in Reports: 07/06/2015
Number of Days to Update: 10

Source: Environmental Health Department
Telephone: N/A
Last EDR Contact: 06/17/2015
Next Scheduled EDR Contact: 10/05/2015
Data Release Frequency: Semi-Annually

SAN LUIS OBISPO COUNTY:

CUPA Facility List
Cupa Facility List.

Date of Government Version: 05/22/2015
Date Data Arrived at EDR: 05/26/2015
Date Made Active in Reports: 06/10/2015
Number of Days to Update: 15

Source: San Luis Obispo County Public Health Department
Telephone: 805-781-5596
Last EDR Contact: 05/20/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Varies

SAN MATEO COUNTY:

Business Inventory
List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 04/13/2015
Date Data Arrived at EDR: 04/15/2015
Date Made Active in Reports: 04/23/2015
Number of Days to Update: 8

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 06/15/2015
Next Scheduled EDR Contact: 09/28/2015
Data Release Frequency: Annually

Fuel Leak List
A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 06/10/2015
Date Data Arrived at EDR: 06/16/2015
Date Made Active in Reports: 07/14/2015
Number of Days to Update: 28

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 06/10/2015
Next Scheduled EDR Contact: 06/29/2015
Data Release Frequency: Semi-Annually

SANTA BARBARA COUNTY:

CUPA Facility Listing
CUPA Program Listing from the Environmental Health Services division.

Date of Government Version: 09/08/2011
Date Data Arrived at EDR: 09/09/2011
Date Made Active in Reports: 10/07/2011
Number of Days to Update: 28

Source: Santa Barbara County Public Health Department
Telephone: 805-686-8167
Last EDR Contact: 05/22/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Varies

SANTA CLARA COUNTY:

Cupa Facility List
Cupa facility list

Date of Government Version: 06/10/2015
Date Data Arrived at EDR: 06/16/2015
Date Made Active in Reports: 07/10/2015
Number of Days to Update: 24

Source: Department of Environmental Health
Telephone: 408-918-1973
Last EDR Contact: 06/05/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Varies

HIST LUST - Fuel Leak Site Activity Report

A listing of open and closed leaking underground storage tanks. This listing is no longer updated by the county. Leaking underground storage tanks are now handled by the Department of Environmental Health.

Date of Government Version: 03/29/2005
Date Data Arrived at EDR: 03/30/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 22

Source: Santa Clara Valley Water District
Telephone: 408-265-2600
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

LOP Listing

A listing of leaking underground storage tanks located in Santa Clara county.

Date of Government Version: 03/03/2014
Date Data Arrived at EDR: 03/05/2014
Date Made Active in Reports: 03/18/2014
Number of Days to Update: 13

Source: Department of Environmental Health
Telephone: 408-918-3417
Last EDR Contact: 06/01/2015
Next Scheduled EDR Contact: 09/14/2015
Data Release Frequency: Annually

Hazardous Material Facilities

Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 05/07/2015
Date Data Arrived at EDR: 05/12/2015
Date Made Active in Reports: 06/08/2015
Number of Days to Update: 27

Source: City of San Jose Fire Department
Telephone: 408-535-7694
Last EDR Contact: 05/07/2015
Next Scheduled EDR Contact: 08/24/2015
Data Release Frequency: Annually

SANTA CRUZ COUNTY:

CUPA Facility List

CUPA facility listing.

Date of Government Version: 05/22/2015
Date Data Arrived at EDR: 05/26/2015
Date Made Active in Reports: 06/08/2015
Number of Days to Update: 13

Source: Santa Cruz County Environmental Health
Telephone: 831-464-2761
Last EDR Contact: 05/22/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Varies

SHASTA COUNTY:

CUPA Facility List

Cupa Facility List.

Date of Government Version: 06/12/2015
Date Data Arrived at EDR: 06/16/2015
Date Made Active in Reports: 07/10/2015
Number of Days to Update: 24

Source: Shasta County Department of Resource Management
Telephone: 530-225-5789
Last EDR Contact: 05/26/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Varies

SOLANO COUNTY:

Leaking Underground Storage Tanks
A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 06/19/2015
Date Data Arrived at EDR: 06/24/2015
Date Made Active in Reports: 07/14/2015
Number of Days to Update: 20

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 06/10/2015
Next Scheduled EDR Contact: 09/28/2015
Data Release Frequency: Quarterly

Underground Storage Tanks
Underground storage tank sites located in Solano county.

Date of Government Version: 06/19/2015
Date Data Arrived at EDR: 06/30/2015
Date Made Active in Reports: 07/07/2015
Number of Days to Update: 7

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 06/10/2015
Next Scheduled EDR Contact: 09/28/2015
Data Release Frequency: Quarterly

SONOMA COUNTY:

Cupa Facility List
Cupa Facility list

Date of Government Version: 06/22/2015
Date Data Arrived at EDR: 06/26/2015
Date Made Active in Reports: 07/14/2015
Number of Days to Update: 18

Source: County of Sonoma Fire & Emergency Services Department
Telephone: 707-565-1174
Last EDR Contact: 06/22/2015
Next Scheduled EDR Contact: 10/12/2015
Data Release Frequency: Varies

Leaking Underground Storage Tank Sites
A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 07/01/2015
Date Data Arrived at EDR: 07/07/2015
Date Made Active in Reports: 07/14/2015
Number of Days to Update: 7

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 06/22/2015
Next Scheduled EDR Contact: 10/12/2015
Data Release Frequency: Quarterly

SUTTER COUNTY:

Underground Storage Tanks
Underground storage tank sites located in Sutter county.

Date of Government Version: 06/05/2015
Date Data Arrived at EDR: 06/09/2015
Date Made Active in Reports: 07/06/2015
Number of Days to Update: 27

Source: Sutter County Department of Agriculture
Telephone: 530-822-7500
Last EDR Contact: 06/05/2015
Next Scheduled EDR Contact: 09/21/2015
Data Release Frequency: Semi-Annually

TUOLUMNE COUNTY:

CUPA Facility List
Cupa facility list

Date of Government Version: 05/05/2015
Date Data Arrived at EDR: 05/07/2015
Date Made Active in Reports: 05/13/2015
Number of Days to Update: 6

Source: Divison of Environmental Health
Telephone: 209-533-5633
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Varies

VENTURA COUNTY:

Business Plan, Hazardous Waste Producers, and Operating Underground Tanks
The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 04/27/2015
Date Data Arrived at EDR: 05/22/2015
Date Made Active in Reports: 06/05/2015
Number of Days to Update: 14

Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 07/15/2015
Next Scheduled EDR Contact: 08/31/2015
Data Release Frequency: Quarterly

Inventory of Illegal Abandoned and Inactive Sites
Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

Date of Government Version: 12/01/2011
Date Data Arrived at EDR: 12/01/2011
Date Made Active in Reports: 01/19/2012
Number of Days to Update: 49

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 06/26/2015
Next Scheduled EDR Contact: 10/19/2015
Data Release Frequency: Annually

Listing of Underground Tank Cleanup Sites
Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 05/29/2008
Date Data Arrived at EDR: 06/24/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 37

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 05/18/2015
Next Scheduled EDR Contact: 08/31/2015
Data Release Frequency: Quarterly

Medical Waste Program List
To protect public health and safety and the environment from potential exposure to disease causing agents, the Environmental Health Division Medical Waste Program regulates the generation, handling, storage, treatment and disposal of medical waste throughout the County.

Date of Government Version: 04/27/2015
Date Data Arrived at EDR: 04/29/2015
Date Made Active in Reports: 05/13/2015
Number of Days to Update: 14

Source: Ventura County Resource Management Agency
Telephone: 805-654-2813
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Quarterly

Underground Tank Closed Sites List
Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 05/27/2015
Date Data Arrived at EDR: 06/17/2015
Date Made Active in Reports: 07/06/2015
Number of Days to Update: 19

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 06/17/2015
Next Scheduled EDR Contact: 09/28/2015
Data Release Frequency: Quarterly

YOLO COUNTY:

Underground Storage Tank Comprehensive Facility Report
Underground storage tank sites located in Yolo county.

Date of Government Version: 07/08/2015
Date Data Arrived at EDR: 07/13/2015
Date Made Active in Reports: 07/22/2015
Number of Days to Update: 9

Source: Yolo County Department of Health
Telephone: 530-666-8646
Last EDR Contact: 07/06/2015
Next Scheduled EDR Contact: 10/05/2015
Data Release Frequency: Annually

YUBA COUNTY:

CUPA Facility List
CUPA facility listing for Yuba County.

Date of Government Version: 05/18/2015
Date Data Arrived at EDR: 05/19/2015
Date Made Active in Reports: 06/05/2015
Number of Days to Update: 17

Source: Yuba County Environmental Health Department
Telephone: 530-749-7523
Last EDR Contact: 05/18/2015
Next Scheduled EDR Contact: 08/17/2015
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data
Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 07/30/2013
Date Data Arrived at EDR: 08/19/2013
Date Made Active in Reports: 10/03/2013
Number of Days to Update: 45

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 05/18/2015
Next Scheduled EDR Contact: 08/31/2015
Data Release Frequency: No Update Planned

NJ MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 04/29/2015
Date Made Active in Reports: 05/29/2015
Number of Days to Update: 30

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 07/13/2015
Next Scheduled EDR Contact: 10/28/2015
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data
Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 05/01/2015
Date Data Arrived at EDR: 05/06/2015
Date Made Active in Reports: 05/20/2015
Number of Days to Update: 14

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 05/06/2015
Next Scheduled EDR Contact: 08/17/2015
Data Release Frequency: Annually

PA MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 07/21/2014
Date Made Active in Reports: 08/25/2014
Number of Days to Update: 35

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 07/20/2015
Next Scheduled EDR Contact: 11/02/2015
Data Release Frequency: Annually

RI MANIFEST: Manifest information
Hazardous waste manifest information

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 06/19/2015
Date Made Active in Reports: 07/15/2015
Number of Days to Update: 26

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 05/26/2015
Next Scheduled EDR Contact: 09/07/2015
Data Release Frequency: Annually

WI MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 03/19/2015
Date Made Active in Reports: 04/07/2015
Number of Days to Update: 19

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 06/11/2015
Next Scheduled EDR Contact: 09/28/2015
Data Release Frequency: Annually

Oil/Gas Pipelines
Source: PennWell Corporation
Telephone: 281-546-1505
Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Electric Power Transmission Line Data
Source: PennWell Corporation
Telephone: 800-823-6277
This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Licensed Facilities
Source: Department of Social Services
Telephone: 916-657-4041

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

STREET AND ADDRESS INFORMATION

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GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

TORREY HIGHLANDS OFFICE PROJECT
TORREY SANTA FE RD/CAMINO DEL SUR
SAN DIEGO, CA 92129

TARGET PROPERTY COORDINATES

Latitude (North):	32.9536 - 32° 57' 12.96''
Longitude (West):	117.1542 - 117° 9' 15.12''
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	485587.4
UTM Y (Meters):	3645962.8
Elevation:	355 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	5622814 DEL MAR, CA
Version Date:	2012

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principal investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

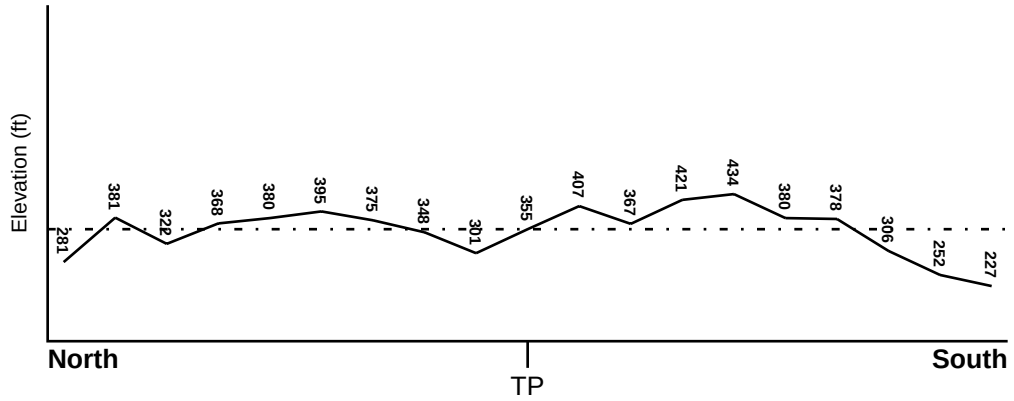
TOPOGRAPHIC INFORMATION

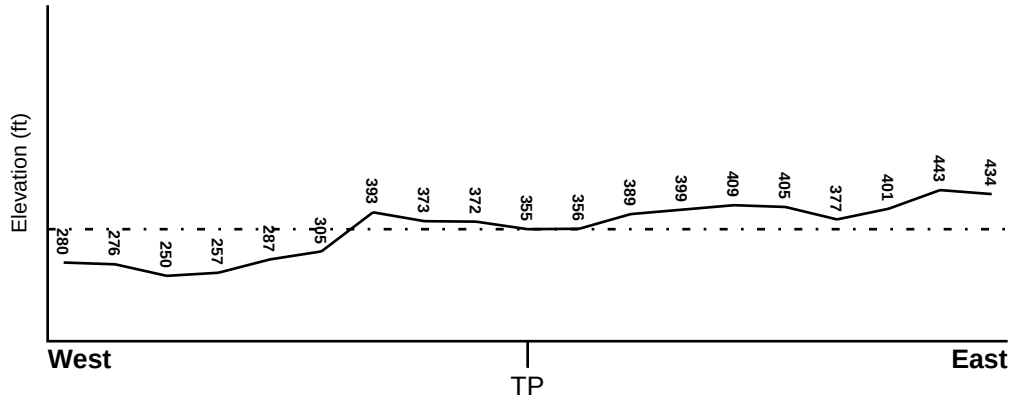
Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

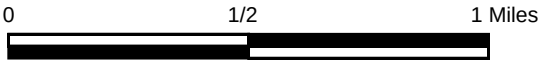
General Topographic Gradient: General NW

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES





Target Property Elevation: 355 ft.



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Target Property County	FEMA Flood Electronic Data
SAN DIEGO, CA	YES - refer to the Overview Map and Detail Map

Flood Plain Panel at Target Property: 06073C - FEMA DFIRM Flood data

Additional Panels in search area: Not Reported

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
DEL MAR	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius: 1.25 miles
Status: Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

* ©1996 Site−specific hydrogeological data gathered by CERCLIS Alerts, Inc., Bainbridge Island, WA. All rights reserved. All of the information and opinions presented are those of the cited EPA report(s), which were completed under a Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) investigation.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

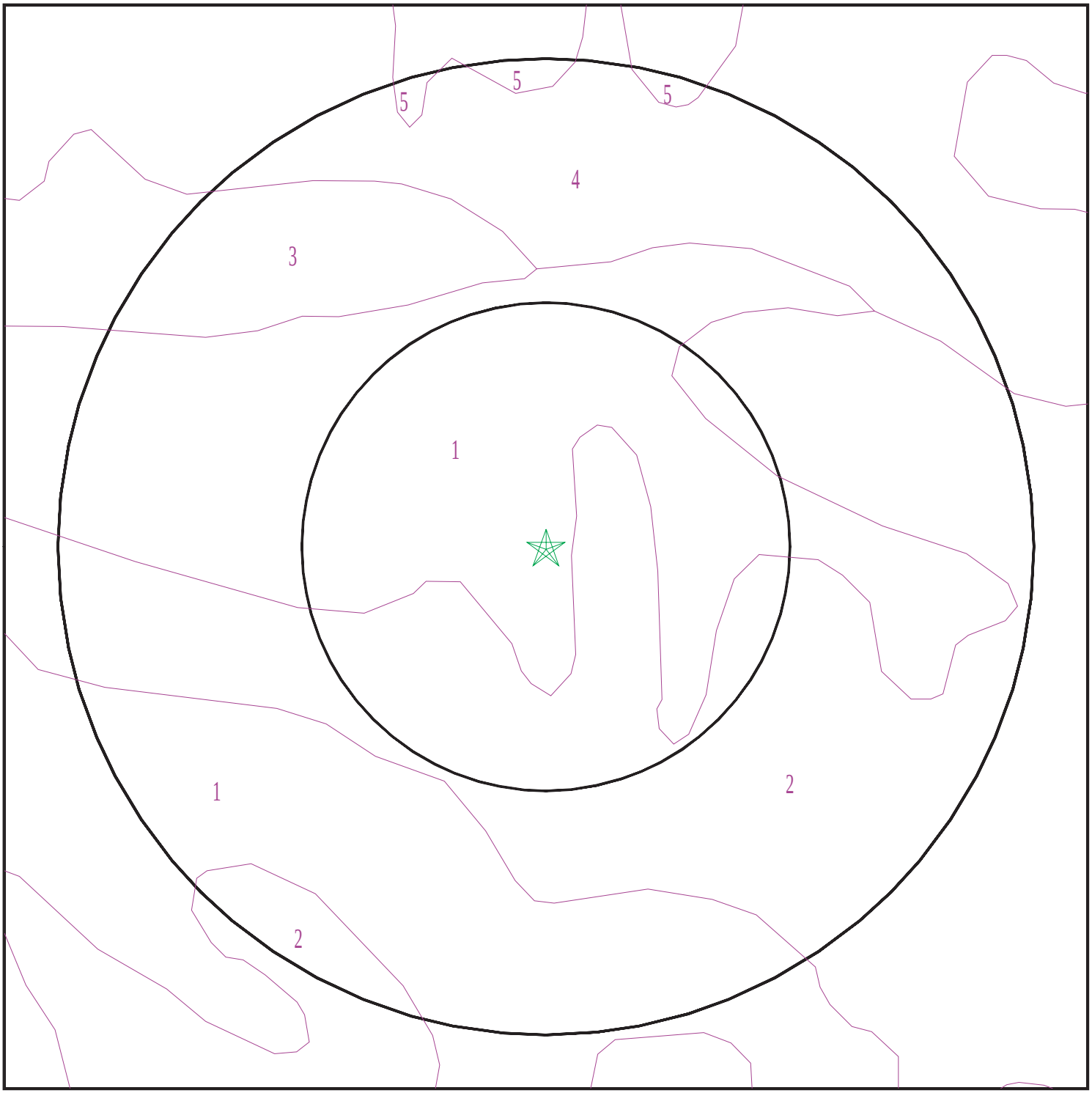
Era:	Mesozoic
System:	Lower Jurassic and Upper Triassic
Series:	Lower Mesozoic
Code:	lMze *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Eugeosynclinal Deposits

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 4364314.2s



Target Property
SSURGO Soil
Water

0 1/16 1/8 1/4 Miles

N

SITE NAME: Torrey Highlands Office Project ADDRESS: Torrey Santa Fe Rd/Camino Del Sur San Diego CA 92129 LAT/LONG: 32.9536 / 117.1542	CLIENT: Dudek & Associates CONTACT: Khristina Leyba INQUIRY #: 4364314.2s DATE: July 24, 2015 3:04 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: TERRACE ESCARPMENTS

Soil Surface Texture: variable

Hydrologic Group: Not reported

Soil Drainage Class:
Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	59 inches	variable	Not reported	Not reported	Max: Min:	Max: Min:

Soil Map ID: 2

Soil Component Name: REDDING

Soil Surface Texture: gravelly loam

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Well drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	14 inches	gravelly loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand.	Max: 14 Min: 4	Max: 6 Min: 5.1
2	14 inches	29 inches	gravelly clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Fat Clay.	Max: 0.42 Min: 0.01	Max: 5 Min: 4.5
3	29 inches	44 inches	indurated	Not reported	Not reported	Max: Min:	Max: Min:

Soil Map ID: 3

Soil Component Name: OLIVENHAIN

Soil Surface Texture: cobbly loam

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	9 inches	cobbly loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 6 Min: 5.6

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
2	9 inches	27 inches	very cobbly clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 0.42 Min: 0.01	Max: 5.5 Min: 5.1
3	27 inches	44 inches	cobbly loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 14 Min: 4	Max: 5.5 Min: 5.1

Soil Map ID: 4

Soil Component Name: OLIVENHAIN

Soil Surface Texture: cobbly loam

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Well drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	9 inches	cobbly loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay. FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 6 Min: 5.6

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
2	9 inches	27 inches	very cobbly clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 0.42 Min: 0.01	Max: 5.5 Min: 5.1
3	27 inches	44 inches	cobbly loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 14 Min: 4	Max: 5.5 Min: 5.1

Soil Map ID: 5

Soil Component Name: HUERHUERO

Soil Surface Texture: loam

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Moderately well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	11 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 6 Min: 5.1

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
2	11 inches	55 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Fat Clay.	Max: 0.42 Min: 0.01	Max: 8.4 Min: 7.4
3	55 inches	72 inches	stratified sand to sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 4 Min: 1.4	Max: 8.4 Min: 7.4

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 0.001 miles
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

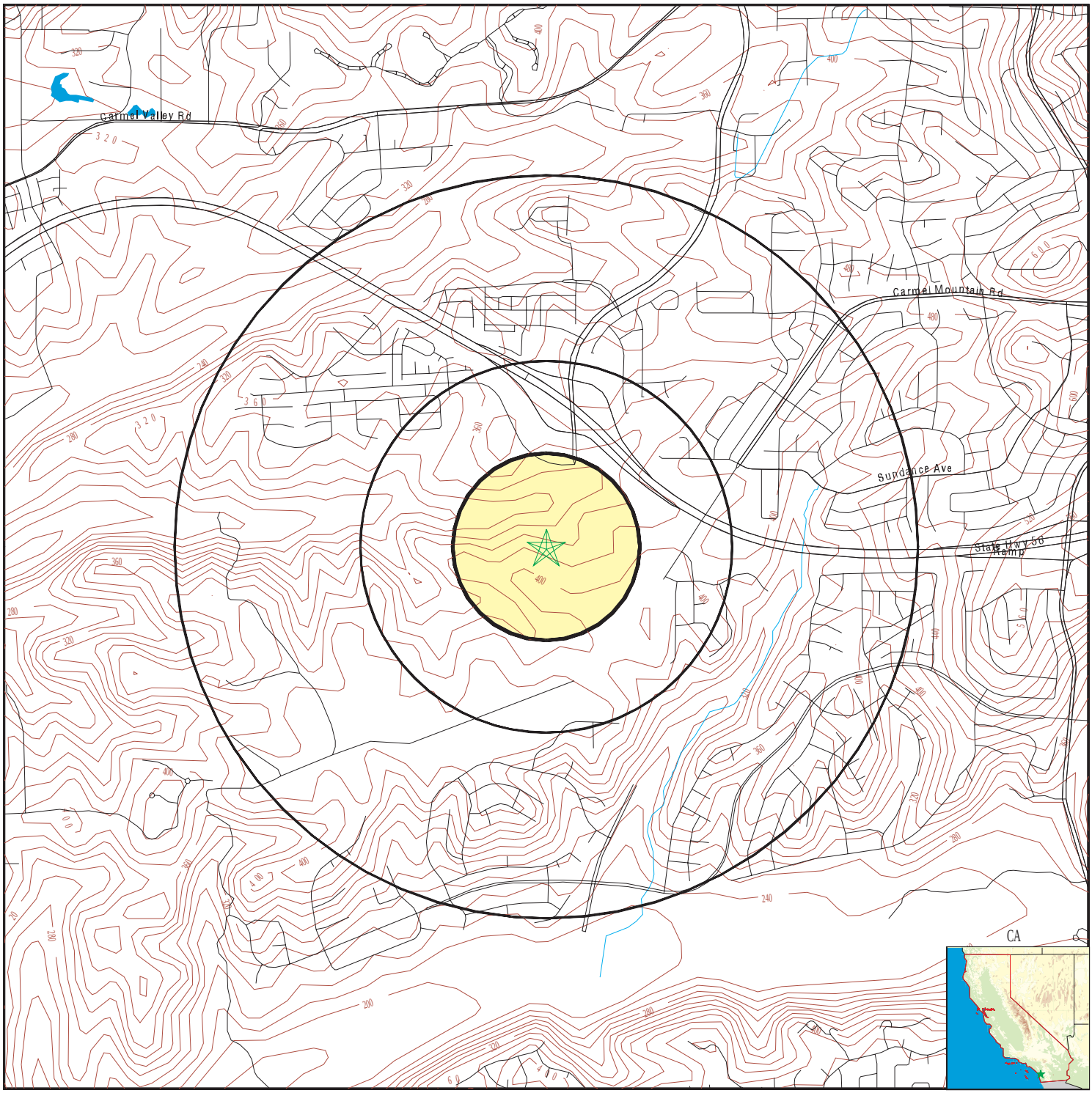
Note: PWS System location is not always the same as well location.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

PHYSICAL SETTING SOURCE MAP - 4364314.2s



0 1/4 1/2 1 Miles

- County Boundary
- Major Roads
- Contour Lines
- Earthquake Fault Lines
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons
- Groundwater Flow Direction
- GI Indeterminate Groundwater Flow at Location
- GV Groundwater Flow Varies at Location
- HD Closest Hydrogeological Data
- Oil, gas or related wells

N

SITE NAME:	Torrey Highlands Office Project	CLIENT:	Dudek & Associates
ADDRESS:	Torrey Santa Fe Rd/Camino Del Sur San Diego CA 92129	CONTACT:	Khristina Leyba
		INQUIRY #:	4364314.2s
LAT/LONG:	32.9536 / 117.1542	DATE:	July 24, 2015 3:04 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: CA Radon

Radon Test Results

Zipcode	Num Tests	> 4 pCi/L
92129	21	0

Federal EPA Radon Zone for SAN DIEGO County: 3

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for SAN DIEGO COUNTY, CA

Number of sites tested: 30

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	0.677 pCi/L	100%	0%	0%
Living Area - 2nd Floor	0.400 pCi/L	100%	0%	0%
Basement	Not Reported	Not Reported	Not Reported	Not Reported

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Scanned Digital USGS 7.5' Topographic Map (DRG)
Source: United States Geologic Survey
A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

HYDROGEOLOGIC INFORMATION

AQUIFLOW[R] Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Services, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Water Well Database
Source: Department of Water Resources
Telephone: 916-651-9648

California Drinking Water Quality Database
Source: Department of Public Health
Telephone: 916-324-2319
The database includes all drinking water compliance and special studies monitoring for the state of California since 1984. It consists of over 3,200,000 individual analyses along with well and water system information.

OTHER STATE DATABASE INFORMATION

California Oil and Gas Well Locations
Source: Department of Conservation
Telephone: 916-323-1779
Oil and Gas well locations in the state.

RADON

State Database: CA Radon
Source: Department of Health Services
Telephone: 916-324-2208
Radon Database for California

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

California Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines, prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

STREET AND ADDRESS INFORMATION

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ATTACHMENT B

Topographic Maps

Torrey Highlands Office Project
Torrey Santa Fe Rd/Camino Del Sur
San Diego, CA 92129

Inquiry Number: 4364314.4
July 24, 2015

EDR Historical Topographic Map Report

6 Armstrong Road, 4th Floor
Shelton, Connecticut 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Historical Topographic Map Report

Environmental Data Resources, Inc.s (EDR) Historical Topographic Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDRs Historical Topographic Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the early 1900s.

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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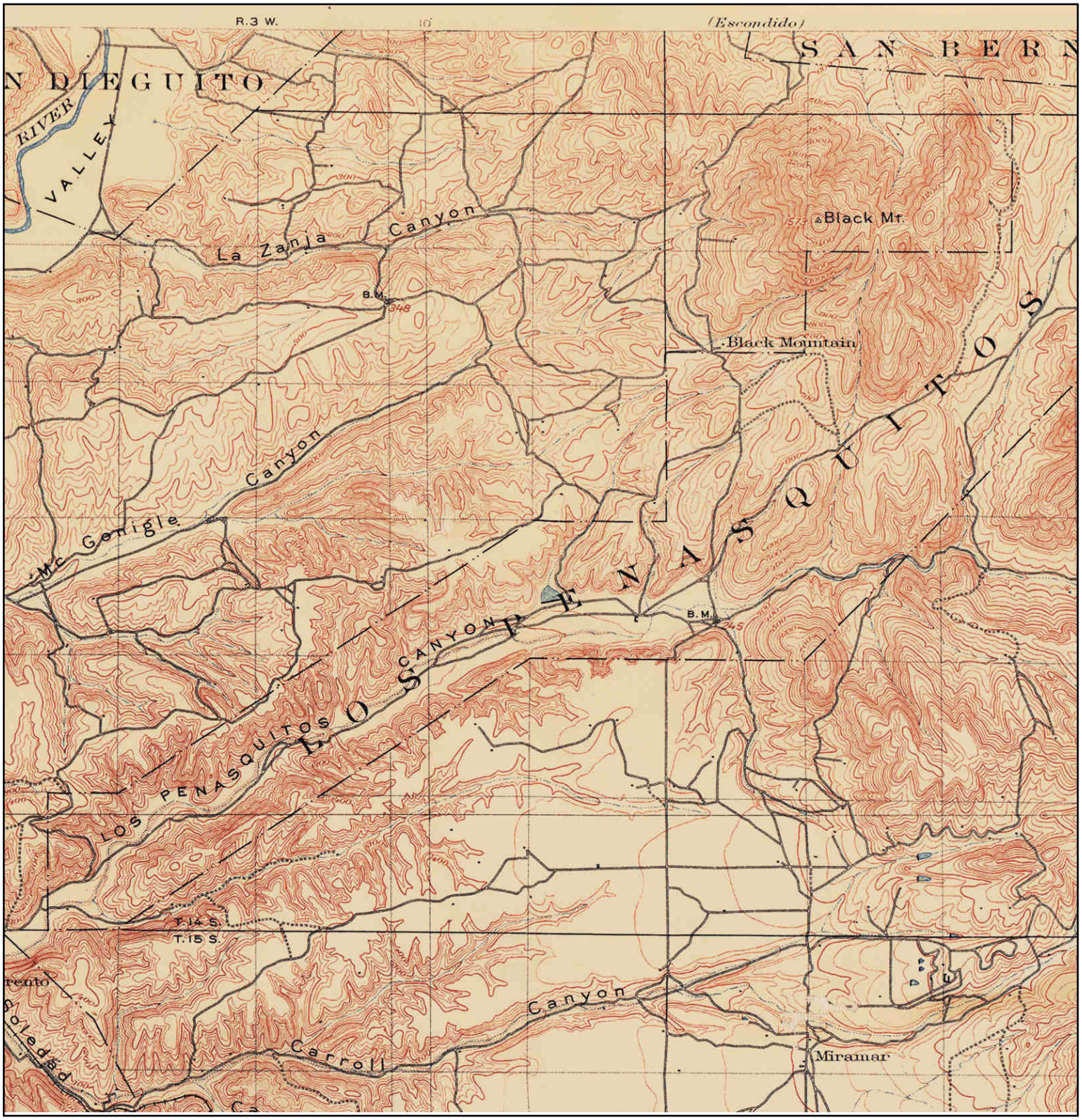
Historical Topographic Map



N	TARGET QUAD NAME: LA JOLLA MAP YEAR: 1903 SERIES: 15 SCALE: 1:62500	SITE NAME: Torrey Highlands Office Project ADDRESS: Torrey Santa Fe Rd/Camino Del Sur San Diego, CA 92129 LAT/LONG: 32.9536 / -117.1542	CLIENT: Dudek & Associates CONTACT: Khristina Leyba INQUIRY#: 4364314.4 RESEARCH DATE: 07/24/2015

Historical Topographic Map

Unsurveyed Area on the Topographic Map

N

TARGET QUAD
NAME: SOUTHERN CA SHEET 2
MAP YEAR: 1904

SERIES: 60
SCALE: 1:250000

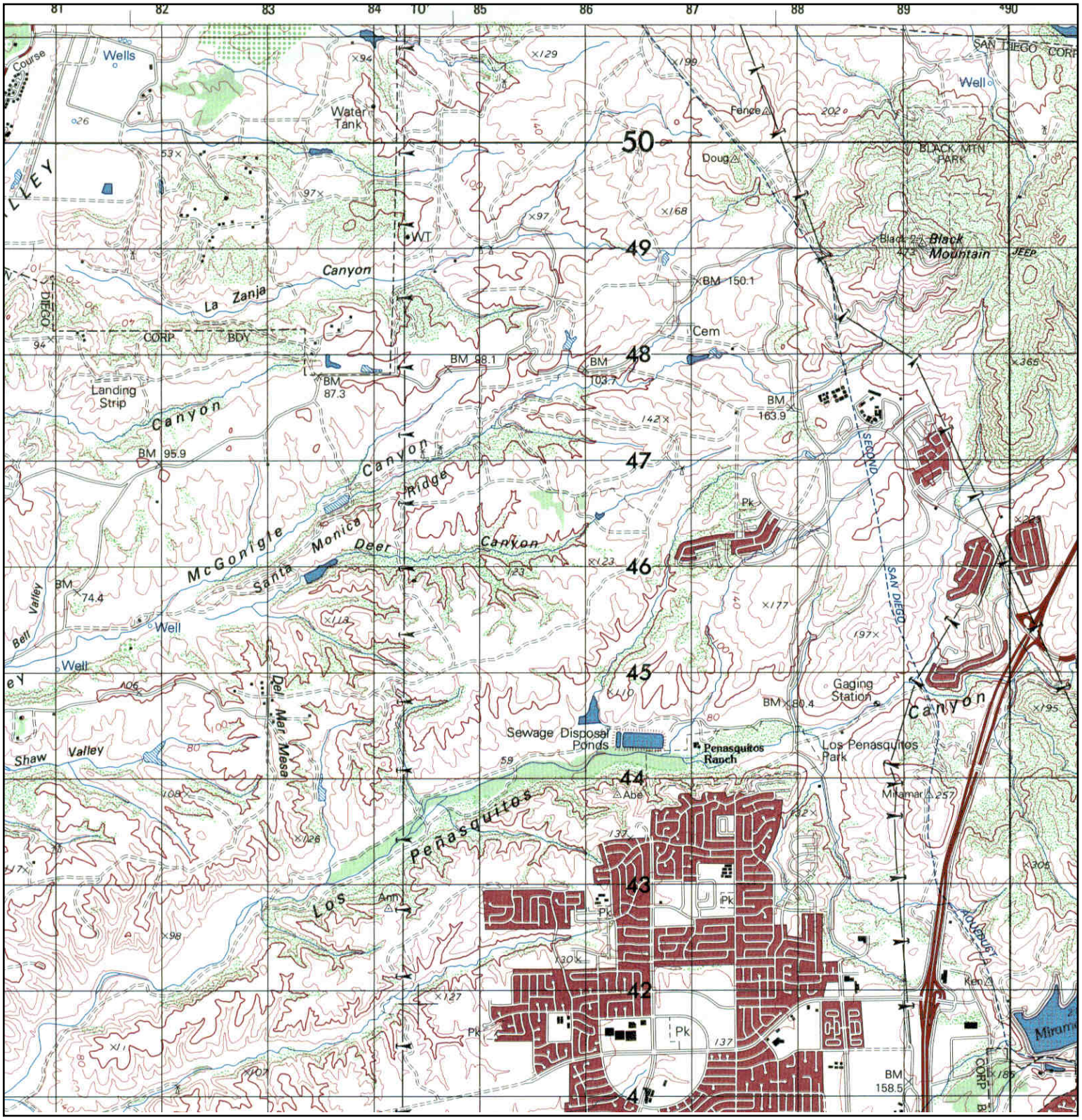
SITE NAME: Torrey Highlands Office Project
ADDRESS: Torrey Santa Fe Rd/Camino Del Sur
San Diego, CA 92129
LAT/LONG: 32.9536 / -117.1542

CLIENT: Dudek & Associates
CONTACT: Khristina Leyba
INQUIRY#: 4364314.4
RESEARCH DATE: 07/24/2015

Historical Topographic Map

N	TARGET QUAD NAME: DEL MAR MAP YEAR: 1967 SERIES: 7.5 SCALE: 1:24000	SITE NAME: Torrey Highlands Office Project ADDRESS: Torrey Santa Fe Rd/Camino Del Sur San Diego, CA 92129 LAT/LONG: 32.9536 / -117.1542	CLIENT: Dudek & Associates CONTACT: Khristina Leyba INQUIRY#: 4364314.4 RESEARCH DATE: 07/24/2015

Historical Topographic Map



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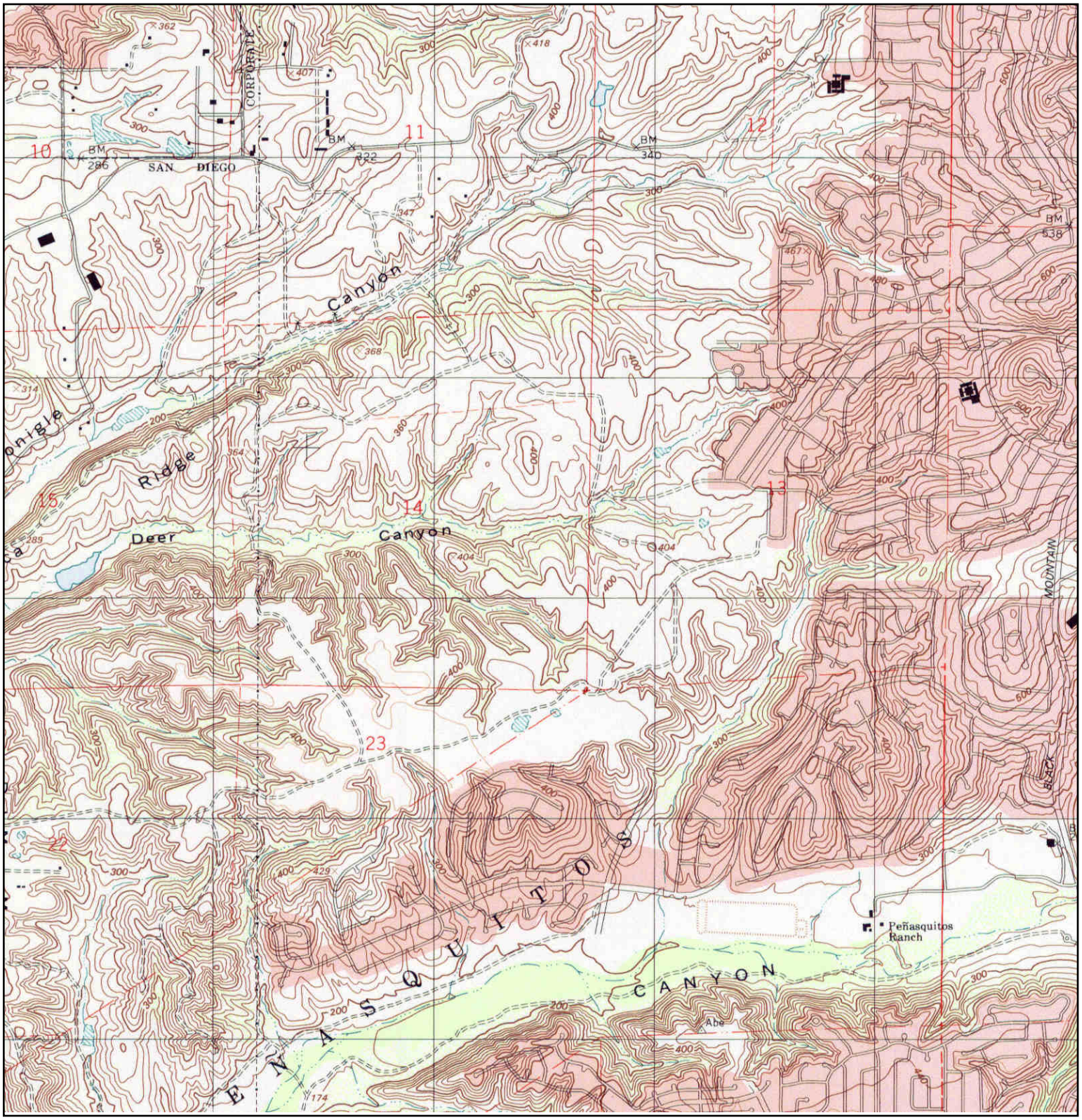
Historical Topographic Map



N	TARGET QUAD NAME: DEL MAR MAP YEAR: 1994 SERIES: 7.5 SCALE: 1:24000	SITE NAME: Torrey Highlands Office Project ADDRESS: Torrey Santa Fe Rd/Camino Del Sur San Diego, CA 92129 LAT/LONG: 32.9536 / -117.1542	CLIENT: Dudek & Associates CONTACT: Khristina Leyba INQUIRY#: 4364314.4 RESEARCH DATE: 07/24/2015

APPENDIX L

FAA Determination

SAN DIEGO
COUNTY
REGIONAL
AIRPORT
AUTHORITY

October 6, 2017

Mr William Zounes
City of San Diego
Development Services
1010 Second Avenue, M.S. 413
San Diego, California 92101

Re: Airport Land Use Commission Consistency Determination – Community Plan Amendment & Rezone to Change Height Limits at 12902 1/3 Camino del Sur, City of San Diego

Dear Mr Zounes:

As the Airport Land Use Commission (ALUC) for San Diego County, the San Diego County Regional Airport Authority acknowledges receipt of an application for a determination of consistency for the project described above. The area covered by this project lies within Review Area 2 of the Airport Influence Area (AIA) for the MCAS Miramar Airport Land Use Compatibility Plan (ALUCP). Section 2.6.1 of the MCAS Miramar ALUCP requires ALUC review of amendments to general or specific plans and zoning ordinances within Review Area 2 which propose increases in height limits.

ALUC staff has reviewed your application and accompanying materials and has determined that it meets our requirements for completeness. In accordance with ALUC Policies and applicable provisions of the State Aeronautics Act (Cal. Pub. Util. Code §21670-21679.5), ALUC staff has determined that the proposed project is **consistent** with the aforementioned ALUCP based upon the facts and findings summarized below:

(1) The proposed project involves the amendment of a community plan with rezone that changes building height limits to allow for commercial development.

(2) The proposed project is located outside the 60-65 dB CNEL noise contour. The ALUCP identifies all uses located outside the 60-65 dB CNEL noise contour as compatible with airport uses.

(3) The proposed project is in compliance with the ALUCP airspace protection surfaces because the proposed increases in zoning height limits do not penetrate any airspace protection surfaces, and a determination of no hazard to air navigation has been issued by the Federal Aviation Administration (FAA) for the commercial development project.

(4) The proposed project is located outside all safety zones.

PO Box 82776
San Diego, CA 92138-2776
www.san.org/aluc

AIRPORT
LAND USE
COMMISSION

SAN DIEGO
COUNTY
REGIONAL
AIRPORT
AUTHORITY

(5) The proposed project is located within the overflight notification area, but does not contain any residential units subject to overflight notification requirements.

(6) Therefore, the proposed project is compatible with the adopted MCAS Miramar ALUCP.

(7) This determination of consistency is not a "project" as defined by the California Environmental Quality Act (CEQA), Cal. Pub. Res. Code §21065, and is not a "development" as defined by the California Coastal Act, Cal. Pub. Res. Code §30106.

Please contact Garret Hollarn at (619) 400-2788 if you have any questions regarding this letter.

Yours truly,

Brendan Reed
Director, Planning & Environmental Affairs

cc: Amy Gonzalez, SDCRAA General Counsel
Tony Sordello, Caltrans Division of Aeronautics
Keri Robinson, Caltrans District 11
Kristin Camper, MCAS Miramar Community Plans & Liaison
Vickie White, City of San Diego

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2017-AWP-8295-OE

Issued Date: 08/30/2017

Jason Wood
Cisterra
3580 Carmel Mountain Rd, Suite 460
San Diego, CA 92130

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Building Office
Location:	San Diego, CA
Latitude:	32-57-12.77N NAD 83
Longitude:	117-09-14.38W
Heights:	389 feet site elevation (SE)
	99 feet above ground level (AGL)
	488 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

_____ At least 10 days prior to start of construction (7460-2, Part 1)
__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/ lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 L Change 1.

This determination expires on 03/02/2019 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, effective 21 Nov 2007, will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.This determination includes all previously filed frequencies and power for this structure.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

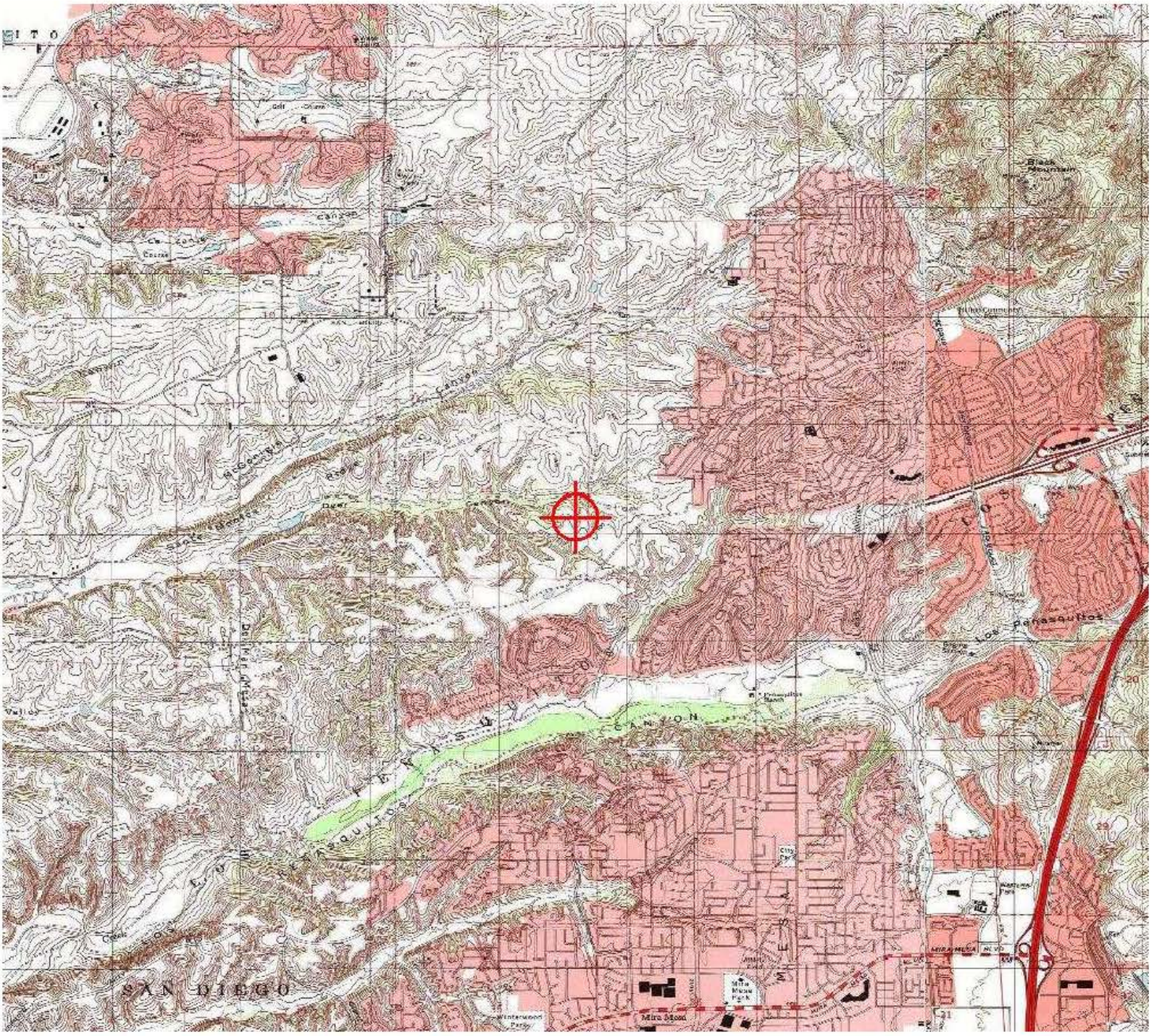
This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (310) 725-6557, or karen.mcdonald@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2017-AWP-8295-OE.

Signature Control No: 339805503-342502643 (DNE)
Karen McDonald
Specialist

Attachment(s)
Map(s)

TOPO Map for ASN 2017-AWP-8295-OE



Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2018-AWP-5488-OE
Prior Study No.
2017-AWP-8295-OE

Issued Date: 04/02/2018

Jason Wood
Cisterra
3580 Carmel Mountain Rd, Suite 460
San Diego, CA 92130

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Solar Panel Preserve at Torrey Highlands
Location:	San Diego, CA
Latitude:	32-57-12.77N NAD 83
Longitude:	117-09-14.38W
Heights:	389 feet site elevation (SE)
	99 feet above ground level (AGL)
	488 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

_____ At least 10 days prior to start of construction (7460-2, Part 1)
__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/ lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 L Change 1.

This determination expires on 10/02/2019 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, effective 21 Nov 2007, will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.This determination includes all previously filed frequencies and power for this structure.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

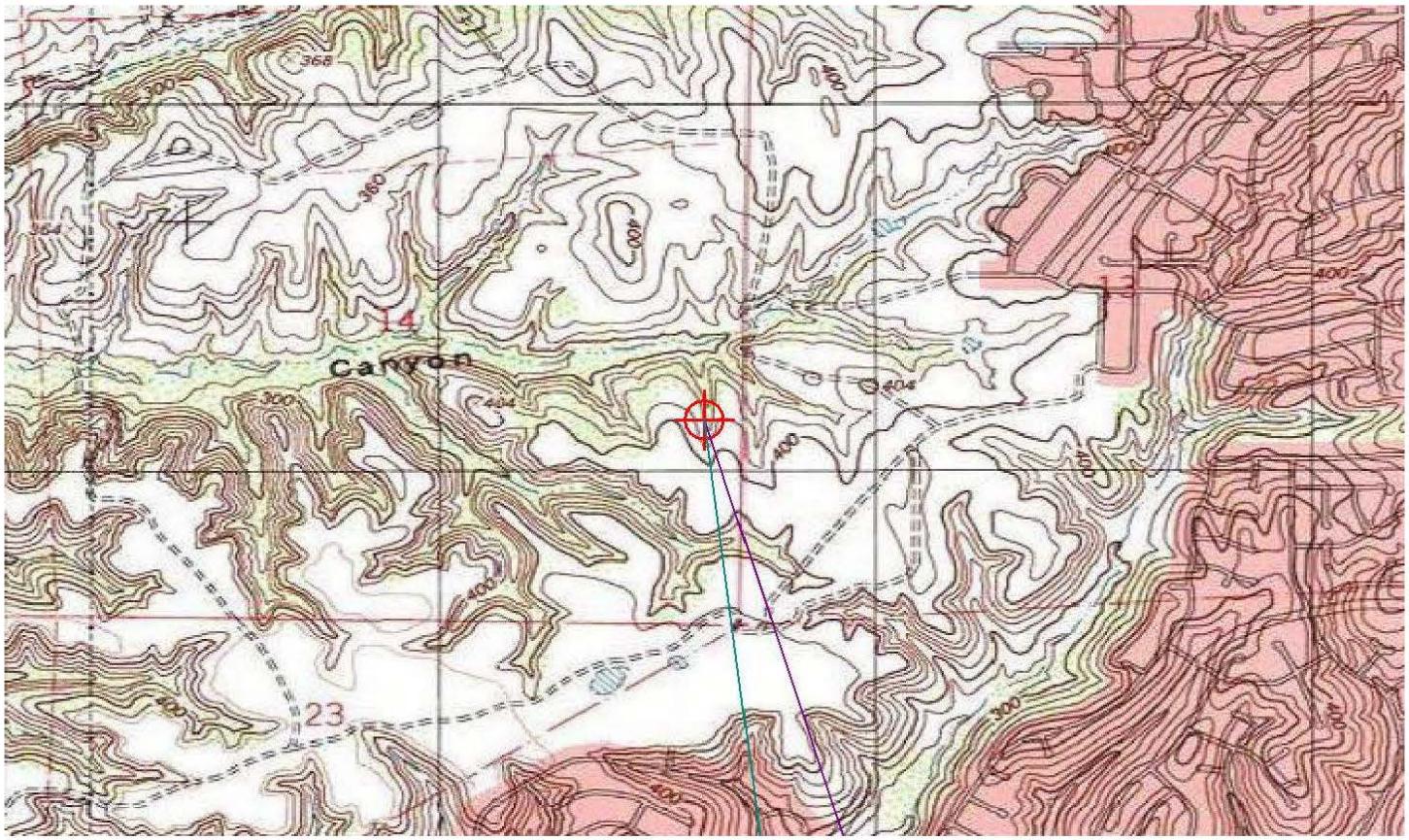
This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (310) 725-6558, or ladonna.james@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2018-AWP-5488-OE.

Signature Control No: 356599670-361375086 (DNE)
LaDonna James
Technician

Attachment(s)
Map(s)

Verified Map for ASN 2018-AWP-5488-OE



APPENDIX M

Drainage Study

DRAINAGE STUDY
FOR
THE PRESERVE AT TORREY HIGHLANDS

PTS No. 442880, I.O. No. 24006166
June 22, 2016

Prepared By:
LEPPERT ENGINEERING CORPORATION
5190 GOVERNOR DRIVE, SUITE 205
SAN DIEGO, CA 92122
Job No. TH 06.07-13.15

Prepared For:
The Preserve at Torrey Highlands, LLC
C/O Jeff Brazel
3580 Carmel Mountain Road, Ste. 460
SAN DIEGO, CA 92130
619-507-8800, jbrazel@jvbrealestateadvisors.com

_____
By: John D. Leppert, RCE 26283
Exp. 3/31/18

_____
Date

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Project Location 1
Project Description 1
Method of Calculation 1
Existing Condition 2
Proposed Condition 3
Conclusions 4

Exhibits

EXHIBIT "A" – Location Map
EXHIBIT "B" – Existing Condition Drainage Basin Map
EXHIBIT "C" – Existing Condition SSA Analysis Results
EXHIBIT "D" – Proposed Condition Drainage Basin Map
EXHIBIT "E" – Proposed Condition SSA Analysis

Appendices

APPENDIX I – Rational Method: City of San Diego Drainage Design Manual
APPENDIX II – Design Runoff: City of San Diego Drainage Design Manual
APPENDIX III – Runoff Coefficients: City of San Diego Drainage Design Manual
APPENDIX IV – Rainfall Intensity-Duration-Frequency Curves: City of San Diego Drainage Design Manual

Drainage Study
The Preserve at Torrey Highlands
June 22, 2016

Purpose

The purpose of this drainage study is to estimate the quantity of storm water runoff from the proposed development of The Preserve at Torrey Highlands and determine sizing of proposed storm drains.

Project Location

The proposed project is located in Torrey Highlands, which falls under the Miramar Reservoir Hydrologic Area (Hydrologic Sub-area 906.10) of the Peñasquitos Hydrologic unit. The project site is south of the intersection of Torrey Santa Fe Rd and Camino Del Sur just south of State Route 56, in the City of San Diego (see Exhibit A).

Project Description

The project proposes three corporate office buildings, one café building, one fitness center, and one parking structure.

-Building 1:

Proposed 6-level office building containing 180,000 gross square feet, and 87 covered parking stalls beneath.

-Building 2:

Proposed 4-level office building containing 120,000 gross square feet, and 69 covered parking stalls beneath.

-Building 3:

Proposed 5-level office building containing 150,000 gross square feet, and 85 covered parking stalls beneath.

-Parking Structure:

Proposed 7.4-Level parking structure containing 0.4 subterranean and 7 above grade parking levels; providing 1,472 parking stalls.

-Café:

Proposed 1-level on site café building; providing approximately 3,850 square feet of space.

-Fitness Center:

Proposed 1-level Fitness Center beneath Building 2; providing approximately 5,000 square feet of space.

Method of Calculation

This study calculates the total runoff from the site using the guidelines set forth in the City of San Diego's Drainage Design Manual, dated April 1984 (see Appendix I – Rational Method: City of San Diego Drainage Design Manual). The specific method used is the Rational Formula for watersheds under 0.5 square miles. A 100 year storm event was used for the analysis. Per the City of San Diego Drainage Design Manual, for tributary areas less than one square mile the storm drain system shall be designed so that the combination of storm drain system capacity and overflow will be able to carry the 100-year frequency storm without damage to or flooding of adjacent existing buildings or potential building sites, and Type D soil shall be used for all areas (see Appendix II– Runoff Coefficients: City of San Diego Drainage Design Manual).

Autodesk Storm and Sanitary Analysis was used for the storm analysis. Autodesk Storm and Sanitary Analysis is a link-node based model that performs hydrology, hydraulic, and water quality analysis of storm water and wastewater drainage systems, including sewage treatment plants and water quality

control devices. A link represents a hydraulic element (i.e., a pipe, channel, pump, standpipe, culvert, or weir) that transports flow and constituents. A node can represent the junction of two or more links, a storm drain catch basin inlet, the location of a flow or pollutant input into the system, or a storage element (such as a detention pond, retention pond, settling pond, or lake).

Drainage basin boundaries, flow patterns, and topographic elevations are shown on the drainage basin maps located in the map pockets (see Exhibit B – Existing Condition Drainage Basin Map & Exhibit D – Proposed Condition Basin Map).

Existing Condition

The project site is currently an undeveloped 10.4 acre site designated by APN 306-050-16, 18, 19, & 28. All of the surrounding adjacent parcels are also undeveloped; however there are proposed plans for the extension of Camino Del Sur which will front the project. It is anticipated that those plans will be approved prior to this project as such those improvements are reflected as "existing" for this project. The existing condition analysis analyzes three basins as shown on Exhibit B- Existing condition Drainage Basin Map.

Sub-basin 1:
The western edge of the site along the top ridge of the finger canyon of sub-basin 2. The runoff in this sub-basin drains to the north. An approximately 0.03 acres area drains from offsite through the project site. The peak runoff experienced on sub-basin 1 is 1.43 cfs.

Sub-basin 2:
The majority of the site, which sits over another finger canyon of Deer Canyon, which drains to the north. An approximately 1.12 acres area drains from offsite through the project site. The peak runoff experienced on sub-basin 2 is 10.56 cfs.

Sub-basin 3:
In its current state, the eastern edge of the site along the proposed extension of Camino Del Sur drains to the north into one of Deer Canyon's finger canyons. An approximately 0.10 acres area drains from offsite through the project site. The peak runoff experienced on sub-basin 3 is 2.22 cfs.

Runoff calculations for each sub-basin are tabulated below:

Basin	Area (SF)	Area (Acres)	C	Length (ft)	Upper Elev. (ft)	Lower Elev. (ft)	Slope (%)	Tc (min)	Intensity (in/hr)	Q_{100} (cfs)
1	52631	1.208	0.45	770	415	366	6.36%	17.53	2.63	1.43
2	368302	8.455	0.45	890	419	323	10.79%	15.81	2.78	10.56
3	77861	1.787	0.45	810	413	340	9.01%	16.01	2.75	2.22
									Total Q	**14.20**

All runoff from the site flows through the finger canyons prior to joining additional offsite flows in Deer Canyon. Results from the SSA analysis can be found in Exhibit C-Existing Condition SSA Analysis Results. The total runoff experienced from the site is 14.20 cfs in the existing condition.

Proposed Condition

The proposed condition analysis analyzes twenty-one basins as shown on Exhibit D-Proposed Condition Basin Map. The runoff from each basin is collected, routed, and discharged to the finger canyon at the north of the property. Typically, runoff will be directed to biofiltration basins that will have an impermeable liner with perforated sub-drain and an overflow structure bypass. This drainage study will assume a flow through condition utilizing the overflow bypass for sizing of the storm drain pipe, the treatment will be discussed in the WQTR for this project.

Development of The Preserve at Torrey Highlands site will include the construction of 3 office buildings, a parking structure, a fitness center, and a café. Per the City of San Diego Drainage Design Manual, a developed condition runoff coefficient of 0.85 was chosen for this analysis, which corresponds to a Commercial land use (see Appendix III).

Runoff calculations for each sub-basin are tabulated below:

Basin	Area (sf)	Area (ac)	C	Tc (min)	Intensity (in/hr)	Q100 (cfs)
1	21057	0.483	0.85	5	4.4	1.81
2	8944	0.205	0.45	5	4.4	0.41
3	6169	0.142	0.45	5	4.4	0.28
4	3527	0.081	0.85	5	4.4	0.30
5	6595	0.151	0.45	5	4.4	0.30
6	5183	0.119	0.85	5	4.4	0.45
7	19516	0.448	0.85	5	4.4	1.68
8	30570	0.702	0.85	5	4.4	2.62
9	70348	1.615	0.85	5	4.4	6.04
10	4060	0.093	0.85	5	4.4	0.35
11	10374	0.238	0.85	5	4.4	0.89
12	30060	0.690	0.85	5	4.4	2.58
13	755	0.017	0.85	5	4.4	0.06
14	25039	0.575	0.85	5	4.4	2.15
15	16106	0.370	0.45	5	4.4	0.73
16	10952	0.251	0.45	5	4.4	0.50
17	30060	0.690	0.85	5	4.4	2.58
18	9529	0.219	0.85	5	4.4	0.82
19	23521	0.540	0.85	5	4.4	2.02
20	2612	0.060	0.85	5	4.4	0.22
21	60077	1.379	0.85	5	4.4	5.16
22	61139	1.404	0.45	5	4.4	2.78
					Total Q	**34.73**

For all sub-basins the time of concentration is conservatively assumed to be 5 minutes due to onsite storm drains and roof drains, so the minimum time of concentration of 5 minutes was used. Intensity

values were determined using the City of San Diego Drainage Design Manual Rainfall Intensity Duration Frequency Curves (see Appendix IV).

Results from the SSA analysis can be found in Exhibit E-Proposed Condition SSA Analysis Results. The total of the runoff of each individual basin is 34.73 cfs, however due to routing time of the storm drain system, the total runoff from the site is 27.43 cfs.

Conclusions

As compared to the existing condition, the proposed condition will increase the quantity of runoff from the site for a 100-year storm event. However, the proposed development includes hydromodification features implemented in accordance with the California Regional Water Quality Control Board for the San Diego Region municipal storm water National Pollutant Discharge Elimination System permit (Municipal Separate Storm Sewer Systems [MS4] Permit), Order No. R9-2013-0001). The Water Quality Technical Report for this project discusses hydromodification more thoroughly.

The proposed storm drains will be sized as indicated in the Autodesk Storm and Sanitary Analysis to provide adequate capacity.

EXHIBIT “A” – Location Map

TORREY SANTA FE ROAD
CAMINO DEL SUR
(FUTURE)
(EXISTING)
CARMEL MOUNTAIN RD.
56
BLACK MOUNTAIN RD.
15
PROJECT LOCATION
E

EXHIBIT “B” – Existing Condition Drainage Basin Map

LEGEND

SUBDIVISION BOUNDARY

DRAINAGE BASIN LIMITS

PROJECT AREA

PROJECT AREA = 443,721 S.F.

IMPERVIOUS AREA

IMPERVIOUS AREA = 0 S.F. (0%)

PERVIOUS AREA

PERVIOUS AREA = 443,721 S.F. (100%)

Basin	Area (SF)	Area (Acres)	C	Length (ft)	Upper Elev. (ft)	Lower Elev. (ft)	Slope (%)	Tc (min)	Intensity (in/hr)	Q_{100} (cfs)
1	52631	1.208	0.45	770	415	366	6.36%	17.53	2.63	1.43
2	368302	8.455	0.45	890	419	323	10.79%	15.81	2.78	10.56
3	77861	1.787	0.45	810	413	340	9.01%	16.01	2.75	2.22
									Total Q	14.20

THE PRESERVE AT TORREY HILLS

EXISTING DRAINAGE MAP

NO.	DATE	BY	DESCRIPTION	NO.	DATE	BY	DESCRIPTION
6				12			
5				11			
4				10			
3	06/22/2016	RL	REVISION 2	9			
2	04/04/2016	RL	REVISION 1	8			
1	11/13/2015	RL	ORIGINAL	7			

Leppert Engineering CORPORATION
5190 Governor Drive, Suite 205, San Diego, Ca. 92122-2848
Phone: (858) 597-2001 Fax: (858) 597-2009

APPROVED BY ENGINEER OF WORK

REGISTRATION R C E 26283

FILE CODE TH 06.07-13.15

DATE

PREPARATION AND REVISION LOG

EXHIBIT “C” – Existing Condition SSA Analysis Results

Project Description

File Name	SSA Analysis - Existing.SPF

Project Options

Flow Units	CFS
Elevation Type	Elevation
Hydrology Method	Rational
Time of Concentration (TOC) Method	User-Defined
Link Routing Method	Hydrodynamic
Enable Overflow Ponding at Nodes	YES
Skip Steady State Analysis Time Periods	NO

Analysis Options

Start Analysis On	Nov 11, 2014	00:00:00
End Analysis On	Nov 12, 2014	00:00:00
Start Reporting On	Nov 11, 2014	00:00:00
Antecedent Dry Days	0	days
Runoff (Dry Weather) Time Step	0 01:00:00	days hh:mm:ss
Runoff (Wet Weather) Time Step	0 00:05:00	days hh:mm:ss
Reporting Time Step	0 00:05:00	days hh:mm:ss
Routing Time Step	30	seconds

Number of Elements

	Qty
Rain Gages	0
Subbasins	3
Nodes	3
Junctions	0
Outfalls	3
Flow Diversions	0
Inlets	0
Storage Nodes	0
Links	0
Channels	0
Pipes	0
Pumps	0
Orifices	0
Weirs	0
Outlets	0
Pollutants	0
Land Uses	0

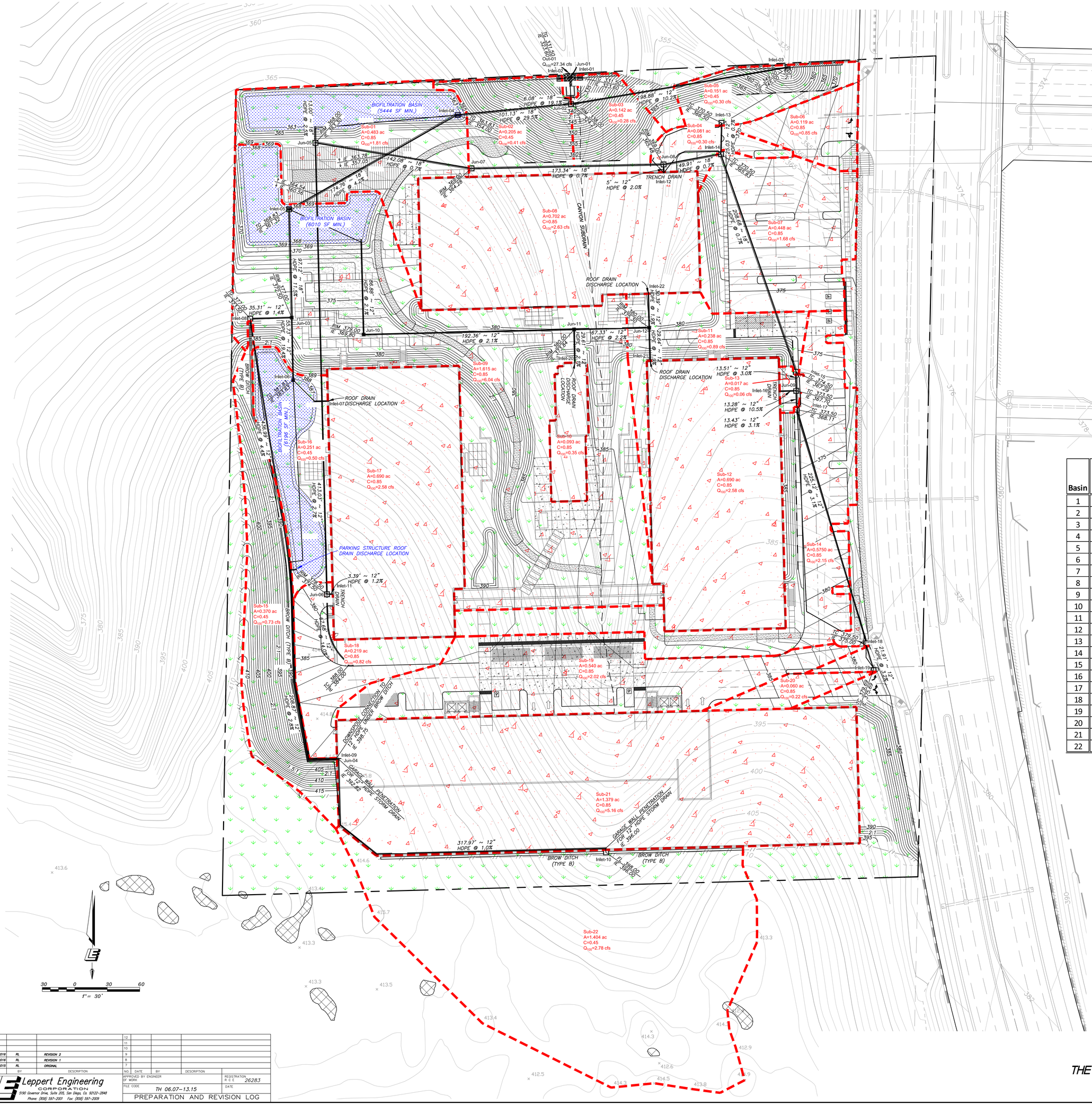
Rainfall Details

Return Period	100 year(s)

Subbasin Summary

SN	Subbasin ID	Area (ac)	Weighted Runoff Coefficient	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	Sub-01	1.21	0.4500	0.77	0.35	0.42	1.43	0 00:17:31
2	Sub-02	8.46	0.4500	0.73	0.33	2.78	10.56	0 00:15:48
3	Sub-03	1.79	0.4500	0.74	0.33	0.59	2.22	0 00:16:00

EXHIBIT “D” – Proposed Condition Drainage Basin Map



Basin	Area (sf)	Area (ac)	C	Tc (min)	Intensity (in/hr)	Q100 (cfs)
1	21057	0.483	0.85	5	4.4	1.81
2	8944	0.205	0.45	5	4.4	0.41
3	6169	0.142	0.45	5	4.4	0.28
4	3527	0.081	0.85	5	4.4	0.30
5	6595	0.151	0.45	5	4.4	0.30
6	5183	0.119	0.85	5	4.4	0.45
7	19516	0.448	0.85	5	4.4	1.68
8	30570	0.702	0.85	5	4.4	2.62
9	70348	1.615	0.85	5	4.4	6.04
10	4060	0.093	0.85	5	4.4	0.35
11	10374	0.238	0.85	5	4.4	0.89
12	30060	0.690	0.85	5	4.4	2.58
13	755	0.017	0.85	5	4.4	0.06
14	25039	0.575	0.85	5	4.4	2.15
15	16106	0.370	0.45	5	4.4	0.73
16	10952	0.251	0.45	5	4.4	0.50
17	30060	0.690	0.85	5	4.4	2.58
18	9529	0.219	0.85	5	4.4	0.82
19	23521	0.540	0.85	5	4.4	2.02
20	2612	0.060	0.85	5	4.4	0.22
21	60077	1.379	0.85	5	4.4	5.16
22	61139	1.404	0.45	5	4.4	2.78
					Total Q	34.73

LEGEND

SUBDIVISION BOUNDARY

DRAINAGE BASIN LIMITS

PROJECT AREA

PROJECT AREA = 443,721 S.F.

IMPERVIOUS AREA

IMPERVIOUS AREA = 254,152 S.F. (57%)

PERVIOUS AREA

PERVIOUS AREA = 189,569 S.F. (43%)

THE PRESERVE AT TORREY HIGHLANDS

PROPOSED DRAINAGE MAP

NO.	DATE	BY	DESCRIPTION
6			
5			
4			
3	06/22/2016	RL	REVISION 2
2	04/04/2016	RL	REVISION 1
1	11/13/2015	RL	ORIGINAL

NO.	DATE	BY	DESCRIPTION
12			
11			
10			
9			
8			
7			

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REGISTRATION R C E 26283

FILE CODE TH 06.07-13.15

DATE

PREPARATION AND REVISION LOG

EXHIBIT “E” – Proposed Condition SSA Analysis

Project Description

File Name	SSA Analysis - Proposed.SPF

Project Options

Flow Units	CFS
Elevation Type	Elevation
Hydrology Method	Rational
Time of Concentration (TOC) Method	User-Defined
Link Routing Method	Hydrodynamic
Enable Overflow Ponding at Nodes	YES
Skip Steady State Analysis Time Periods	NO

Analysis Options

Start Analysis On	Mar 15, 2016	00:00:00
End Analysis On	Mar 16, 2016	00:00:00
Start Reporting On	Mar 15, 2016	00:00:00
Antecedent Dry Days	0	days
Runoff (Dry Weather) Time Step	0 01:00:00	days hh:mm:ss
Runoff (Wet Weather) Time Step	0 00:05:00	days hh:mm:ss
Reporting Time Step	0 00:05:00	days hh:mm:ss
Routing Time Step	30	seconds

Number of Elements

	Qty
Rain Gages	0
Subbasins	22
Nodes	35
Junctions	12
Outfalls	1
Flow Diversions	0
Inlets	22
Storage Nodes	0
Links	39
Channels	6
Pipes	33
Pumps	0
Orifices	0
Weirs	0
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

Return Period	100 year(s)

Subbasin Summary

SN	Subbasin ID	Area (ac)	Weighted Runoff Coefficient	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	Sub-01	0.48	0.8500	0.37	0.31	0.15	1.81	0 00:05:00
2	Sub-02	0.21	0.4500	0.37	0.17	0.03	0.41	0 00:05:00
3	Sub-03	0.14	0.4500	0.37	0.17	0.02	0.28	0 00:05:00
4	Sub-04	0.08	0.8500	0.37	0.31	0.03	0.30	0 00:05:00
5	Sub-05	0.15	0.4500	0.37	0.17	0.02	0.30	0 00:05:00
6	Sub-06	0.12	0.8500	0.37	0.31	0.04	0.45	0 00:05:00
7	Sub-07	0.45	0.8500	0.37	0.31	0.14	1.68	0 00:05:00
8	Sub-08	0.70	0.8500	0.37	0.31	0.22	2.63	0 00:05:00
9	Sub-09	1.62	0.8500	0.37	0.31	0.50	6.04	0 00:05:00
10	Sub-10	0.09	0.8500	0.37	0.31	0.03	0.35	0 00:05:00
11	Sub-11	0.24	0.8500	0.37	0.31	0.07	0.89	0 00:05:00
12	Sub-12	0.69	0.8500	0.37	0.31	0.22	2.58	0 00:05:00
13	Sub-13	0.02	0.8500	0.37	0.31	0.01	0.06	0 00:05:00
14	Sub-14	0.58	0.8500	0.37	0.31	0.18	2.15	0 00:05:00
15	Sub-15	0.37	0.4500	0.37	0.17	0.06	0.73	0 00:05:00
16	Sub-16	0.25	0.4500	0.37	0.17	0.04	0.50	0 00:05:00
17	Sub-17	0.69	0.8500	0.37	0.31	0.22	2.58	0 00:05:00
18	Sub-18	0.22	0.8500	0.37	0.31	0.07	0.82	0 00:05:00
19	Sub-19	0.54	0.8500	0.37	0.31	0.17	2.02	0 00:05:00
20	Sub-20	0.06	0.8500	0.37	0.31	0.02	0.22	0 00:05:00
21	Sub-21	1.38	0.8500	0.37	0.31	0.43	5.16	0 00:05:00
22	Sub-22	1.40	0.4500	0.37	0.17	0.23	2.78	0 00:05:00

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft²)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	Jun-01	Junction	323.05	369.00	0.00	0.00	0.00	27.43	324.43	0.00	44.57	0 00:00	0.00	0.00
2	Jun-02	Junction	324.21	338.00	0.00	0.00	0.00	26.98	329.32	0.00	8.68	0 00:00	0.00	0.00
3	Jun-03	Junction	372.50	377.00	0.00	6.00	0.00	10.35	373.05	0.00	3.95	0 00:00	0.00	0.00
4	Jun-04	Junction	392.82	396.82	0.00	389.20	0.00	2.62	393.22	0.00	3.60	0 00:00	0.00	0.00
5	Jun-05	Junction	363.30	368.00	0.00	6.00	0.00	7.25	364.30	0.00	3.70	0 00:00	0.00	0.00
6	Jun-06	Junction	374.50	378.50	0.00	6.00	0.00	0.81	374.74	0.00	3.76	0 00:00	0.00	0.00
7	Jun-07	Junction	364.28	369.00	0.00	6.00	0.00	6.72	365.42	0.00	3.58	0 00:00	0.00	0.00
8	Jun-08	Junction	365.48	369.00	0.00	6.00	0.00	6.73	366.58	0.00	2.42	0 00:00	0.00	0.00
9	Jun-09	Junction	367.70	373.50	0.00	6.00	0.00	4.12	368.61	0.00	4.89	0 00:00	0.00	0.00
10	Jun-10	Junction	369.80	379.00	0.00	6.00	0.00	5.06	370.91	0.00	8.09	0 00:00	0.00	0.00
11	Jun-11	Junction	373.84	380.00	0.00	6.00	0.00	5.19	374.76	0.00	5.24	0 00:00	0.00	0.00
12	Jun-12	Junction	375.30	380.00	0.00	6.00	0.00	5.12	376.52	0.00	3.48	0 00:00	0.00	0.00
13	Out-01	Outfall	323.00					27.43	324.25					

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Average Slope	Diameter or Height	Manning's Roughness	Peak Flow	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged	Reported Condition
					(ft)	(ft)	(ft)	(%)	(in)		(cfs)	(cfs)		(ft/sec)	(ft)		(min)	
1	Link-02	Pipe	Inlet-01	Jun-01	5.00	323.60	323.55	1.0000	12.000	0.0130	0.28	3.56	0.08	1.88	0.85	0.85	0.00	Calculated
2	Link-03	Pipe	Inlet-02	Jun-01	5.00	323.60	323.55	1.0000	12.000	0.0130	0.41	3.56	0.11	2.07	0.85	0.85	0.00	Calculated
3	Link-04	Pipe	Jun-02	Jun-01	6.08	324.21	323.05	19.0800	18.000	0.0130	26.98	45.88	0.59	15.48	1.44	0.96	0.00	Calculated
4	Link-05	Pipe	Inlet-03	Jun-02	198.88	345.00	324.71	10.2000	12.000	0.0130	0.29	11.38	0.03	3.86	0.55	0.55	0.00	Calculated
5	Link-06	Pipe	Inlet-04	Jun-02	101.13	354.00	324.21	29.4600	18.000	0.0130	26.76	57.01	0.47	18.81	1.13	0.75	0.00	Calculated
6	Link-07	Pipe	Inlet-05	Inlet-04	174.76	361.32	354.00	4.1900	18.000	0.0130	18.71	21.50	0.87	14.39	1.13	0.75	0.00	Calculated
7	Link-08	Pipe	Jun-03	Inlet-05	97.12	372.50	361.32	11.5100	18.000	0.0130	10.35	35.64	0.29	8.03	1.03	0.68	0.00	Calculated
8	Link-09	Pipe	Inlet-06	Jun-03	55.73	383.83	373.00	19.4300	12.000	0.0130	8.01	15.71	0.51	18.32	0.54	0.54	0.00	Calculated
9	Link-10	Pipe	Inlet-07	Inlet-06	12.34	384.08	383.83	2.0300	12.000	0.0130	2.57	5.07	0.51	4.90	0.63	0.63	0.00	Calculated
10	Link-11	Pipe	Inlet-09	Inlet-06	208.87	398.75	387.00	5.6300	12.000	0.0130	5.00	8.45	0.59	10.92	0.57	0.57	0.00	Calculated
11	Link-12	Pipe	Inlet-08	Jun-03	35.31	373.50	373.00	1.4200	12.000	0.0130	2.92	4.24	0.69	5.07	0.69	0.69	0.00	Calculated
12	Link-13	Pipe	Jun-04	Inlet-08	436.99	392.82	373.50	4.4200	12.000	0.0130	2.50	7.49	0.33	5.52	0.58	0.58	0.00	Calculated
13	Link-14	Pipe	Inlet-10	Jun-04	317.97	396.00	392.82	1.0000	12.000	0.0130	2.62	3.56	0.73	5.78	0.56	0.56	0.00	Calculated
14	Link-15	Pipe	Jun-05	Inlet-04	12.00	363.30	363.00	2.5000	18.000	0.0130	7.11	16.61	0.43	6.97	0.84	0.56	0.00	Calculated
15	Link-16	Pipe	Jun-06	Jun-05	413.03	374.50	363.80	2.5900	12.000	0.0130	0.74	5.73	0.13	4.50	0.36	0.36	0.00	Calculated
16	Link-17	Pipe	Inlet-11	Jun-06	3.39	374.54	374.50	1.1800	12.000	0.0130	0.81	3.87	0.21	3.65	0.33	0.33	0.00	Calculated
17	Link-18	Pipe	Jun-10	Inlet-05	85.88	369.80	368.00	2.1000	12.000	0.0130	4.87	5.16	0.94	6.98	0.88	0.88	0.00	Calculated
18	Link-19	Pipe	Jun-11	Jun-10	192.36	373.84	369.80	2.1000	12.000	0.0130	5.06	5.16	0.98	6.79	0.95	0.95	0.00	Calculated
19	Link-20	Pipe	Inlet-20	Jun-11	29.61	374.46	373.84	2.0900	12.000	0.0130	0.50	5.16	0.10	2.21	0.62	0.62	0.00	Calculated
20	Link-21	Pipe	Jun-12	Jun-11	67.33	375.30	373.84	2.1700	12.000	0.0130	4.83	5.25	0.92	6.46	0.96	0.96	0.00	Calculated
21	Link-22	Pipe	Inlet-21	Jun-12	29.64	375.87	375.30	1.9200	12.000	0.0130	2.54	4.94	0.51	3.73	0.86	0.86	0.00	Calculated
22	Link-23	Pipe	Inlet-22	Jun-12	30.39	375.89	375.30	1.9400	12.000	0.0130	2.59	4.96	0.52	3.79	0.86	0.86	0.00	Calculated
23	Link-24	Pipe	Jun-07	Jun-05	142.08	364.28	363.30	0.6900	18.000	0.0130	6.62	8.72	0.76	4.94	1.06	0.71	0.00	Calculated
24	Link-25	Pipe	Jun-08	Jun-07	173.34	365.48	364.28	0.6900	18.000	0.0130	6.72	8.74	0.77	4.83	1.11	0.74	0.00	Calculated
25	Link-26	Pipe	Inlet-12	Jun-08	5.00	366.08	365.98	2.0000	12.000	0.0130	0.26	5.04	0.05	2.61	0.55	0.55	0.00	Calculated
26	Link-27	Pipe	Inlet-14	Jun-08	49.91	365.83	365.48	0.7000	18.000	0.0130	6.49	8.80	0.74	4.44	1.16	0.78	0.00	Calculated
27	Link-28	Pipe	Inlet-13	Inlet-14	25.03	366.50	366.33	0.6800	12.000	0.0130	0.37	2.94	0.12	2.10	0.65	0.65	0.00	Calculated
28	Link-29	Pipe	Inlet-15	Inlet-14	208.68	367.29	365.83	0.7000	18.000	0.0130	4.86	8.79	0.55	3.88	1.01	0.68	0.00	Calculated
29	Link-30	Pipe	Jun-09	Inlet-15	13.51	367.70	367.29	3.0300	12.000	0.0130	4.11	6.21	0.66	5.77	0.85	0.85	0.00	Calculated
30	Link-31	Pipe	Inlet-16	Jun-09	13.28	369.09	367.70	10.4700	12.000	0.0130	0.06	11.53	0.01	0.76	0.48	0.48	0.00	Calculated
31	Link-32	Pipe	Inlet-17	Jun-09	13.43	368.11	367.70	3.0500	12.000	0.0130	4.06	6.23	0.65	5.30	0.94	0.94	0.00	Calculated
32	Link-33	Pipe	Inlet-18	Inlet-17	225.12	375.00	368.11	3.0600	12.000	0.0130	2.17	6.23	0.35	3.94	0.69	0.69	0.00	Calculated
33	Link-34	Pipe	Inlet-19	Inlet-18	21.91	375.69	375.00	3.1500	12.000	0.0130	0.22	6.32	0.03	1.30	0.27	0.27	0.00	Calculated
34	Link-01	Channel	Jun-01	Out-01	9.00	323.05	323.00	0.5600	63.000	0.0320	27.43	198.22	0.14	3.09	1.31	0.25	0.00	
35	Link-35	Channel	Inlet-13	Inlet-12	96.00	370.50	369.00	1.5600	6.000	0.0320	0.00	8.10	0.00	0.00	0.00	0.00	0.00	
36	Link-36	Channel	Inlet-14	Inlet-12	61.12	370.50	369.00	2.4500	6.000	0.0320	0.00	10.15	0.00	0.00	0.00	0.00	0.00	
37	Link-37	Channel	Inlet-15	Inlet-17	36.70	374.50	373.50	2.7200	6.000	0.0320	0.00	10.69	0.00	0.00	0.00	0.00	0.00	
38	Link-38	Channel	Inlet-18	Inlet-17	249.85	379.50	373.50	2.4000	6.000	0.0320	0.00	10.04	0.00	0.00	0.00	0.00	0.00	
39	Link-39	Channel	Inlet-19	Inlet-18	23.18	0.00	375.00	-1617.7700	6.000	0.0320	0.00	29.13	0.00	0.00	0.20	0.41	0.00	

Inlet Summary

SN	Element ID	Inlet Manufacturer	Manufacturer Part Number	Inlet Location	Number of Inlets	Catchbasin Invert Elevation (ft)	Max (Rim) Elevation (ft)	Initial Water Elevation (ft)	Ponded Area (ft²)	Peak Flow (cfs)	Peak Flow Intercepted by Inlet (cfs)	Peak Flow Bypassing Inlet (cfs)	Inlet Efficiency during Peak Flow (%)	Allowable Spread (ft)	Max Gutter Spread during Peak Flow (ft)	Max Gutter Water Elev. during Peak Flow (ft)
1	Inlet-01	FHWA HEC-22 GENERIC	N/A	On Sag	1	323.60	331.50	0.00	10.00	0.28	N/A	N/A	N/A	10.00	0.36	331.58
2	Inlet-02	FHWA HEC-22 GENERIC	N/A	On Sag	1	323.60	331.50	0.00	10.00	0.41	N/A	N/A	N/A	10.00	0.53	331.61
3	Inlet-03	FHWA HEC-22 GENERIC	N/A	On Sag	1	345.00	349.00	0.00	10.00	0.30	N/A	N/A	N/A	10.00	0.39	349.08
4	Inlet-04	FHWA HEC-22 GENERIC	N/A	On Sag	1	354.00	363.83	0.00	10.00	1.81	N/A	N/A	N/A	10.00	4.41	364.17
5	Inlet-05	FHWA HEC-22 GENERIC	N/A	On Sag	1	361.32	368.83	0.00	10.00	6.04	N/A	N/A	N/A	10.00	16.51	369.41
6	Inlet-06	FHWA HEC-22 GENERIC	N/A	On Sag	1	383.83	387.83	0.00	10.00	0.50	N/A	N/A	N/A	10.00	0.64	387.97
7	Inlet-07	FHWA HEC-22 GENERIC	N/A	On Sag	1	384.08	388.08	0.00	10.00	2.58	N/A	N/A	N/A	10.00	7.03	388.47
8	Inlet-08	FHWA HEC-22 GENERIC	N/A	On Sag	1	373.50	377.00	0.00	10.00	0.73	N/A	N/A	N/A	10.00	0.95	377.20
9	Inlet-09	FHWA HEC-22 GENERIC	N/A	On Sag	1	398.75	402.75	0.00	10.00	5.16	N/A	N/A	N/A	10.00	14.32	403.29
10	Inlet-10	FHWA HEC-22 GENERIC	N/A	On Sag	1	396.00	398.00	0.00	10.00	2.78	N/A	N/A	N/A	10.00	7.68	398.40
11	Inlet-11	FHWA HEC-22 GENERIC	N/A	On Sag	1	374.54	378.54	0.00	10.00	0.82	N/A	N/A	N/A	10.00	6.36	378.87
12	Inlet-12	FHWA HEC-22 GENERIC	N/A	On Sag	1	365.58	369.00	0.00	10.00	0.30	N/A	N/A	N/A	10.00	0.39	369.08
13	Inlet-13	FHWA HEC-22 GENERIC	N/A	On Grade	1	366.50	370.50	0.00	N/A	0.45	0.45	0.00	100.00	10.00	3.69	370.65
14	Inlet-14	FHWA HEC-22 GENERIC	N/A	On Grade	1	365.83	370.50	0.00	N/A	1.68	1.68	0.00	100.00	10.00	7.91	370.74
15	Inlet-15	FHWA HEC-22 GENERIC	N/A	On Grade	1	367.29	374.50	0.00	N/A	0.89	0.89	0.00	100.00	10.00	5.72	374.70
16	Inlet-16	FHWA HEC-22 GENERIC	N/A	On Sag	1	369.09	373.50	0.00	10.00	0.06	N/A	N/A	N/A	10.00	0.08	373.52
17	Inlet-17	FHWA HEC-22 GENERIC	N/A	On Sag	1	368.11	373.50	0.00	10.00	2.15	N/A	N/A	N/A	10.00	15.26	374.04
18	Inlet-18	FHWA HEC-22 GENERIC	N/A	On Grade	1	375.00	379.50	0.00	N/A	2.02	2.02	0.00	100.00	10.00	8.62	379.76
19	Inlet-19	FHWA HEC-22 GENERIC	N/A	On Grade	1	375.69	379.69	0.00	N/A	0.22	0.22	0.00	98.29	10.00	1.86	379.76
20	Inlet-20	FHWA HEC-22 GENERIC	N/A	On Sag	1	374.46	378.46	0.00	10.00	0.35	N/A	N/A	N/A	10.00	0.45	378.56
21	Inlet-21	FHWA HEC-22 GENERIC	N/A	On Sag	1	375.87	379.25	0.00	10.00	2.58	N/A	N/A	N/A	10.00	7.03	379.64
22	Inlet-22	FHWA HEC-22 GENERIC	N/A	On Sag	1	375.89	379.89	0.00	10.00	2.63	N/A	N/A	N/A	10.00	7.18	380.28

Junction Input

SN	Element ID	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Ground/Rim (Max) Offset (ft)	Initial Water Elevation (ft)	Initial Water Depth (ft)	Surcharge Elevation (ft)	Surcharge Depth (ft)	Ponded Area (ft²)	Minimum Pipe Cover (in)
1	Jun-01	323.05	369.00	45.95	0.00	-323.05	0.00	-369.00	0.00	0.00
2	Jun-02	324.21	338.00	13.79	0.00	-324.21	0.00	-338.00	0.00	0.00
3	Jun-03	372.50	377.00	4.50	0.00	-372.50	6.00	-371.00	0.00	0.00
4	Jun-04	392.82	396.82	4.00	0.00	-392.82	389.20	-7.62	0.00	0.00
5	Jun-05	363.30	368.00	4.70	0.00	-363.30	6.00	-362.00	0.00	0.00
6	Jun-06	374.50	378.50	4.00	0.00	-374.50	6.00	-372.50	0.00	0.00
7	Jun-07	364.28	369.00	4.72	0.00	-364.28	6.00	-363.00	0.00	0.00
8	Jun-08	365.48	369.00	3.52	0.00	-365.48	6.00	-363.00	0.00	0.00
9	Jun-09	367.70	373.50	5.80	0.00	-367.70	6.00	-367.50	0.00	0.00
10	Jun-10	369.80	379.00	9.20	0.00	-369.80	6.00	-373.00	0.00	0.00
11	Jun-11	373.84	380.00	6.16	0.00	-373.84	6.00	-374.00	0.00	0.00
12	Jun-12	375.30	380.00	4.70	0.00	-375.30	6.00	-374.00	0.00	0.00

Junction Results

SN	Element ID	Peak Inflow (cfs)	Peak Lateral Inflow (cfs)	Max HGL Elevation Attained (ft)	Max HGL Depth Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Average HGL Elevation Attained (ft)	Average HGL Depth Attained (ft)	Time of Max HGL Occurrence (days hh:mm)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	Jun-01	27.43	0.00	324.43	1.38	0.00	44.57	323.17	0.12	0 00:06	0 00:00	0.00	0.00
2	Jun-02	26.98	0.00	329.32	5.11	0.00	8.68	324.53	0.32	0 00:06	0 00:00	0.00	0.00
3	Jun-03	10.35	0.00	373.05	0.55	0.00	3.95	372.55	0.05	0 00:05	0 00:00	0.00	0.00
4	Jun-04	2.62	0.00	393.22	0.40	0.00	3.60	392.85	0.03	0 00:06	0 00:00	0.00	0.00
5	Jun-05	7.25	0.00	364.30	1.00	0.00	3.70	363.38	0.08	0 00:07	0 00:00	0.00	0.00
6	Jun-06	0.81	0.00	374.74	0.24	0.00	3.76	374.52	0.02	0 00:05	0 00:00	0.00	0.00
7	Jun-07	6.72	0.00	365.42	1.14	0.00	3.58	364.37	0.09	0 00:06	0 00:00	0.00	0.00
8	Jun-08	6.73	0.00	366.58	1.10	0.00	2.42	365.57	0.09	0 00:06	0 00:00	0.00	0.00
9	Jun-09	4.12	0.00	368.61	0.91	0.00	4.89	367.77	0.07	0 00:05	0 00:00	0.00	0.00
10	Jun-10	5.06	0.00	370.91	1.11	0.00	8.09	369.87	0.07	0 00:06	0 00:00	0.00	0.00
11	Jun-11	5.19	0.00	374.76	0.92	0.00	5.24	373.91	0.07	0 00:06	0 00:00	0.00	0.00
12	Jun-12	5.12	0.00	376.52	1.22	0.00	3.48	375.37	0.07	0 00:05	0 00:00	0.00	0.00

Channel Input

SN	Element ID	Length (ft)	Inlet Invert Elevation (ft)	Inlet Invert Offset (ft)	Outlet Invert Elevation (ft)	Outlet Invert Offset (ft)	Total Drop (ft)	Average Slope (%)	Shape	Height (ft)	Width (ft)	Manning's Roughness	Entrance Losses	Exit/Bend Losses	Additional Losses	Initial Flow (cfs)	Flap Gate
1	Link-01	9.00	323.05	0.00	323.00	0.00	0.05	0.5600	Rectangular	5.250	6.750	0.0320	0.2000	0.5000	0.0000	0.00	No
2	Link-35	96.00	370.50	4.00	369.00	3.42	1.50	1.5600	Rectangular	0.500	5.000	0.0320	0.2000	0.5000	0.0000	0.00	No
3	Link-36	61.12	370.50	4.67	369.00	3.42	1.50	2.4500	Rectangular	0.500	5.000	0.0320	0.2000	0.5000	0.0000	0.00	No
4	Link-37	36.70	374.50	7.21	373.50	5.39	1.00	2.7200	Rectangular	0.500	5.000	0.0320	0.2000	0.5000	0.0000	0.00	No
5	Link-38	249.85	379.50	4.50	373.50	5.39	6.00	2.4000	Rectangular	0.500	5.000	0.0320	0.2000	0.5000	0.0000	0.00	No
6	Link-39	23.18	0.00	-375.69	375.00	0.00	-375.00	-1617.7700	Rectangular	0.500	5.000	0.0320	0.5000	0.5000	0.0000	0.00	No

Channel Results

SN	Element ID	Peak Flow (cfs)	Time of Peak Flow Occurrence (days hh:mm)	Design Flow Capacity (cfs)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (ft/sec)	Travel Time (min)	Peak Flow Depth (ft)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Froude Number	Reported Condition
1	Link-01	27.43	0 00:06	198.22	0.14	3.09	0.05	1.31	0.25	0.00		
2	Link-35	0.00	0 00:00	8.10	0.00	0.00		0.00	0.00	0.00		
3	Link-36	0.00	0 00:00	10.15	0.00	0.00		0.00	0.00	0.00		
4	Link-37	0.00	0 00:00	10.69	0.00	0.00		0.00	0.00	0.00		
5	Link-38	0.00	0 00:05	10.04	0.00	0.00		0.00	0.00	0.00		
6	Link-39	0.00	0 00:05	29.13	0.00	0.00		0.20	0.41	0.00		

Pipe Input

SN	Element ID	Length (ft)	Inlet Invert Elevation (ft)	Inlet Invert Offset (ft)	Outlet Invert Elevation (ft)	Outlet Invert Offset (ft)	Total Drop (ft)	Average Slope (%)	Pipe Shape	Pipe Diameter or Height (in)	Pipe Width (in)	Manning's Roughness	Entrance Losses	Exit/Bend Losses	Additional Losses	Initial Flow (cfs)	Flap Gate	No. of Barrels
1	Link-02	5.00	323.60	0.00	323.55	0.50	0.05	1.0000	CIRCULAR	12.000	12.000	0.0130	0.2000	1.0000	0.0000	0.00	No	1
2	Link-03	5.00	323.60	0.00	323.55	0.50	0.05	1.0000	CIRCULAR	12.000	12.000	0.0130	0.2000	1.0000	0.0000	0.00	No	1
3	Link-04	6.08	324.21	0.00	323.05	0.00	1.16	19.0800	CIRCULAR	18.000	18.000	0.0130	0.2000	1.0000	0.0000	0.00	No	1
4	Link-05	198.88	345.00	0.00	324.71	0.50	20.29	10.2000	CIRCULAR	12.000	12.000	0.0130	0.2000	0.9000	0.0000	0.00	No	1
5	Link-06	101.13	354.00	0.00	324.21	0.00	29.79	29.4600	CIRCULAR	18.000	18.000	0.0130	0.2000	0.9000	0.0000	0.00	No	1
6	Link-07	174.76	361.32	0.00	354.00	0.00	7.32	4.1900	CIRCULAR	18.000	18.000	0.0130	0.2000	0.6000	0.0000	0.00	No	1
7	Link-08	97.12	372.50	0.00	361.32	0.00	11.18	11.5100	CIRCULAR	18.000	18.000	0.0130	0.2000	0.6000	0.0000	0.00	No	1
8	Link-09	55.73	383.83	0.00	373.00	0.50	10.83	19.4300	CIRCULAR	12.000	12.000	0.0130	0.2000	0.5000	0.0000	0.00	No	1
9	Link-10	12.34	384.08	0.00	383.83	0.00	0.25	2.0300	CIRCULAR	12.000	12.000	0.0130	0.2000	0.5000	0.0000	0.00	No	1
10	Link-11	208.87	398.75	0.00	387.00	3.17	11.75	5.6300	CIRCULAR	12.000	12.000	0.0130	0.2000	0.5000	0.0000	0.00	No	1
11	Link-12	35.31	373.50	0.00	373.00	0.50	0.50	1.4200	CIRCULAR	12.000	12.000	0.0130	0.2000	0.7000	0.0000	0.00	No	1
12	Link-13	436.99	392.82	0.00	373.50	0.00	19.32	4.4200	CIRCULAR	12.000	12.000	0.0130	0.2000	0.8000	0.0000	0.00	No	1
13	Link-14	317.97	396.00	0.00	392.82	0.00	3.18	1.0000	CIRCULAR	12.000	12.000	0.0130	0.2000	0.8000	0.0000	0.00	No	1
14	Link-15	12.00	363.30	0.00	363.00	9.00	0.30	2.5000	CIRCULAR	18.000	18.000	0.0130	0.2000	0.5000	0.0000	0.00	No	1
15	Link-16	413.03	374.50	0.00	363.80	0.50	10.70	2.5900	CIRCULAR	12.000	12.000	0.0130	0.2000	0.5000	0.0000	0.00	No	1
16	Link-17	3.39	374.54	0.00	374.50	0.00	0.04	1.1800	CIRCULAR	12.000	12.000	0.0130	0.2000	0.8000	0.0000	0.00	No	1
17	Link-18	85.88	369.80	0.00	368.00	6.68	1.80	2.1000	CIRCULAR	12.000	12.000	0.0130	0.2000	0.5000	0.0000	0.00	No	1
18	Link-19	192.36	373.84	0.00	369.80	0.00	4.04	2.1000	CIRCULAR	12.000	12.000	0.0130	0.2000	0.8000	0.0000	0.00	No	1
19	Link-20	29.61	374.46	0.00	373.84	0.00	0.62	2.0900	CIRCULAR	12.000	12.000	0.0130	0.2000	0.7000	0.0000	0.00	No	1
20	Link-21	67.33	375.30	0.00	373.84	0.00	1.46	2.1700	CIRCULAR	12.000	12.000	0.0130	0.2000	0.5000	0.0000	0.00	No	1
21	Link-22	29.64	375.87	0.00	375.30	0.00	0.57	1.9200	CIRCULAR	12.000	12.000	0.0130	0.2000	0.8000	0.0000	0.00	No	1
22	Link-23	30.39	375.89	0.00	375.30	0.00	0.59	1.9400	CIRCULAR	12.000	12.000	0.0130	0.2000	0.8000	0.0000	0.00	No	1
23	Link-24	142.08	364.28	0.00	363.30	0.00	0.98	0.6900	CIRCULAR	18.000	18.000	0.0130	0.2000	0.8000	0.0000	0.00	No	1
24	Link-25	173.34	365.48	0.00	364.28	0.00	1.20	0.6900	CIRCULAR	18.000	18.000	0.0130	0.2000	0.6000	0.0000	0.00	No	1
25	Link-26	5.00	366.08	0.50	365.98	0.50	0.10	2.0000	CIRCULAR	12.000	12.000	0.0130	0.2000	0.6000	0.0000	0.00	No	1
26	Link-27	49.91	365.83	0.00	365.48	0.00	0.35	0.7000	CIRCULAR	18.000	18.000	0.0130	0.2000	0.6000	0.0000	0.00	No	1
27	Link-28	25.03	366.50	0.00	366.33	0.50	0.17	0.6800	CIRCULAR	12.000	12.000	0.0130	0.2000	0.9000	0.0000	0.00	No	1
28	Link-29	208.68	367.29	0.00	365.83	0.00	1.46	0.7000	CIRCULAR	18.000	18.000	0.0130	0.2000	0.9000	0.0000	0.00	No	1
29	Link-30	13.51	367.70	0.00	367.29	0.00	0.41	3.0300	CIRCULAR	12.000	12.000	0.0130	0.2000	0.5000	0.0000	0.00	No	1
30	Link-31	13.28	369.09	0.00	367.70	0.00	1.39	10.4700	CIRCULAR	12.000	12.000	0.0130	0.2000	0.7000	0.0000	0.00	No	1
31	Link-32	13.43	368.11	0.00	367.70	0.00	0.41	3.0500	CIRCULAR	12.000	12.000	0.0130	0.2000	0.5000	0.0000	0.00	No	1
32	Link-33	225.12	375.00	0.00	368.11	0.00	6.89	3.0600	CIRCULAR	12.000	12.000	0.0130	0.2000	0.6000	0.0000	0.00	No	1
33	Link-34	21.91	375.69	0.00	375.00	0.00	0.69	3.1500	CIRCULAR	12.000	12.000	0.0130	0.5000	0.5000	0.0000	0.00	No	1

Pipe Results

SN	Element ID	Peak Flow (cfs)	Time of Peak Flow Occurrence (days hh:mm)	Design Flow Capacity (cfs)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (ft/sec)	Travel Time (min)	Peak Flow Depth (ft)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Froude Number	Reported Condition
1	Link-02	0.28	0 00:04	3.56	0.08	1.88	0.04	0.85	0.85	0.00		Calculated
2	Link-03	0.41	0 00:05	3.56	0.11	2.07	0.04	0.85	0.85	0.00		Calculated
3	Link-04	26.98	0 00:06	45.88	0.59	15.48	0.01	1.44	0.96	0.00		Calculated
4	Link-05	0.29	0 00:05	11.38	0.03	3.86	0.86	0.55	0.55	0.00		Calculated
5	Link-06	26.76	0 00:06	57.01	0.47	18.81	0.09	1.13	0.75	0.00		Calculated
6	Link-07	18.71	0 00:06	21.50	0.87	14.39	0.20	1.13	0.75	0.00		Calculated
7	Link-08	10.35	0 00:05	35.64	0.29	8.03	0.20	1.03	0.68	0.00		Calculated
8	Link-09	8.01	0 00:05	15.71	0.51	18.32	0.05	0.54	0.54	0.00		Calculated
9	Link-10	2.57	0 00:05	5.07	0.51	4.90	0.04	0.63	0.63	0.00		Calculated
10	Link-11	5.00	0 00:05	8.45	0.59	10.92	0.32	0.57	0.57	0.00		Calculated
11	Link-12	2.92	0 00:06	4.24	0.69	5.07	0.12	0.69	0.69	0.00		Calculated
12	Link-13	2.50	0 00:06	7.49	0.33	5.52	1.32	0.58	0.58	0.00		Calculated
13	Link-14	2.62	0 00:05	3.56	0.73	5.78	0.92	0.56	0.56	0.00		Calculated
14	Link-15	7.11	0 00:07	16.61	0.43	6.97	0.03	0.84	0.56	0.00		Calculated
15	Link-16	0.74	0 00:05	5.73	0.13	4.50	1.53	0.36	0.36	0.00		Calculated
16	Link-17	0.81	0 00:05	3.87	0.21	3.65	0.02	0.33	0.33	0.00		Calculated
17	Link-18	4.87	0 00:06	5.16	0.94	6.98	0.21	0.88	0.88	0.00		Calculated
18	Link-19	5.06	0 00:06	5.16	0.98	6.79	0.47	0.95	0.95	0.00		Calculated
19	Link-20	0.50	0 00:06	5.16	0.10	2.21	0.22	0.62	0.62	0.00		Calculated
20	Link-21	4.83	0 00:05	5.25	0.92	6.46	0.17	0.96	0.96	0.00		Calculated
21	Link-22	2.54	0 00:05	4.94	0.51	3.73	0.13	0.86	0.86	0.00		Calculated
22	Link-23	2.59	0 00:05	4.96	0.52	3.79	0.13	0.86	0.86	0.00		Calculated
23	Link-24	6.62	0 00:07	8.72	0.76	4.94	0.48	1.06	0.71	0.00		Calculated
24	Link-25	6.72	0 00:06	8.74	0.77	4.83	0.60	1.11	0.74	0.00		Calculated
25	Link-26	0.26	0 00:05	5.04	0.05	2.61	0.03	0.55	0.55	0.00		Calculated
26	Link-27	6.49	0 00:06	8.80	0.74	4.44	0.19	1.16	0.78	0.00		Calculated
27	Link-28	0.37	0 00:05	2.94	0.12	2.10	0.20	0.65	0.65	0.00		Calculated
28	Link-29	4.86	0 00:05	8.79	0.55	3.88	0.90	1.01	0.68	0.00		Calculated
29	Link-30	4.11	0 00:05	6.21	0.66	5.77	0.04	0.85	0.85	0.00		Calculated
30	Link-31	0.06	0 00:05	11.53	0.01	0.76	0.29	0.48	0.48	0.00		Calculated
31	Link-32	4.06	0 00:05	6.23	0.65	5.30	0.04	0.94	0.94	0.00		Calculated
32	Link-33	2.17	0 00:05	6.23	0.35	3.94	0.95	0.69	0.69	0.00		Calculated
33	Link-34	0.22	0 00:05	6.32	0.03	1.30	0.28	0.27	0.27	0.00		Calculated

Inlet Input

SN	Element ID	Inlet Manufacturer	Manufacturer Part Number	Inlet Location	Number of Inlets	Catchbasin Invert Elevation (ft)	Max (Rim) Elevation (ft)	Inlet Depth (ft)	Initial Water Elevation (ft)	Initial Water Depth (ft)	Ponded Area (ft²)	Grate Clogging Factor (%)
1	Inlet-01	FHWA HEC-22 GENERIC	N/A	On Sag	1	323.60	331.50	7.90	0.00	0.00	10.00	0.00
2	Inlet-02	FHWA HEC-22 GENERIC	N/A	On Sag	1	323.60	331.50	7.90	0.00	0.00	10.00	0.00
3	Inlet-03	FHWA HEC-22 GENERIC	N/A	On Sag	1	345.00	349.00	4.00	0.00	0.00	10.00	0.00
4	Inlet-04	FHWA HEC-22 GENERIC	N/A	On Sag	1	354.00	363.83	9.83	0.00	0.00	10.00	0.00
5	Inlet-05	FHWA HEC-22 GENERIC	N/A	On Sag	1	361.32	368.83	7.51	0.00	0.00	10.00	0.00
6	Inlet-06	FHWA HEC-22 GENERIC	N/A	On Sag	1	383.83	387.83	4.00	0.00	0.00	10.00	0.00
7	Inlet-07	FHWA HEC-22 GENERIC	N/A	On Sag	1	384.08	388.08	4.00	0.00	0.00	10.00	0.00
8	Inlet-08	FHWA HEC-22 GENERIC	N/A	On Sag	1	373.50	377.00	3.50	0.00	0.00	10.00	0.00
9	Inlet-09	FHWA HEC-22 GENERIC	N/A	On Sag	1	398.75	402.75	4.00	0.00	0.00	10.00	0.00
10	Inlet-10	FHWA HEC-22 GENERIC	N/A	On Sag	1	396.00	398.00	2.00	0.00	0.00	10.00	0.00
11	Inlet-11	FHWA HEC-22 GENERIC	N/A	On Sag	1	374.54	378.54	4.00	0.00	0.00	10.00	0.00
12	Inlet-12	FHWA HEC-22 GENERIC	N/A	On Sag	1	365.58	369.00	3.42	0.00	0.00	10.00	0.00
13	Inlet-13	FHWA HEC-22 GENERIC	N/A	On Grade	1	366.50	370.50	4.00	0.00	0.00	N/A	0.00
14	Inlet-14	FHWA HEC-22 GENERIC	N/A	On Grade	1	365.83	370.50	4.67	0.00	0.00	N/A	0.00
15	Inlet-15	FHWA HEC-22 GENERIC	N/A	On Grade	1	367.29	374.50	7.21	0.00	0.00	N/A	0.00
16	Inlet-16	FHWA HEC-22 GENERIC	N/A	On Sag	1	369.09	373.50	4.41	0.00	0.00	10.00	0.00
17	Inlet-17	FHWA HEC-22 GENERIC	N/A	On Sag	1	368.11	373.50	5.39	0.00	0.00	10.00	0.00
18	Inlet-18	FHWA HEC-22 GENERIC	N/A	On Grade	1	375.00	379.50	4.50	0.00	0.00	N/A	0.00
19	Inlet-19	FHWA HEC-22 GENERIC	N/A	On Grade	1	375.69	379.69	4.00	0.00	0.00	N/A	0.00
20	Inlet-20	FHWA HEC-22 GENERIC	N/A	On Sag	1	374.46	378.46	4.00	0.00	0.00	10.00	0.00
21	Inlet-21	FHWA HEC-22 GENERIC	N/A	On Sag	1	375.87	379.25	3.38	0.00	0.00	10.00	0.00
22	Inlet-22	FHWA HEC-22 GENERIC	N/A	On Sag	1	375.89	379.89	4.00	0.00	0.00	10.00	0.00

Roadway & Gutter Input

SN	Element ID	Roadway Longitudinal Slope (ft/ft)	Roadway Cross Slope (ft/ft)	Roadway Manning's Roughness	Gutter Cross Slope (ft/ft)	Gutter Width (ft)	Gutter Depression (in)	Allowable Spread (ft)
1	Inlet-01	N/A	0.0200	0.0160	0.0620	2.00	0.0656	10.00
2	Inlet-02	N/A	0.0200	0.0160	0.0620	2.00	0.0656	10.00
3	Inlet-03	N/A	0.0200	0.0160	0.0620	2.00	0.0656	10.00
4	Inlet-04	N/A	0.0200	0.0160	0.0620	2.00	0.0656	10.00
5	Inlet-05	N/A	0.0200	0.0160	0.0620	2.00	0.0656	10.00
6	Inlet-06	N/A	0.0200	0.0160	0.0620	2.00	0.0656	10.00
7	Inlet-07	N/A	0.0200	0.0160	0.0620	2.00	0.0656	10.00
8	Inlet-08	N/A	0.0200	0.0160	0.0620	2.00	0.0656	10.00
9	Inlet-09	N/A	0.0200	0.0160	0.0620	2.00	0.0656	10.00
10	Inlet-10	N/A	0.0200	0.0160	0.0620	2.00	0.0656	10.00
11	Inlet-11	N/A	0.0200	0.0160	0.0620	2.00	0.0656	10.00
12	Inlet-12	N/A	0.0200	0.0160	0.0620	2.00	0.0656	10.00
13	Inlet-13	0.0100	0.0200	0.0160	0.0620	2.00	0.0656	10.00
14	Inlet-14	0.0100	0.0200	0.0160	0.0620	2.00	0.0656	10.00
15	Inlet-15	0.0100	0.0200	0.0160	0.0620	2.00	0.0656	10.00
16	Inlet-16	N/A	0.0200	0.0160	0.0620	2.00	0.0656	10.00
17	Inlet-17	N/A	0.0200	0.0160	0.0620	2.00	0.0656	10.00
18	Inlet-18	0.0100	0.0200	0.0160	0.0620	2.00	0.0656	10.00
19	Inlet-19	0.0100	0.0200	0.0160	0.0620	2.00	0.0656	10.00
20	Inlet-20	N/A	0.0200	0.0160	0.0620	2.00	0.0656	10.00
21	Inlet-21	N/A	0.0200	0.0160	0.0620	2.00	0.0656	10.00
22	Inlet-22	N/A	0.0200	0.0160	0.0620	2.00	0.0656	10.00

Inlet Results

SN	Element ID	Peak Flow (cfs)	Peak Lateral Inflow (cfs)	Peak Flow Intercepted by Inlet (cfs)	Peak Flow Bypassing Inlet (cfs)	Inlet Efficiency during Peak Flow (%)	Max Gutter Spread during Peak Flow (ft)	Max Gutter Water Elev. during Peak Flow (ft)	Max Gutter Water Depth during Peak Flow (ft)	Time of Max Depth Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	Inlet-01	0.28	0.28	N/A	N/A	N/A	0.36	331.58	0.08	0 00:06	0.00	0.00
2	Inlet-02	0.41	0.41	N/A	N/A	N/A	0.53	331.61	0.11	0 00:06	0.00	0.00
3	Inlet-03	0.30	0.30	N/A	N/A	N/A	0.39	349.08	0.08	0 00:05	0.00	0.00
4	Inlet-04	1.81	1.81	N/A	N/A	N/A	4.41	364.17	0.34	0 00:06	0.00	0.00
5	Inlet-05	6.04	6.04	N/A	N/A	N/A	16.51	369.41	0.58	0 00:06	0.00	0.00
6	Inlet-06	0.50	0.50	N/A	N/A	N/A	0.64	387.97	0.14	0 00:05	0.00	0.00
7	Inlet-07	2.58	2.58	N/A	N/A	N/A	7.03	388.47	0.39	0 00:05	0.00	0.00
8	Inlet-08	0.73	0.73	N/A	N/A	N/A	0.95	377.20	0.20	0 00:06	0.00	0.00
9	Inlet-09	5.16	5.16	N/A	N/A	N/A	14.32	403.29	0.54	0 00:05	0.00	0.00
10	Inlet-10	2.78	2.78	N/A	N/A	N/A	7.68	398.40	0.40	0 00:05	0.00	0.00
11	Inlet-11	0.82	0.82	N/A	N/A	N/A	6.36	378.87	0.33	0 00:01	0.00	0.00
12	Inlet-12	0.30	0.30	N/A	N/A	N/A	0.39	369.08	0.08	0 00:06	0.00	0.00
13	Inlet-13	0.45	0.45	0.45	0.00	100.00	3.69	370.65	0.15	0 00:06	0.00	0.00
14	Inlet-14	1.68	1.68	1.68	0.00	100.00	7.91	370.74	0.24	0 00:06	0.00	0.00
15	Inlet-15	0.89	0.89	0.89	0.00	100.00	5.72	374.70	0.20	0 00:05	0.00	0.00
16	Inlet-16	0.06	0.06	N/A	N/A	N/A	0.08	373.52	0.02	0 00:05	0.00	0.00
17	Inlet-17	2.15	2.15	N/A	N/A	N/A	15.26	374.04	0.54	0 00:05	0.00	0.00
18	Inlet-18	2.02	2.02	2.02	0.00	100.00	8.62	379.76	0.26	0 00:05	0.00	0.00
19	Inlet-19	0.22	0.22	0.22	0.00	98.29	1.86	379.76	0.07	0 00:05	0.00	0.00
20	Inlet-20	0.35	0.35	N/A	N/A	N/A	0.45	378.56	0.10	0 00:06	0.00	0.00
21	Inlet-21	2.58	2.58	N/A	N/A	N/A	7.03	379.64	0.39	0 00:05	0.00	0.00
22	Inlet-22	2.63	2.63	N/A	N/A	N/A	7.18	380.28	0.39	0 00:05	0.00	0.00

APPENDIX I – Rational Method: City of San Diego Drainage Design Manual

APPENDIX I

RATIONAL METHOD

Watersheds Less than 0.5 Square Mile

Method of Computing Runoff

Use the Rational Formula Q = CIA where:

Q is the peak rate of flow in cubic feet per second.

C is a runoff coefficient expressed as that percentage of rainfall which becomes surface runoff.

I is the average rainfall intensity in inches per hour for a storm duration equal to the time of concentration (T_c) of the contributing drainage area.

A is the drainage area in acres tributary to design point.

(1) Runoff Coefficient, C

Appendix I-A lists the estimated coefficients for urban areas.

For urban areas select an appropriate coefficient for each type of land use from Table, 2, Appendix I-A. Multiply this coefficient by the percentage of the total area included in that class. The sum of the products for all land uses in San Diego County is the weighted runoff coefficient.

(2) Rainfall Intensity, I

Intensity - duration - frequency curves applicable to all areas within San Diego County are given in Appendix I-B.

(3) Time of Concentration, Tc

The time of concentration is the time required for runoff to flow from the most remote part of the watershed to the outlet point under consideration.

APPENDIX II – Design Runoff: City of San Diego Drainage Design Manual

TABLE 2

RUNOFF COEFFICIENTS (RATIONAL METHOD)

DEVELOPED AREAS (URBAN)

Land Use	Coefficient, C Soil Type (1)
	D
Residential:	
Single Family	.55
Multi-Units	.70
Mobile Homes	.65
Rural (lots greater than 1/2 acre)	.45
Commercial (2) 80% Impervious	.85
Industrial (2) 90% Impervious	.95

NOTES:

(1) Type D soil to be used for all areas.

(2) Where actual conditions deviate significantly from the tabulated imperviousness values of 80% or 90%, the values given for coefficient C, may be revised by multiplying 80% or 90% by the ratio of actual imperviousness to the tabulated imperviousness. However, in no case shall the final coefficient be less than 0.50. For example: Consider commercial property on D soil.

Actual imperviousness = 50%

Tabulated imperviousness = 80%

Revised C $= \frac{50}{80} \times 0.85 = 0.53$

APPENDIX III – Runoff Coefficients: City of San Diego Drainage Design Manual

TABLE 2

RUNOFF COEFFICIENTS (RATIONAL METHOD)

DEVELOPED AREAS (URBAN)

Land Use	Coefficient, C Soil Type (1)
	D
Residential:	
Single Family	.55
Multi-Units	.70
Mobile Homes	.65
Rural (lots greater than 1/2 acre)	.45
Commercial (2) 80% Impervious	.85
Industrial (2) 90% Impervious	.95

NOTES:

(1) Type D soil to be used for all areas.

(2) Where actual conditions deviate significantly from the tabulated imperviousness values of 80% or 90%, the values given for coefficient C, may be revised by multiplying 80% or 90% by the ratio of actual imperviousness to the tabulated imperviousness. However, in no case shall the final coefficient be less than 0.50. For example: Consider commercial property on D soil.

Actual imperviousness = 50%

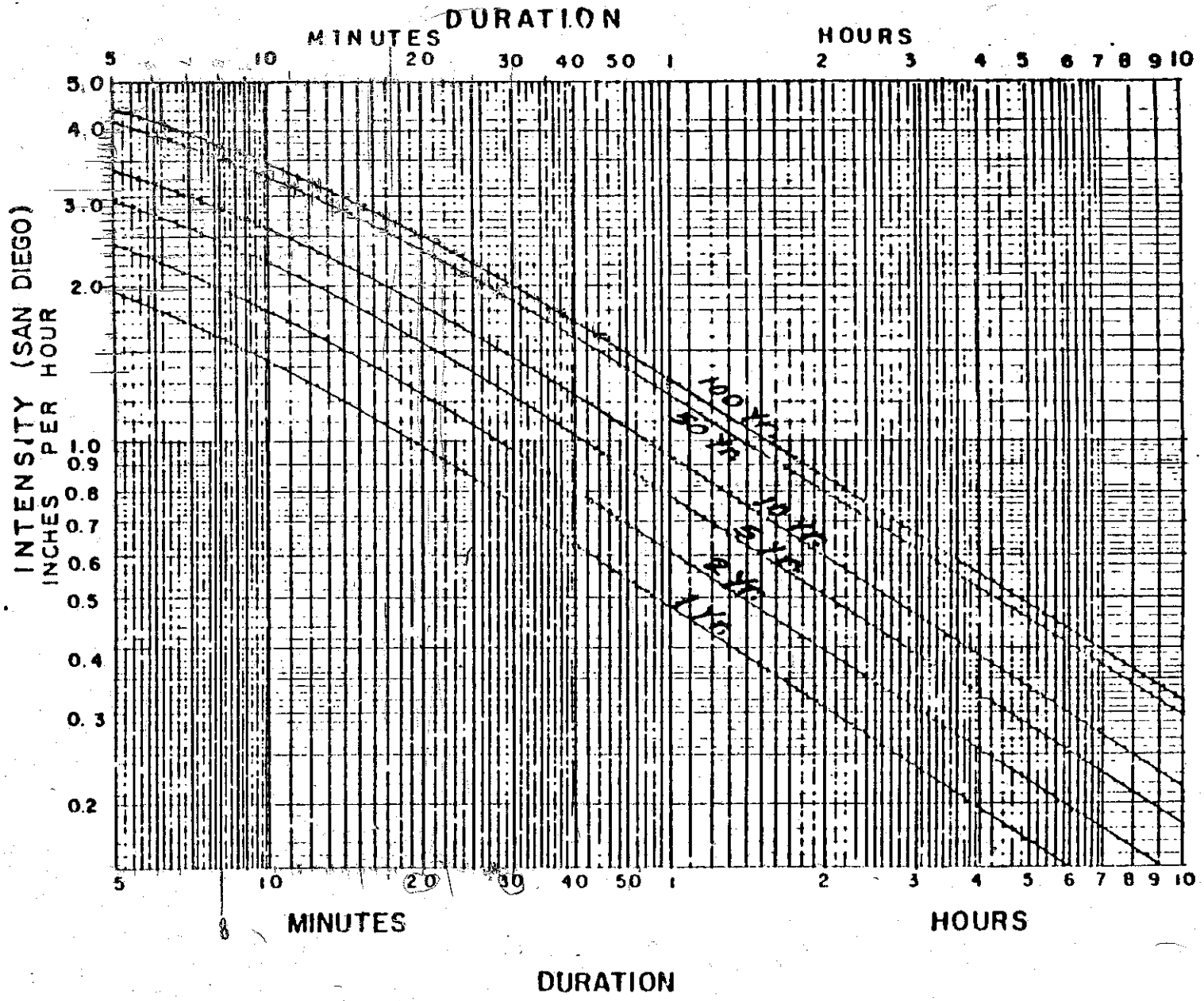
Tabulated imperviousness = 80%

Revised C $= \frac{50}{80} \times 0.85 = 0.53$

APPENDIX IV – Rainfall Intensity-Duration-Frequency Curves: City of San Diego Drainage Design Manual

ELEV.	FACTOR
0–1500	1.00
1500–3000	1.25
3000–4000	1.42
4000–5000	1.60
5000–6000	1.70
DESERT	1.25

To obtain correct intensity, multiply intensity on chart by factor for design elevation.



RAINFALL

INTENSITY-DURATION-FREQUENCY

CURVES

for

COUNTY OF SAN DIEGO

APPENDIX

I-B

APPENDIX N

Water Supply Assessment

2014000415

THE CITY OF SAN DIEGO

MEMORANDUM

DATE: September 30, 2016

TO: Elizabeth Shearer-Nguyen, Senior Planner, Development Services Planning Division

FROM: Shelby Gilmartin, Junior Engineer, Long-Range Planning & Water Resources Division Shelby Gilmartin

SUBJECT: Water Supply Assessment for the Preserve at Torrey Highlands Project (Project Tracking No. 401483/SAP No. 24005427)

In response to your request, please find attached a Water Supply Assessment (WSA) for the Preserve at Torrey Highlands Project (Project) approved by the Director of Public Utilities Department (Department).

The Department prepared this WSA to assess whether sufficient water supply is, or will be, available to meet the projected water demands of the Project. The findings verify that there is sufficient water supply to serve the existing water demands, projected water demands, and future water demands of the Project within the Department's water service area, in normal and dry year forecasts, during a 20-year projection.

Per California Water Code Section 10910, the formal adoption of the WSA is required by the San Diego City Council. To comply, the Department will be working with the City Council docketing office to schedule a public hearing to be determined for City Council adoption.

If you have any questions, please call me at (619) 533-5454.

SG/nn

Attachment: Water Supply Assessment Report, September 2016

cc: Ray Palmucci, Deputy City Attorney, Office of the City Attorney
Lan C. Wiborg, Deputy Director, Long-Range Planning & Water Resources Division
George Adrian, P.E., Program Manager, Long-Range Planning & Water Resources Division
Seevani Bista, P.E., Associate Engineer, Long-Range Planning & Water Resources Division
Will Zounes, Development Project Manager

RMU 6.8.4

WATER SUPPLY ASSESSMENT REPORT

Preserve at Torrey Highlands Project

Prepared by:

City of San Diego Public Utilities Department

Reviewed by:

9/29/16

Halla Razak, Director **Date**
Public Utilities Department

Prepared: August 2016

City of San Diego Public Utilities Department
Water Supply Assessment Report

Preserve at Torrey Highlands Project

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Section 1 - Purpose

On January 1, 2002, Senate Bill 610 (SB 610) and Senate Bill 221 (SB 221) took effect. The intent of SB 610 and SB 221 was to improve the link between information on water supply availability and certain land-use decisions made by cities and counties. Under SB 610 (codified in the Water Code beginning at Section 10910), a water supply assessment (WSA) must be furnished to cities and counties for inclusion in any environmental documentation of projects (defined in the Water Code) that propose to construct 500 or more residential units, or that will use an amount of water equivalent to what would be used by 500 residential units, and are subject to the California Environmental Quality Act (CEQA). Under SB 221, approval by a city or county of certain residential subdivisions requires an affirmative written verification of sufficient water supply or water supply verification (WSV).

Not every project that is subject to the requirements of SB 610 is also subject to the mandatory water verification of SB 221 (e.g., if subdivision map approval is not required). Conversely, not every project that is subject to the requirements of SB 221 must also obtain a SB 610 water supply assessment.

A foundational document for compliance for both SB 610 and SB 221 is the Urban Water Management Plan (UWMP) of the relevant water agency. Both of these statutes repeatedly identify the UWMP as a planning document that can be used by a water supplier to meet the standards set forth in both statutes. Thorough and complete UWMPs will allow water suppliers to use UWMPs as a foundation to fulfill the specific requirements of the two statutes. Cities, counties, water districts, property owners and developers utilize this document when planning for and proposing new projects. It is crucial that cities, counties and water suppliers work closely when developing and updating these planning documents. The City of San Diego's 2015 UWMP, which is used as the basis for this Report (WSA), was adopted by the San Diego City Council in June 2016.

The City of San Diego Development Services Department (DSD) requested that the City of San Diego Public Utilities Department (Department) prepare this WSA as part of the environmental review for the Preserve at Torrey Highlands Project (Project). A more detailed description of the Project is provided in Section 2 of this WSA. This WSA evaluates water supplies that are or will be available during normal, single-dry year, and multiple-dry water years during a 20-year projection to meet the projected demands of the Project, in addition to existing and planned future water demands of the Department. This WSA provides an assessment of the availability of sufficient water supplies for the Project only, and does not constitute approval of the Project.

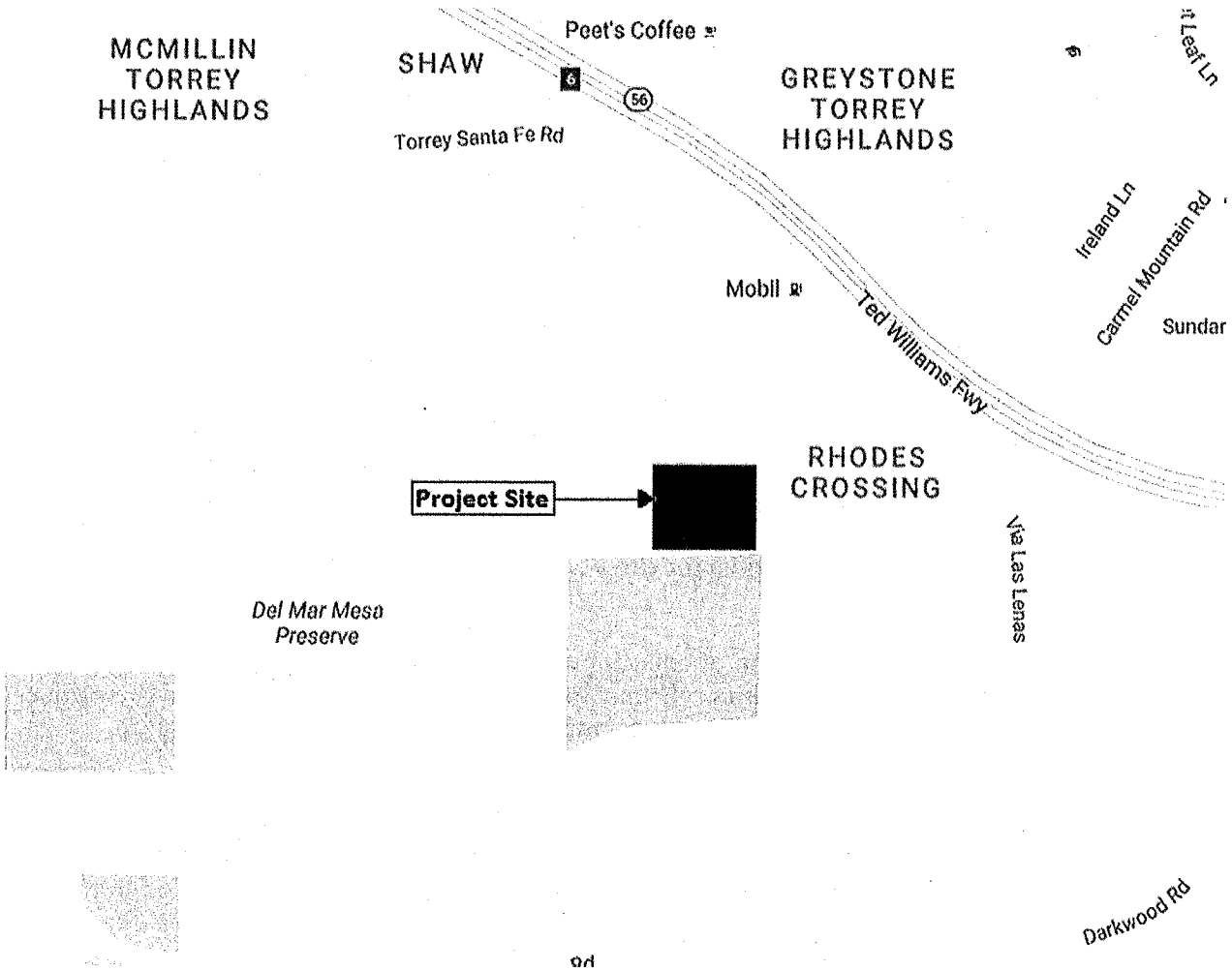
This WSA also includes identification of existing water supply entitlements, water rights, water service contracts, or agreements relevant to the identified water supply for the Project and quantities of water received in prior years pursuant to those entitlements, rights, contracts and agreements.

This Report has been prepared in compliance with the requirements under SB 610 by the Department in consultation with DSD, the San Diego County Water Authority (Water Authority) and the Metropolitan Water District of Southern California (MWD).

Section 2 - Project Description

The proposed Preserve at Torrey Highlands Project (Project) is located on 11.10 acres of vacant, undeveloped land. The site is located approximately one-quarter mile south of State Route (SR) 56 and along the west side of the planned extension of Camino Del Sur. The immediate surrounding land of the project site is presently vacant and undeveloped. The City's Multi-Habitat Preservation Area (MHPA) is adjacent to the project site on three sides, with a gas station located north of the site just south of the SR 56, while the SR 56 Bike Trail is located east of Camino Del Sur. Commercial and residential land uses are located both north and west of the project site. The project site can be accessed via two signalized driveways off Camino Del Sur. Presently, Camino Del Sur ends just south of SR 56 at Torrey Santa Fe Road. The extension of Camino Del Sur is part of a separate project, in which it will be designed as a four to six-lane major roadway connecting from its current location at Torrey Santa Fe Road to its intersection with Dormouse Road, north of Park Village Drive. The project site map is shown in Figure 2-1.

FIGURE 2-1
VICINITY MAP OF PROJECT



The Project involves the construction of a 450,000 square-foot commercial office development. Specifically, a three building commercial campus consisting of four story, five story, and six story buildings, respectively, and a one-level building for an onsite café (see Table 2-1). Beneath Commerical Building 2 there will be a one-level fitness center, of approximately 5,000 square feet. In additon, a one level subterranean parking structure, and an above-grade parking structure will be constructed, offering 89 surface spots, 241 subterranean spots, and 1,472 spots in a parking structure. Site improvements include, associated hardscape (surface parking, driveways, and walkways), public improvements, and landscaping improvements. The proposed landscaping materials are a mix of: groundcover, various grasses, shrubs, turf, and native shrubs.

TABLE 2-1
PROJECT SITE AREA USES

Building Type	Area (sq. ft.)	Employees	Parking Spots
Commercial Office Development Buildings	450,000	1,800	241
Parking Structure	437,690	n/a	1,472
Café	3,850	7	n/a
Fitness Center	5,000	5	n/a

The project intends to attain a Leadership in Energy and Environmental Design (LEED) Silver certification.

Section 3 - Findings

Water Assessment

Project: This Report identifies that the proposed water demand projections for the Project are included in the regional water resource planning documents of the City, Water Authority and MWD. Current and future water supplies, as well as actions necessary to develop the future water supplies, have been identified. This Report demonstrates that there will be sufficient water supplies available during normal, single-dry year, and multiple-dry water years over a 20-year projection to meet the unanticipated demands of the Project.

The Water Authority's 2015 UWMP provides for a comprehensive planning analysis at a regional level, and includes water use associated with accelerated forecasted residential development as part of its municipal and industrial sector demand projections. These housing units were identified by the San Diego Association of Government (SANDAG) land use plan in the course of its regional housing needs assessment, but are not yet included in existing general land use plans of local jurisdictions. The demand associated with accelerated forecasted residential development is intended to account for SANDAG's land-use development currently projected to occur between 2040 and 2050, but has the likely potential to occur on an accelerated schedule. SANDAG estimates that this accelerated forecasted residential development could occur within the planning horizon (2015 to 2040) of the 2015 UWMP. These units are not yet included in local jurisdictions' general plans, so their projected demands are incorporated at a regional level. When necessary, this additional demand increment, termed Accelerated Forecasted Growth, can be used by member agencies to meet the demands of development projects not identified in the general land use plans.

As demonstrated in Table 3-1 of this Report, prepared by the Department in compliance with the requirements of SB 610, using the City's and Water Authority's 2015 UWMP based upon San Diego Association of Governments (SANDAG) Series 13 Forecast land use, there is sufficient water planned to supply the Project's estimated annual average usage. The projected water demands of the Project are 127,219 gallons per day (GPD) or 142.5 acre feet per year (AFY). In the City's 2015 UWMP, the planned water demands of this project site are 3,960 GPD or 4.4 AFY in 2040. As such, the remaining portion, estimated to be 123,259 GPD or 138.1 AFY, is accounted for through the Accelerated Forecasted Growth demand increment of the Water Authority's 2015 UWMP (refer to Appendix A at the end of the report). As documented in the Water Authority's 2015 UWMP, the Water Authority is planning to meet future and existing demands which include the demand increment associated with the accelerated forecasted growth. The Water Authority will also assist its member agencies in tracking the certified Environmental Impact Reports (EIRs) provided by the agencies which include water supply assessments that utilize the accelerated forecasted growth demand increment, to demonstrate adequate supplies for the development (refer to Appendix B at the end of the report). In addition, the next update of the demand forecast for the Water Authority's 2015 UWMP will be based on SANDAG's most recently updated forecast, which will include the Project.

Existing and Future Developments Planned to occur by 2040: The City's 2015 UWMP demonstrates there will be sufficient water supplies available to meet demands for existing and planned future developments that are projected to occur by 2040. Based on a normal water supply year, the estimated water supply projected in five-year increments for a 20-year projection

will meet the City's projected water demand of 200,984 acre-feet[A] (AF) in 2020 to 273,408 AF in 2040 (**Table 6-6**) for these developments. Similarly, based on a single-dry year forecast (**Table 6-7**), the estimated water supply will meet the projected water demand of 290,292 AF (2040). Based on a multiple-dry year, third year supply (**Table 6-8**), the estimated water supply will meet the projected demands of; 208,665 AF (2020); 251,402 AF (2025); 275,139 AF (2030); 284,412 AF (2035); and 284,058 AF (2040).

TABLE 3-1
WATER DEMAND ANALYSIS

Planned Water Demands for the Project Site per the 2015 UWMP				
Category	**Area (sq. ft.)**	**Quantity (Units / Employees)**	**Estimated Potable Water Use**	
			Gallons per Day (GPD)	**Acre-Feet per Year (AFY)**
Employees[1]	n/a	66	3,960	4.4
		Total	**3,960**	**4.4**
Projected Water Demands for Preserve at Torrey Highlands Project				
	Area (sq. ft.)	**Quantity (Employees/Seats/Athletes)**	**GPD**	**AFY**
Commercial Office Development Buildings[1,2]	450,000	1,800	108,000	121.0
Café (employees)[1]	n/a	7	420	0.5
Café (seats)[3,4]	3,850	148	4,588	5.1
Fitness Center (employee)[1]	n/a	5	300	0.3
Fitness Center (Athlete)[5,6]	5,000	270	6,750	7.6
Landscaping[7]	133,159	n/a	7,161	8.0
Total			**127,219**	**142.5**
Net Water Demands				
		Projected	**127,219**	**142.5**
		City of San Diego 2015 UWMP - Planned	**3,960**	**4.4**
		Planned from Water Authority's Accelerated Forecasted Growth	**123,259**	**138.1**
		Net Unanticipated Demands	0	0

[A] An acre-foot of water equals 325,851 gallons, which is enough water for two average families of four for one year.

Table 3-1 Notes:

1. The utilization of 60 gallons per person day is the City's acceptable standard for employment water use (includes nominal landscaping water demand).
2. The City's acceptable standard for office employee density is 1 employee per 275 square feet.
3. Average 13 square feet per person per seat for spacious dining (allows for table, chairs, aisle, etc.) – (source: http://www.seatingexpert.com/help_design.asp). Assuming that only half of the area is used for seating.
4. Restaurant water usage is estimated at 31 gallons per seat per day (Restaurant water usage from AWWA 'Commercial and Industrial End Uses of Water – 2000')
5. The number of employees using the fitness center in a commercial office is 15 percent of the total employment population. Assuming 12 percent of population using the gym facilities and 3 percent of the total population commuting to work by bicycle and using the showers. Values are based on data from the Center for Disease Control and Prevention, USA Today, The Realbuzz Group Ltd., and The Next Web.
6. 25 gallons per athlete per day is the City's acceptable standard for athlete water use, based on data from LA Fitness in Kearny Mesa, and values from YMCA data from AWWA Research Foundation Data and New Hampshire Water use standards.
7. Landscaping demands were based on the City's Landscape Calculator: http://apps/sandiego.gov/landcalc/

Conclusion

In summary, these findings substantiate that there is sufficient water supply planned to serve this Project's future water demands within the Department service area in normal, single-dry year, and multiple-dry water year forecasts.

Therefore, this Report concludes that the projected level of water use for this Project is within the regional water resource planning documents of the City, the Water Authority and MWD. Current and future water supplies, as well as the actions necessary to develop these supplies, have been identified in the water resources planning documents of the Department, the Water Authority, and MWD to serve the projected demands of the Project, in addition to existing and planned future water demands of the Department.

Section 4 - City of San Diego Public Utilities Department

The City purchased its initial water system in 1901, from the privately owned San Diego Water & Telephone Company. Since then, continual expansion of the water system has been required to meet the demands of the growing population of the City. To meet the demand, the Department purchased a number of reservoirs between 1913 and 1935 to supplement local water supplies. Despite low annual precipitation in the area (approximately 10 inches per year), these reservoirs supplied the City's growing demands until 1940.

The need to import water emerged with the increased demand generated by the presence of the United States Navy prior to and during World War II, and the ensuing population growth. As a result, the Department and other local retail water distributors formed the Water Authority in 1944 for the purpose of purchasing Colorado River water from MWD. The Department and other local retail water distributors began receiving imported water from the Colorado River in 1947.

Today, the Department treats and delivers more than 224,000 AFY of water to more than 1.38 million residents. The water system extends over 404 square miles, including 342 square miles in the City. The Department potable water system serves the City and certain surrounding areas, including both retail and wholesale customers. The Project is located within the Department service area.

In addition to delivering potable water, the City has a recycled water program. Its objectives are to optimize the use of local water supplies, lessen reliance on imported water and free up capacity in the potable system. Recycled water provides the City a dependable, year-round, locally produced and controlled water resource.

4.1 Overview of Potable System Facilities

The water system consists of nine raw water storage facilities with over 569,021 AF of storage capacity, three water treatment plants, 32 treated water storage facilities, and more than 3,293 miles of transmission and distribution lines.

The Department maintains and operates nine local surface raw water storage facilities, which are connected directly or indirectly to the City's water treatment operations. The Lower Otay, Barrett and Morena Reservoirs (135,349 AF total capacity) service the Otay Water Treatment Plant in south San Diego; the El Capitan, San Vicente, Sutherland, and Lake Murray Reservoirs (396,347 AF total capacity) service the Alvarado Water Treatment Plant in central San Diego; and the Miramar Reservoir (6,682 AF total capacity) services the Miramar Water Treatment Plant in north San Diego. Lake Hodges Reservoir has a total capacity of 30,633 AF and is connected to Olivenhain Reservoir, which is owned by Water Authority. Olivenhain Reservoir is connected to the Water Authority's second aqueduct. Through this connection, Hodges water can be delivered to all City treatment plants. The City has the ability to access 50 percent of the local water available in Hodges Reservoir via the Water Authority's delivery system.

The Department maintains and operates three water treatment plants with a combined total rated capacity of 423,862 AFY (378.4 million gallons per day MGD). The Miramar Water Treatment Plant (Miramar WTP), originally constructed in 1962, has a rated capacity of 161,300 AFY, (144 MGD), with the ability to increase to 240,830 AFY (215 MGD) after the replacement of the two old clear wells in 2016. The Miramar WTP generally serves the City's

geographical area north of the San Diego River (north San Diego). The Alvarado Water Treatment Plant (Alvarado WTP), operational since 1951, had an initial capacity rating of 134,417 AFY (120 MGD). Several hydraulic improvements and upgrades were completed in 2011 which increased the capacity of the plant to 224,028 AFY (200 MGD). The California Department of Public Health (CDPH) has approved this rating for the Alvarado WTP. The Alvarado WTP generally serves the geographical area from National City to the San Diego River (central San Diego). The Otay Water Treatment Plant (Otay WTP) was constructed in 1940, and has a current rated capacity of 38,533 AFY (34.4 MGD), which meets current and short-term forecasted demands. The Otay WTP has hydraulic capacity to increase to 44,806 AFY (40 MGD) in the future. In order to do so, approval from CDPH is required, based upon a future high filtration rate study. The Otay WTP generally serves the geographical area bordering Mexico (south San Diego), and parts of the southeastern portion of central San Diego. All upgrade work was completed in 2012 including the construction of a third flocculation and sedimentation basin, filter piping and media improvements.

The Department maintains and operates thirty two (32) treated water storage facilities including steel tanks, standpipes, concrete tanks and rectangular concrete reservoirs, with capacities varying from less than one to 35 million gallons.

The water system consists of more than 3,293 miles of pipelines, including transmission lines up to 84 inches in diameter, and distribution lines as small as four inches in diameter. Transmission lines are pipelines 16 inches and larger in diameter that convey raw water to the water treatment plants and convey treated water from the water treatment plants to the treated water storage facilities. Distribution lines are pipelines 16 inches and smaller in diameter that directly service the retail users connected to a meter. In addition, the Department maintains and operates 50 water pump stations that deliver treated water from the water treatment plants to approximately 280,890 metered service connections in 128 individual pressure zones in the City's retail service area. The Department also maintains several emergency connections to and from neighboring water agencies, including the Santa Fe Irrigation District (Miramar WTP), the City of Poway (Miramar WTP), Olivenhain Municipal Water District (Miramar WTP), the Cal-American Water Company (Alvarado and Otay WTP), Sweetwater Authority (Otay WTP), and the Otay Water District (Otay WTP).

4.2 Overview of Recycled System Facilities

The City's recycled water system consists primarily of two water reclamation plants with a combined total wastewater treatment capacity of 50,406 AFY (45 MGD), three recycled water storage facilities with over 12 million gallons (12 MG) of storage capacity, and more than 97 miles of transmission and distribution lines.

Located in the Miramar area, the North City Water Reclamation Plant (NCWRP) treats an average of 18,094 AFY (16.78 MGD) of wastewater, although the plant has an ultimate treatment capability of 34,000 AFY (30 MGD). In Calendar Year (CY) 2015, 7,141 AFY (6.38 MGD) was beneficially reused. The Department maintains and operates the Northern Service Area distribution system which consists of approximately 94 miles of recycled water pipeline, two reservoirs, and two pump stations. The City has completed Phase II of the Recycled Water Master Plan. This portion extends recycled water distribution along the Highway 56 corridor to the Carmel Valley area. By the end of CY 2015, 673 meters were served by the recycled water distribution system. In addition, plans are in the works to extend the recycled water distribution system through the Sorrento Mesa area, east of Highway 5 and north of Mira Mesa Boulevard. Public Utilities staff continues to work with potential "in-fill"

customers, sites located in close proximity to the existing recycled water distribution system who are looking to use the water for irrigation and/or industrial purposes.

Located at the end of Dairymart Road, near the International Border with Mexico, the South Bay Water Reclamation Plant (SBWRP) treats an average of 8,962 AFY (7.8 MGD) of wastewater, although the Plant has a treatment capability of 17,000 AFY (15 MGD). In CY 2015, an average of 3,774 AFY (3.40 MGD) was beneficially reused. The Department maintains and operates the Southern Service Area distribution system which consists of three miles of recycled water pipeline, one storage tank, one pump station and service to seven meters. Due the limited size of the distribution system, the majority of the recycled water is sold to the Otay Water District.

Section 5 - Existing and Projected Supplies

The Department relies on imported water as its major water supply source, and is a Water Authority member agency. The Water Authority is a member agency of MWD. The statutory relationships between the Water Authority, MWD and its member agencies, respectively, establish the scope of the Department's entitlements to water from these two agencies. Due to the Department's reliance on these two agencies, this Report relies and includes information on the existing and projected supplies, supply programs, and related projects of the Water Authority and MWD.

The City relies on the long-term water resources planning documents of the Water Authority and MWD to support the work on this Report. Please note that agencies must update their Urban Water Management Plans every five years. The 2015 UWMPs are completed and are available at the following websites and contacts:

San Diego County Water Authority – Contact:
Ms. Dana Friehauf, Water Resources Manager (858) 522-6749

http://www.sdcwa.org/sites/default/files/files/water-management/water_resources/2015%20UWMP%20Final%2006222016.pdf

http://www.sdcwa.org/uwmp

Metropolitan Water District of Southern California – Contact:
Ms. Grace Chan, Resource Planning & Development Manager (213) 217-6798
http://mwdh2o.com/PDF_About_Your_Water/2.4.2_Regional_Urban_Water_Management_Plan.pdf

www.mwdh2o.com/AboutYourWater/Planning/Planning-Documents

Until the 1990s, the Water Authority was 95% dependent on imported water supplies from MWD to meet demands in the San Diego region. In 1991, the Water Authority faced a potential 50% cutback in supplies from MWD that was abated by the "March Miracle" rains. Immediately following, the Water Authority embarked upon an aggressive water supply diversification strategy coupled with an aggressive water storage program that has resulted in much greater water supply reliability for the region. Additionally, MWD has increased its regional storage ten-fold and has provided financial incentives toward local water supply development by its member agencies. A brief overview of MWD and the Water Authority, including the Department relationship to these agencies, is included below.

A description of local surface and local recycled water supplies available to the Department can be found in Section 5.4 of this Report.

This information is current at the time this document was prepared.

5.1 Metropolitan Water District of Southern California

Metropolitan Water District was created in 1928, under the authority of the Metropolitan Water District Act (California Statutes 1927, Chapter 429, as reenacted in 1969 as Chapter 209, as amended) (the "MWD Act"). MWD's primary purpose is to provide a supplemental supply of wholesale water for domestic and municipal uses to its constituent agencies. When Metropolitan began delivering water, its service area consisted of approximately 625 square miles. Its service area has increased by 4,575 square miles since that time. The expansion is primarily the result of annexation of the service areas of member agencies.

Today, MWD's service area comprises approximately 5,200 square miles and includes portions of the six counties of Los Angeles, Orange, Riverside, San Bernardino, San Diego and Ventura. There are 26 member agencies of MWD, consisting of 14 cities, 11 municipal water districts and the San Diego County Water Authority (Water Authority). The Water Authority is MWD's largest customer, purchasing or exchanging 28.3% of all water flowing through MWD's system[B].

A Board of Directors, currently numbering 37 members, governs MWD. Each constituent agency has at least one representative on the MWD Board. Representation and voting rights are based upon the assessed valuation of property within each constituent agency. The Water Authority has four members represented on the MWD Board with 17.44 percent of the weighted vote. The total population of the MWD service area is currently estimated at more than 19 million.

MWD's existing water supplies have been historically sufficient to meet demands within its service area during years of normal precipitation. Although MWD plans and manages reserve supplies to account for normal occurrences of drought conditions, regulatory actions, including, but not limited to, restrictions under the Federal and California Endangered Species Acts, have at times placed limitations on MWD's ability to provide water to its member agencies.

In the future, population growth, regulatory restrictions, and other factors such as climate change could impact MWD's ability to supply its member agencies even in normal years. However, it is important to note that the cost of MWD's water supplies is approaching a point at which the development of local water supplies is increasingly cost-competitive. As such, major initiatives are underway by retail water agencies to develop local water supplies and reduce MWD deliveries. This suggests that a new scenario may be emerging in which MWD will have surplus water supplies on a more regular basis as its member retail water agencies increasingly roll off imported water supplies in favor of available more reliable local water supplies.

MWD Water Supply

The Water Authority has preferential rights to 18.42 percent of MWD's water supplies, which currently includes water from its two sources - the Colorado River and the State Water Project (SWP).

Colorado River Water: The Colorado River was MWD's original source of water after its establishment in 1928. MWD owns and operates the 242 mile-long Colorado River Aqueduct,

[B] http://www.mwdh2o.com/PDF_Who_We_Are/2015-MWD-Annual-Report-web.pdf, page 139

which starts at Lake Havasu in Arizona and terminates at Diamond Valley Lake in Riverside County.

Under numerous compacts, federal laws, court decisions and decrees, contracts, and regulatory guidelines collectively known as the "Law of the River" that govern the use of water from the Colorado River, California is entitled to 4.4 million acre-feet of Colorado River water annually. Additionally, California is entitled to one-half of any surplus water that may be available for shared use with Arizona and Nevada as determined on an annual basis by the United States Secretary of the Interior. Under the priority system that governs the distribution of Colorado River water made available to California, MWD holds the fourth priority right of 550,000 acre-feet per year and a fifth priority right of 662,000 acre-feet per year. MWD's fourth priority right is within California's basic annual apportionment of 4.4 million acre-feet; however, the fifth priority right is outside of this entitlement and is not considered a firm supply of water. MWD also retains a "call" on 100,000 acre-feet per year on water transferred to the Coachella Valley Water District and the Desert Water Agency, if needed, so long as they pay for the financial obligations associated with the water during the call period.

Several fish and other wildlife species either directly or indirectly have the potential to affect Colorado River operations, thus changing the amount of water deliveries to the Colorado River Aqueduct. A number of species that are on either "endangered" or "threatened" lists under the federal and/or California endangered species acts (ESAs) are present in the area of the Lower Colorado River. MWD and other stakeholder agencies have developed a multi-species conservation program that allows MWD to obtain federal and state permits for any incidental take of protected species, resulting from current and future water and power operations of its Colorado River facilities and to minimize any uncertainty from additional listings of endangered species.

In order to maximize the potential for Colorado River supplies, Metropolitan has established partnering opportunities with the Imperial Irrigation District to fund and implement a joint agricultural conservation program. This program provided 105,000 acre-feet additional water supplies in FY 2015 during drought conditions[C]. Additionally, MWD has partnered with the Palo Verde Irrigation District in a voluntary Land Management and Crop Rotation Program that provided an additional 65,000 acre-feet of Colorado River supplies in FY 2015.

State Water Project: The State Water Projects is owned by the State of California and operated by the State Department of Water Resources (DWR). The SWP's source waters originate in Northern California with water captured from the Feather River Watershed behind Lake Oroville Dam. The Oroville Dam releases water into the Feather River which is tributary to the Sacramento River, where it combines with other drainages from the western Sierras in the Sacramento-San Joaquin River Delta east of the San Francisco Bay Estuary. MWD receives water pumped from the Harvey O. Banks Pumping Plant in the southern portion of the Sacramento-San Joaquin River Delta, via the 444 mile-long California Aqueduct, to four delivery points near the northern and eastern boundaries of MWD. MWD is one of 29 agencies that have long-term contracts for water service from DWR, and is the largest agency in terms of the number of population served, the share of SWP water to which it is entitled, and the total amount of annual payments made to DWR. MWD's contract with DWR provides for the

[C] http://www.mwdh2o.com/PDF_Who_We_Are/2015-MWD-Annual-Report-web.pdf. Page 27

ultimate delivery of up to 1,911,400 acre-feet per year (46 percent of the total SWP entitlement). The SWP was originally intended to meet demands of 4.2 million acre-feet per year. Initial SWP facilities were completed in the early 1970s, and it was envisioned that additional facilities would be constructed as contractor demands increased. Several factors, including public opposition, increased costs, and increased non-SWP demands for limited water supplies, combined to delay the construction of additional facilities.

The quantity of SWP water available for delivery each year is controlled by hydrology, environmental and operational considerations. In addition to its importance to urban and agricultural water users, the San Francisco Bay/Sacramento-San Joaquin Delta Estuary (Bay-Delta) is of critical ecological importance. The Bay-Delta is the largest estuary on the west coast of the United States and provides habitat for more than 750 plant and animal species. One-hundred-fifty years of human activity have contributed to the destruction of habitat, the decline of several estuarine and anadromous fish species, and the deterioration of water quality. These activities include increasing water demands from urban and agricultural uses, the dredging and filling of tidal marshes, the construction of levees, urban runoff, agricultural drainage, runoff from abandoned mines, and the introduction of non-native species, thus affecting the supply and reliability of this source.

DWR has altered the operations of the SWP to accommodate species of fish listed under the ESAs. These changes in project operations have reduced SWP deliveries. The impact on total SWP operations attributable to the ESA listed Delta smelt and salmon species biological opinions combined is estimated to be one million acre-feet in an average year, reducing SWP deliveries from approximately 3.3 million acre-feet to approximately 2.3 million acre-feet for the year under average hydrology. The reduction in SWP deliveries attributable to these biological opinions can vary greatly depending on the level of precipitation and are estimated to range from 0.3 million acre-feet during critically dry years to 1.3 million acre-feet in above normal water years. SWP deliveries to contractors for calendar years 2008 through 2012 were reduced by a total of approximately 2.3 million acre-feet as a result of pumping restrictions.

The year 2016 proved to be an extremely difficult water year for California as it endured a fifth year of drought and record high temperatures. The MWD Board of Directors established a 15 percent restriction of supply deliveries on its member agencies. While Governor Edmund G. Grown Jr. issued Executive Order B-29-15 that directed the State Water Resources Control Board

California Water Fix

The California Department of Water Resources (DWR) is in the process of introducing a plan known as the *California Water Fix* that would construct 35 miles of twin tunnels capable of transferring 9,000 cubic feet per second of freshwater from three intake facilities north of the Delta to the expanded Clifton Court Forebay located south of the Delta, where two pumping plants would be constructed to maintain optimal water levels in the forebay for the existing State Water Project (SWP) and Central Valley Project (CVP) pumping facilities to better facilitate water exports during times of large rain events.

The proposed project is expected to provide additional water supply reliability for water importers, although the benefits will still be weather dependent.

CALIFORNIA WATER FIX

(State Water Board) to impose restrictions on urban water suppliers statewide to achieve a statewide 25 percent reduction in potable urban usage through February 2016.

The Governor's actions were unprecedented and placed a requirement on the City of San Diego to reduce its demands by 16 percent as compared to 2013 water demands. Other retail water agencies within the San Diego region had conservation standards of between 8 and 36 percent, depending on the amount of conservation already achieved by each agency. A weighted average of the conservation standards placed on all retail water agencies within the Water Authority's service territory equated to a 20 percent reduction in demands region-wide. The State Water Board estimated that a 25 percent statewide reduction in demands would result in a reduction in demands of 1.2 million acre-feet during the 270 days of the emergency order.

A mandated 16 percent reduction in San Diego's demands translated to a reduction in sales of approximately 35,000 acre-feet per year, which San Diego was able to accomplish. On November 13, 2015, Governor Brown issued Executive Order B-36-15 calling for an extension of urban water use restrictions until October 31, 2016, should drought conditions persist through January 2016. The State Water Board modified the restrictions at its February 2, 2016 meeting to allow credit to a water agency's conservation standard for growth, climate and the development of local drought-resilient supplies, with a cap of 8 percent total credit. As of this writing, the City of San Diego received a full credit of 8 percent to its conservation standard as a result of the newly developed seawater desalination project at Carlsbad providing regional water supply benefits. As a result, San Diego's mandatory reduction in sales is reduced to approximately 17,500 acre-feet.

5.2 San Diego County Water Authority

The Water Authority service area lies within the foothill and coastal areas of the westerly third of San Diego County, encompassing 952,208 acres (1,488 square miles). When the Water Authority was established in 1944, its service area consisted of 94,707 acres. Of the total population of San Diego County, 97 percent live within the Water Authority's service area. Growth has primarily resulted from the addition and annexation of service areas by member agencies. The City, with a population of 1.38 million served and a service area of 210,726 acres, is by far the Water Authority's largest member agency and customer.

The Water Authority's service area is a semi-arid region where the natural occurrence of water from rainfall and groundwater provides a firm water supply for only a small portion of the water demands of the current population. Since 1990, the Water Authority has provided an average of 85 to 91 percent of the water supply within its service area. As a wholesaling entity, the Water Authority has no retail customers, and only water delivery, storage and treatment services to its member agencies.

The Water Authority's mission is to provide its member agencies with a safe and reliable water supply. Historically, the principal source of supply for the Water Authority's service area has been water purchased from MWD for sale to the Water Authority's member agencies. However, drought conditions and population growth in the Water Authority's service area have highlighted the need for diversification of the region's water supplies. Consistent with its mission statement, the Water Authority has actively pursued a strategy of supply diversification that includes the acquisition and importation of additional water supplies, the development of additional local water supply projects and augmentation of its water supply via local and regional water storage capacity.

Water supplies utilized within the Water Authority service area originate from two sources: (1) water imported by the Water Authority and (2) local supplies (such as local runoff, groundwater, recycled water and seawater desalination). Since 1990, local supplies have grown to constitute 15 percent of the Water Authority's water supply, and the Water Authority has implemented programs and supported new technologies in order to assist its member agencies in increasing this percentage. Although MWD remains the Water Authority's largest source of imported water, recent years have also seen the diversification of sources of imported water through core and spot water transfers with other agencies.

The Quantification Settlement Agreement (QSA) for the Colorado River was completed in October 2003. This historic agreement was enacted to help settle disputes regarding the persistent over-drafting of the state's 4.4 million acre-foot basic annual apportionment of Colorado River water. The agreement includes a long-term transfer of conserved water from the Imperial Irrigation District to the Water Authority. The QSA also commits the state to a restoration path for the environmentally sensitive Salton Sea and provides full mitigation for these water supply programs. Specific programs under the QSA that directly benefit the Water Authority include the San Diego County Water Authority-Imperial Irrigation District water transfer agreement, which currently transfers 100,000 acre-feet of high priority Colorado River water to the Water Authority and will provide up to 200,000 acre-feet of water a year through water conservation measures in Imperial Valley in 2021. The QSA also allows for the transfer of water from the Imperial Irrigation District (IID), for water conserved through the implementation of the Water Authority performed projects to install concrete linings on portions of the previously earthen All-American and Coachella Canals. The canal lining projects reduced the losses of water that historically occurred through seepage. MWD assigned to the Water Authority its right to develop approximately 77,700 acre-feet of conserved Colorado River water annually.

The QSA ensures that the San Diego region receives a minimum of 75 years of stable Colorado River water supplies. On November 5, 2003, the IID filed a validation action in Imperial County Superior Court, seeking a judicial determination that 13 agreements associated with the San Diego County Water Authority-Imperial Irrigation District water transfer and the QSA are valid, legal and binding. Other lawsuits also were filed contemporaneously challenging the execution, approval and implementation of the QSA on various grounds. All of the QSA cases were coordinated in the Sacramento Superior Court. A final judgment invalidating 11 of the 13 agreements in Phase 1 of the trial was entered on February 11, 2010, and subsequently appealed. On December 7, 2011, the Court of Appeal issued its opinion reversing the judgment and remanding to the trial court for further proceedings. The appellate Court decision resolved many issues in the case, including the validity and constitutionality of the QSA. Trial on compliance with the California Environmental Quality Act was held in November 2012. On June 4, 2013, the court validated the 2003 QSA and related 12 agreements regarding transfers and exchanges of Colorado River water between southern California water agencies. The IID, Coachella Valley Water District, MWD, and Water Authority all sought validation of the agreements from the court under California Water Code section 22762 and California Code of Civil Procedure section 860 et seq., quantifying the amount of Colorado River water each agency may divert and subsequently transfer. The court found the agreements to be valid and adopted in compliance with the requirements of the Brown Act and the California Environmental Quality Act (CEQA). The ruling represents the latest chapter in the longstanding dispute regarding the diversion and use of California's apportionment of the Colorado River under state and federal law.

In late November 2012, the Water Authority's Board of Directors approved a 30-year Water Purchase Agreement with Poseidon Resources, a private investor-owned company, to

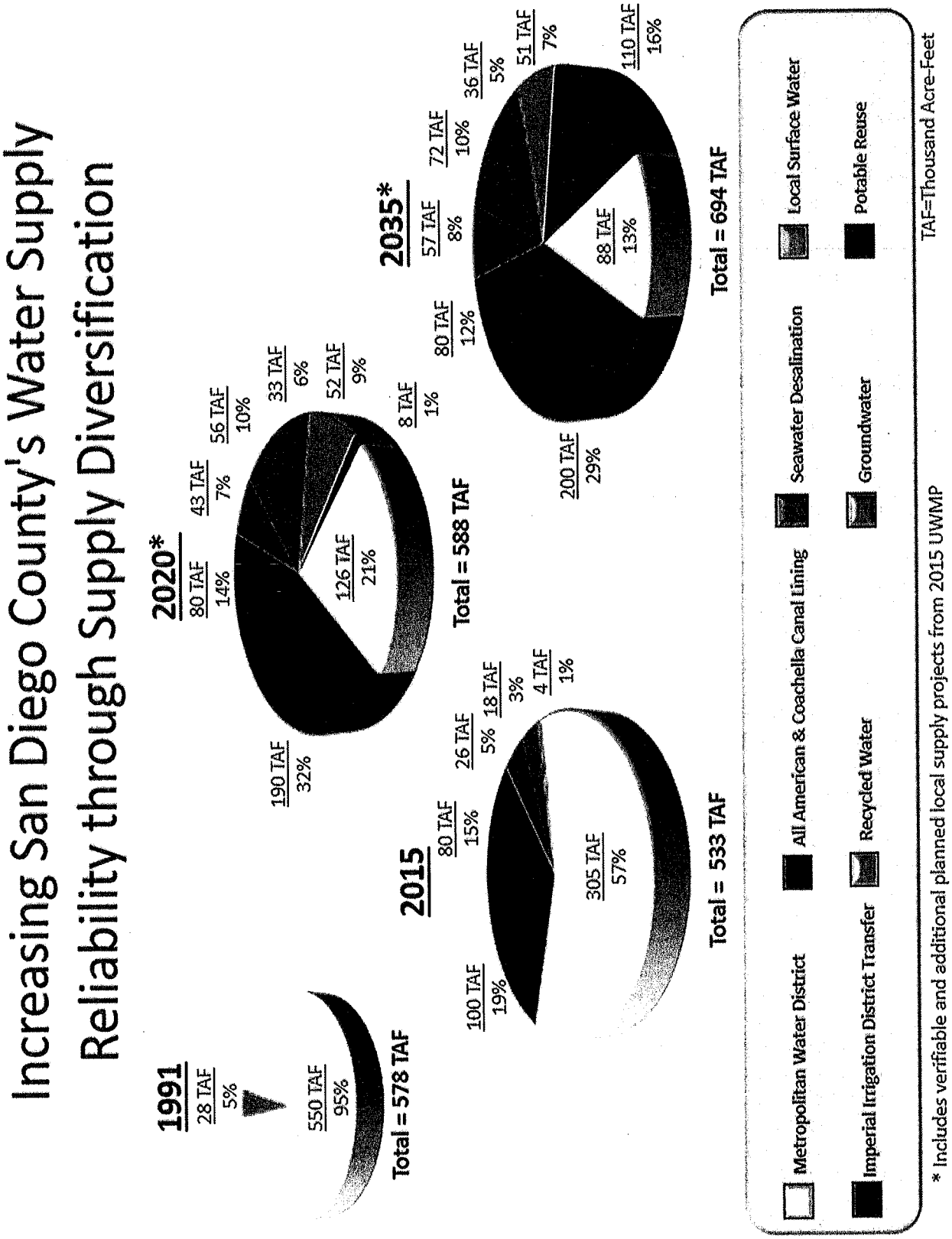
purchase water from the proposed Carlsbad Desalination Plant, which is a fully-permitted ocean desalination plant and conveyance pipeline. The plant began producing 50 million gallons a day in December 2015 and is now generating enough water to meet between seven and ten percent of the region's current demands[D].

In addition to developing its own regional supplies of water, the Water Authority has also encouraged the development of additional local water supply projects such as water recycling and groundwater projects, through the award of Local Water Supply Development (LWSD) incentives of up to $200 per acre-foot for recycled water and groundwater produced and beneficially reused within the Water Authority's service area. The purpose of the Water Authority's LWSD program is to promote the development of cost-effective water recycling and groundwater projects that prevent or reduce a demand for imported water and improve regional water supply reliability. The LWSD Program reimburses member agencies for all, or a portion of the difference between the actual per acre-foot cost of producing recycled water, and the revenue generated by the LWSD participant through the sale of that acre-foot of recycled water (not to exceed $200 per acre-foot). In February 2008, the program was expanded to include funding for local brackish and seawater desalination projects. However, funding for new LWSD program projects is no longer appropriated in the Water Authority's budget.

Please see Figure 5-1 below that demonstrates the supply diversification achievements and goals of the San Diego County Water Authority and its member agencies. In addition to the region's investments in new supplies, the Water Authority has also undertaken a multi-phased Emergency Storage Program that built one new dam (Olivenhain, 2003) and raised another (San Vicente, 2015) to increase emergency and carryover storage in the region by 176,000 acre-feet. The Water Authority began filling San Vicente in 2015. The additional in-region storage capacity will allow the Water Authority and its member agencies to be prepared for emergency conditions and also to buffer against dry year reductions in deliveries from imported supplies.

[D] http://carlsbaddesal.sdcwa.org/

FIGURE 5-1
SAN DIEGO COUNTY WATER AUTHORITY'S WATER SUPPLY DIVERSIFICATION



5.3 2009 Comprehensive Water Package

On November 4, 2009, the California State Legislature passed a comprehensive package of water legislation (the "2009 State Water Legislation") that included five bills (four of which were subsequently signed by Governor Schwarzenegger) addressing California's statewide water situation, with particular emphasis on the San Francisco Bay/Sacramento-San Joaquin-Delta (Bay-Delta). The 2009 State Water Legislation included an urban water conservation mandate of 20 percent for most localities in the State by 2020 (also known as the "20x2020 requirement"), and new regulations establishing strategic monitoring of groundwater levels around the state. The 2009 State Water Legislation also created two new governmental agencies – the Delta Stewardship Council and the Sacramento-San Joaquin Delta Conservancy. The Delta Stewardship Council is charged with developing and implementing a Delta Plan, which would include the Bay Delta Conservation Plan, upon meeting certain conditions. The Sacramento-San Joaquin Delta Conservancy will implement ecosystem restoration activities in the Bay-Delta. In addition, the 2009 State Water Legislation included legislation addressing unauthorized Bay-Delta water diversions. At this time, it is not known what effect the 2009 State Water Legislation will have on future water supplies.

Additionally, the 2009 Legislation package included an $11.1 billion State general obligation bond measure. The water bond measure was originally certified to be on the State's 2010 ballot, but was subsequently pulled due to unfavorable public polling. That same bond measure was subsequently delayed twice. During the previous 2013-2014 legislative session, several bills were introduced with the intent of reducing and reconfiguring the dedicated expenditures in the original water bond measure. In late 2014, the legislature introduced the "Water Quality, Supply, and Infrastructure Improvement Act of 2014" which proposed a trimmed down version of the 2009 bond measure for a total of $7.5 billion and was subsequently placed on the November 4, 2014 statewide ballot as Proposition 1 and approved by voters. Proposition 1 is a general obligation bond measure to fund a variety of state water supply infrastructure projects, such as public water system improvements, surface and groundwater storage, drinking water protection, water recycling and advanced water treatment technology, water supply management and conveyance, wastewater treatment, drought relief, emergency water supplies, and ecosystem and watershed protection and restoration. The bond funds will be distributed through a competitive grant process overseen by various state agencies, including the Department of Water Resources, the State Water Resources Control Board, and the California Water Commission. The State is in the process of developing and adopting guidelines for the various funding programs contained in Proposition 1. Some have been completed (such as the Water Recycling Funding Program/WRFP), and others are still in development (such as the Water Storage Investment Program/SWIP).

5.4 Public Utilities Department

The Department currently purchases approximately 85 to 90 percent of its water from the Water Authority, which supplies the water (raw and treated) through two aqueducts consisting of five pipelines. While the Department imports a majority of its water, it uses four local supply sources to meet or offset potable demands: local surface water, groundwater, conservation, and recycled water (see Figure 5-1: San Diego County Water Authority's Water Supply Diversification).

The availability of sufficient imported and regional water supplies to serve existing and planned uses within the Department service area is demonstrated in the prior discussion on

the water supply reliability of MWD and the Water Authority. The City has been receiving water from the Water Authority since 1947, and during the last 20 years purchased between 139,000 and 235,500 AFY. For CY 2015 water purchases totaled approximately 173,888 AF. Depending upon demands, growth and the success of local water supply initiatives, this could remain somewhat constant or increase up to a projected maximum of 295,998 AFY in 2035 during normal years. For the purpose of this analysis the maximum is used.

5.4.1 Demonstrating the Availability of Sufficient Supplies

Imported Supplies

Section 5, Subdivision 11, of the County Water Authority Act, states that the Water Authority "as far as practicable, shall provide each of its member agencies with adequate supplies of water to meet their expanding and increasing needs." Depending on local weather and supply conditions, the Water Authority provides between 75 to 95 percent of the total supplies used by its 24-member agencies. As mentioned in Section 4, the Public Utilities Department and other local retail water distributors formed the Water Authority in 1944 for the purpose of purchasing Colorado River water from the MWD.

Local Surface Water Supplies

The Department maintains and operates nine local surface raw water storage reservoirs which are connected directly or indirectly to water treatment operations. In the San Diego region, approximately 13 percent of local precipitation produces surface run-off to streams that supply Department reservoirs. Approximately half of this run-off is used for the municipal water supply, while the remainder evaporates during reservoir storage. In very wet years, the run-off remainder may spill over the reservoir dams and return to the Pacific Ocean. Average rainfall produces less than half of the average run-off in San Diego. The local climate requires about average rainfall to saturate the soils sufficiently for significant surface run-off to occur. Therefore, most of the run-off to reservoirs is produced in years with much greater than average rainfall. Some flooding may occur even during average or below average rainfall years if the annual rainfall is concentrated in a few intense storms.

The use of local water is affected by availability and water resource management policies. The Department's policy is to use local water first to reduce imported water purchases and costs. The Department also operates emergency and seasonal storage programs in conjunction with its policy. The purpose of emergency storage is to increase the reliability of the imported water aqueduct system. This is accomplished by maintaining an accessible amount of stored water that could provide an uninterrupted supply of water to the City's water treatment facilities, should an interruption to the supply of imported water occur. The management of reservoirs is guided by Council Policy 400-04, which outlines the City's Emergency Water Storage Program. The policy mandates that the Department store sufficient water in active, available storage to meet six-tenths of the normal annual (7.2 months) City water demand requirements (conservation is not included). Active, available storage is that portion of the water that is above the lowest usable outlet of each reservoir.

The monthly emergency storage requirement changes from month-to-month, and is based on the upcoming seven months water demand. This results in a seasonally fluctuating emergency storage requirement, generally peaking in April and reaching its minimum in October. This seasonally fluctuating requirement makes a portion of the required emergency storage capacity available for impounding or seasonal storage.

The purpose of seasonal storage is to increase imported water supply. This is done by storing surplus imported water in the wet winter season for use during the dry summer season. This may also be accomplished by increased use of imported water in lieu of local water in the winter when local water may be saved in reservoirs or groundwater basins for summer use. In addition to increased water yield, this type of seasonal operation also reduces summer peaking on the imported water delivery system.

Drought Management

On January 17, 2014, California Governor Jerry Brown declared a drought in California. This prompted water agencies to enact drought response measures. The City of San Diego implemented Drought Response Level 1 on July 1, 2014, and then Level 2 on November 1, 2014 to help meet the Governor's call to conserve water. On April 1, 2015 Governor Brown issued Executive Order B-29-15 mandating water reductions across the State of California. In response, the State Water Resources Control Board issued water use restrictions for immediate implementation, resulting in a 16% reduction target for the City of San Diego, compared to 2013 usage, effective June 1, 2015 through February 28, 2016. The City of San Diego implemented stricter irrigation schedules and pursued aggressive enforcement of drought related water use restrictions, and has been achieving on average 20% reduction from 2013 usage. Such stricter schedules include:

- Water before 10 am or after 6 pm, on two assigned days per week only, and for only 5 minutes per station when using a standard irrigation system.
- Turn off irrigation during, and for at least 48 hours following, rain.
- Stop operating ornamental fountains except for maintenance.
- Potted plants, non-commercial vegetable gardens and fruit trees may be irrigated on any day, but only before 10 am and after 6 pm.

In February 2016, California's State Water Resources Control Board (SWRCB) revised the City's conservation target down to 8 percent, reflecting actual population growth and implementation of alternative water supplies. However, due to El Nino storms filling Northern California reservoirs close to capacity levels, the SWRCB allowed water agencies to submit individual certifications attesting to their ability to meet future demands; specifically, water demands for the next three years, assuming that will be dry years. The City submitted its certification based on CWA's assessment that regionally there is enough water to meet the demands for the next three years. SWRCB accepted this certification, thus eliminating any reduction goal for the City. The SWRCB is also developing long term water use efficiency goals as required by the Governor's recent mandate.

Conservation

The Department's Water Conservation Program is effective in promoting permanent water savings. Established by the City Council in 1985, the Water Conservation Program accounts for more than 13,793 acre-feet of potable water savings in FY 2015. This savings has been achieved by creating a water conservation ethic, adopting programs, policies and ordinances designed to promote water conservation practices, and implementing comprehensive public information and education campaigns.

The City offers a broad range of conservation methods to help meet the needs of our residential and commercial water customers. These include, but are not limited to, the following:

- Rebate programs for high efficiency toilets, washing machines and residential and commercial water saving devices.
- Rebates for replacing grass with water wise landscapes, micro-irrigation systems and weather based irrigation controllers.
- Rain barrel rebates.
- Indoor commercial water use surveys.
- Residential interior/exterior and commercial landscape survey programs.
- Public education and outreach.

Research conducted by the City, the Water Authority, and the Water Research Foundation has shown that prior to the current drought, more than half of residential water-use is outdoors. Therefore, the City-added outdoor conservation programs to focus on water efficient landscaping and irrigation management, which provide the best opportunity to achieve significant water savings.

Tools and services available for customers include:

Commercial and Residential Water-Use Survey Programs — this service includes an account for all water-use on the property. The surveyor also checks to see if the irrigation system is functioning properly and for uniform coverage. On average, residential surveys result in a savings in water of 15 percent, while commercial surveys, depending on type of facility, can achieve 15 percent to 25 percent water savings.

The Water Conservation Section teamed up with the Transportation & Storm Water Department to include rain barrels as an item that can receive a rebate through the "Outdoor Water Conservation Rebate Program." Rain barrels are used to collect rainwater from hard surfaces such as household rooftops. When citizens install a rain barrel at their home, they are helping to maintain a healthy urban watershed by reducing the demand on the potable water system, while also reducing the amount of wet weather runoff that is collected and sent into the public storm water system.

'San Diego Municipal Code (SDMC) 67.06, Water Submeters' was adopted in April 2010, to encourage water conservation in multi-family residential and mixed-use buildings by requiring the use of water submeters for each individual residential unit. Billing individual residential units based on the actual amount of water consumed in the unit creates a financial incentive for residents of multi-family residential units to conserve water.

Planning efforts to increase water conservation is an ongoing process. The aforementioned water conservation programs undergo periodic reevaluation to ensure the realization of forecasted savings. Additionally, changes in water conservation technologies may require reassessment of long-range plans. The Department continues to work with proven water conservation programs, while including irrigation management programs to maximize water savings; regularly examines new technologies and annually checks progress toward conservation goals; and, continues to work collaboratively with MWD and the Water Authority to formulate new conservation initiatives. The City's water conservation report, prepared annually, is available at http://www.sandiego.gov/water/pdf/purewater/2014/fy14annualwater140101.pdf. The report provides an ongoing assessment and status update, redirecting or enhancing efforts as needed. The programs outlined in the document undergo periodic reevaluation to ensure the realization of forecasted savings.

Recycled Water Supplies

In CY 2015, the beneficial reuse of the recycled water was 13,650AF: 12,500 AF from the NCWRP and 1,150 AF from the SBWRP. Although landscape irrigation continues to be the leading use of the recycled water, the customer base has become more varied over the years with an increase in the number of industrial and dual plumbed meter connections.

Proactive marketing activities targeting existing irrigation customers, to encourage them to convert their cooling systems to recycled water, coupled with outreach efforts to connect new customers have been successful, as recycled water meter connections have increased over 60 percent since 2007. By December 31, 2015, the City provides recycled water service to 675 retail meters and 5 wholesale meter connections, including the City of Poway, Olivenhain Municipal Water District (3 connections) and Otay Water District. The 2015 top retail customers included the City of San Diego Park & Recreation Department, Santaluz Golf Course, Miramar Marine Corps Air Station Miramar, Black Mountain Ranch and Del Sur Community HOA, UCSD, El Camino Memorial Park, The Irvine Company, Caltrans, Village Nurseries Wholesale and Qualcomm

In CY 2015, financial incentives from the sale of recycled water resulted in over $2.3 million in savings toward imported water purchases. The financial incentives are a result of local water resources development agreements with Metropolitan Water District and the San Diego County Water Authority.

The Department, in cooperation with the Park & Recreation Department, has aggressively pursued the retrofitting of City parkland, street landscaping and open space to use recycled water for irrigation; sites fronting recycled water distribution pipelines were targeted. In 2007, only 23 recycled water meters were serving City sites. As of December 2015, that number has grown to 113 meter connections.

Public Utilities Department's Capital Improvement Program

The Department reevaluates the Water projects contained in the Capital Improvements Program (CIP) and the timing thereof periodically. Changes to the CIP are made to reflect changing priorities within the water system and occur as a result of project scope changes, date revisions, project sequencing, and operational considerations. The Department expended approximately $777 million from July 1, 2005, through June 30, 2015, on CIP projects. Improvements included projects to upgrade and expand water treatment plants, rehabilitate raw and treated water storage facilities, construct major transmission pipelines, replace and/or upgrade existing pump stations, replace cast iron water mains citywide, expand the recycled water system, and other new supply initiatives. In November 2015, the City Council adopted water rate increases of 9.8 percent beginning on January 1, 2016 and 6.4 percent beginning on July 1, 2016. These rate increases will provide needed revenue to fund the upgrade and expansion of the water system in order to ensure a reliable water supply for all City residents and meet Department of Public Health mandates.

The Department has recently updated the water facilities master plan to identify long-term facility needs. The master plan, identifies over 90 projects through the master planning effort for CIP implementation from fiscal years 2016-2035. Project scopes were developed from facility condition assessments and system evaluations. The prioritization of CIP projects is based on the adopted City Council Policy 800-14 (CP 800-14).

Summary of Supplies

Historic imported water deliveries from the Water Authority to the Public Utilities Department and local surface water, groundwater, conservation savings and recycled water deliveries are shown in **Table 5-1.**

Table 5-1
Historic Imported, Local and Recycled Water Demands*
Public Utilities Department

Fiscal Year	Imported Water (acre-feet)	Local Surface Water (acre-feet)	Conservation[1] (acre-feet)	Recycled Water (acre-feet)	Groundwater (acre-feet)	Total[2] (acre-feet)
1990	233,158	22,500	-	-	-	255,658
1995	162,404	59,024	8,914	-	-	230,342
2000	207,874	39,098	17,410	3,250	-	267,632
2005	204,144	26,584	29,410	4,294	-	264,432
2010	188,337	13,117	34,317	12,173	500	248,444

Table 5-1 Notes:
[1]Conserved water results in savings and is not a direct supply.
[2]Total includes water supplied and conserved.
*Includes retail and wholesale demands

5.4.2 Plans for Acquiring Additional Supplies

Future Supplies

The Department completed the City Council approved 2012 Long-Range Water Resources Plan (2012 LRWRP) on December 10, 2013. The 2012 LRWRP is a high level strategy document that evaluates water supply and demand-side objectives against multiple planning objectives. The 2012 LRWRP was an open participatory – stakeholder driven process that evaluated over 20 water supply options such as water conservation, recycled water, groundwater storage, brackish groundwater desalination, rainwater harvesting, graywater and potable reuse. The plan takes a long-range viewpoint through the year 2035 in addressing risk and the uncertainty of future water supply conditions. It is a plan that sets the tone or direction of where the City places its efforts in developing local water supplies.

Conservation and water recycling programs have been implemented and are under investigation for ways to be expanded or increased. The Department is also investigating the development of groundwater and potable reuse.

Conservation

Like many agencies in California, the City is committed to reducing its per capita water consumption by at least 20 percent by the year 2020. Aside from the existing programs listed in Section 5.4.1 of this report, the City is also implementing the following programs to help reduce overall water consumption:

Conservation-oriented rate structures – A new rate structure, which took effect in January 2014, adds a fourth new tier for single-family residential customers that recognizes water conservation efforts, and increases the rates for higher tiers to discourage high volume usage. The City Council recently voted to maintain this four tier residential rate structure through FY 2019.

Advanced Metering Infrastructure (AMI) – The Department has completed the installation of a citywide AMI fixed network. Endpoints of the AMI have been installed at approximately 10,000 monthly billed meters and 1,000 bi-monthly billed meters. Data from the AMI system/endpoint will be available for customers and begin billing the 4th quarter of FY 2016.

Recycled Water

Recycled Water Study:

The Recycled Water Study was presented and unanimously accepted by the City Council on July 17, 2012, following a three-year effort that included extensive stakeholder involvement. The Study can be located at the following link:
http://www.sandiego.gov/water/pdf/waterreuse/2012/recycledfinaldraft120510.pdf.

During the 2008 to 2010 Point Loma Wastewater Treatment Plant (Point Loma WTP) permit modification process, San Diego Coastkeeper and the San Diego Chapter of the Surfrider Foundation entered into a Cooperative agreement with the City to conduct the Recycled Water Study (Study). In accordance with the agreement, the San Diego Coastkeeper and the San Diego Chapter of the Surfrider Foundation did not oppose the United States Environmental Protection Agency's (USEPA) decision to grant the permit modification. The City Council authorized the execution of the Cooperative Agreement on February 18, 2009. The modified

Permit allows Point Loma WTP to continue operating as a chemically enhanced primary treatment facility (CEPT) for five years until the permit expired on July 31, 2015. The permit must be renewed rather than upgrading the treatment system to meet secondary standards as required in the Federal Clean Water Act. The interim regulators administratively continue the present permit until final action on the renewal is taken. The Study concluded meeting all terms of the Agreement with Coastkeeper and Surfrider. The Recycled Water Study identified five Reuse Alternatives. Non-Potable Reuse, Indirect Potable Reuse, and wastewater off-load to the Point Loma WTP are the common components of each of the five alternatives. All reuse alternatives presented in the study achieve the study goals, provide a bold vision for the future water reuse in the Metro Service Area, and provide potential savings to ratepayers. For additional details on the Reuse Alternatives, please see the Recycled Water Study Report Dated July 2012, in the above link.

Potable Reuse:

Potable Reuse is an approach the City is considering for maximizing the use of recycled water. Recycled water that is used for non-drinking uses like irrigation and industrial processes, would undergo advanced water purification (AWP) to render it safe for reuse as a drinking water supply. The AWP process uses multiple treatment barriers to remove contaminants from the water and prevent them from re-entering the water supply. It begins with membrane filtration, followed by reverse osmosis, and ends with advanced oxidation. The result is purified water that meets all drinking water standards and is similar in quality to distilled water. There are two major types: Indirect Potable Reuse (IPR) and Direct Potable Reuse (DPR). With IPR, the purified water is sent to an environmental buffer; for the City's IPR concept, San Vicente Reservoir would be the environmental buffer. The water in San Vicente is treated at a drinking water treatment plant before it is distributed for drinking purposes. Direct potable reuse differs in that there is no environmental buffer. The California Department of Public Health is mandated to determine the feasibility of establishing DPR regulations. Industry experts expect that DPR regulatory criteria to include the use of additional treatment or engineered storage barriers to compensate for the absence of an environmental buffer. The City is monitoring the development of DPR regulations and how they might influence the viability of potable reuse implementation.

Water Purification Demonstration Project:

In order to assess the feasibility of indirect potable reuse with reservoir augmentation (IPR/RA), the City initiated a Water Purification Demonstration Project (Demonstration Project). The Demonstration Project evaluated the feasibility of using advanced water purification (AWP) technology to produce water that can be sent to San Vicente Reservoir, subsequently treated, and later be distributed as potable water As part of the Demonstration Project, the City tested and operated a one-million gallon per day demonstration-scale AWP Facility from June 2011 to August 2012. The purified water was routinely tested to determine the effectiveness of the treatment equipment, and operating data was gathered to develop a cost estimate for full-scale facilities. A study of San Vicente Reservoir was also conducted to establish residence time and short circuiting conditions of the purified water in the reservoir. An extensive public outreach and education program was implemented to educate the public about the potential benefits and implications of an IPR/RA project. The City also coordinated with the State's regulatory agencies to help define the requirements for an IPR/RA project.

The Final Project reports have been completed and are available at the following link: www.purewatersd.org/projectreports . The Demonstration Project reports were presented to full City Council on April 23, 2013. The City Council adopted the Demonstration Project Reports and directed staff to determine a preferred implementation plan and schedule that considers potable reuse options for maximizing local water supply and reduced flows to the Point Loma Wastewater Treatment Plant. This follow on effort, now known as the Pure Water San Diego Program, is described in more detail below.

Pure Water San Diego Program:

The Department's Pure Water San Diego Program (Program) is a multi-year program ending in the year 2035. The program will create a safe and reliable local water supply through potable reuse, while reducing the Point Loma Wastewater Treatment Plant's ocean discharges and accomplishing secondary equivalency.

Potable reuse is an approach that would allow the City to maximize the use of recycled water. Recycled water that is used for non-drinking uses like irrigation and industrial processes, would undergo advanced water purification (AWP) to render it safe for use as raw water supply. The AWP process uses multiple treatment barriers to remove contaminants from the water and prevent them from re-entering the water supply. It begins with ozone/BAC, membrane filtration, followed by reverse osmosis, and ends with advanced oxidation. The result is purified water that meets all drinking water standards and is similar in quality to distilled water.

Pure Water will be implemented in two or three phases. The first phase which consists of 30 MGD advanced water purification facility will be located in the northern part of the City. The other two phases may be located either all in the central area, or may be split between central and southern area. Decision on the location for phase two will be made once evaluations of benefits and challenges associated with each location is determined. Under all scenarios the water will be treated again at a drinking water plant before being distributed for consumption.

Other ongoing Pure Water work includes designing the treatment and conveyance facilities, finalizing the method for water-wastewater cost allocation, continued outreach and education, and working closely with regulatory and other key stakeholders.

The City's application for a National Pollution Discharge Elimination Permit (modified permit) was received by the United States Environmental Protection Agency and the Regional Water Quality Control Board in January 2015. The current permit expired on July 31, 2015, and in the interim regulators administratively continue the present permit until final action on the renewal is taken. Pure Water is integral to both the application to renew Point Loma's Permit and the proposed permanent solution for future permits to be considered secondary equivalent.

This comprehensive effort will provide a secure and reliable long-term local water supply for San Diego while resolving the decade's long issues associated with Point Loma WTP.

Groundwater

There are several groundwater basins in the San Diego region that the City has rights, concerns, jurisdiction and an interest in developing for municipal supply or other beneficial use. These basins are:

- San Pasqual Basin
- Mission Valley Basin
- Santee/El Monte
- Tijuana Basin
- San Diego Formation (includes both the Sweetwater Valley and Otay Valley Basins)

The City of San Diego is committed to protecting its groundwater resources and preserving its established Pueblo water rights. This right attaches to it, the use of all surface waters and groundwater of the streams that flowed through the original pueblo, including their tributaries, from their source to their mouth. The City's Pueblo right protects its ability to extract water from the basin to the extent of the needs of its inhabitants. The native waters are accessible to others until the City needs the water.

The City is presently assessing the development of all of its groundwater resources. Its intent is to develop any and all available groundwater needed for its inhabitants. The location of groundwater wells throughout the basins can be viewed as evidence of the City's intent, ability and preliminary efforts to develop basin groundwater resources.

The groundwater quality from these basins is predominantly brackish. Improved technologies provide consideration of affordable water sources, such as brackish groundwater, that were not available a few decades ago. Groundwater is a viable alternative and is part of the City's planning efforts. Local water supply projects, particularly groundwater exploration, benefit City rate payers, offer drought protection, and are locally controlled.

The City is the Monitoring Entity for the San Pasqual Basin and for the Santee El Monte Basin as approved by the California Statewide Groundwater Elevation Monitoring (CASGEM) program. Working cooperatively with the California Department of Water Resources (DWR), the City established a network of monitoring wells for CASGEM to regularly and systematically track seasonal and long-term trends in groundwater elevations for the two alluvial groundwater basins. Included in the monitoring network plan for the San Pasqual Basin are three multi-level monitoring wells installed by the United States Geological Survey (USGS) under a cooperative agreement with the City. Participation in the statewide CASGEM program allows basin groundwater data to be maintained and readily available through DWR's public data base.

In addition, further work with DWR on Sustainable Groundwater Management Act (SGMA) of 2014 provides a framework for sustainable management of groundwater supplies by local authorities. Local agencies involved in the implementation must form local groundwater sustainability agencies within two years. For agencies in basins deemed high or medium priority, groundwater sustainability plans must be adopted within five to seven years. By 2040, groundwater agencies in critically overdrafted basins should achieve sustainable groundwater management to avoid undesirable results, such as chronic depletion of groundwater, reduction of groundwater storage, degradation of water quality, depletion of surface water, or subsidence. In general, the groundwater basins as discussed in the San Diego area are characterized by stable groundwater levels. Groundwater quality is often brackish, with total dissolved solids (TDS), chloride, and sodium impairing its use as a potable supply.

The City has been investigating the Mission Valley Aquifer (an aquifer holds water that's stored beneath the Earth's surface in the pores of soil and the cracks of rock). Mission Valley is a narrow, east-west trending valley carved out by the San Diego River as it drains westward

from Mission Gorge to the Pacific Ocean. The most conducive portion of the aquifer lies within the extent of an historical well field where the City has retained ownership of the property and where a substantial portion is overlain by Qualcomm Stadium and its parking lot.

In 1963 a fuel tank farm was built in Mission Valley at the mouth of Murphy Canyon, known as Mission Valley Terminal (MVT). Underground fuel contamination was suspected to have happened in 1986. From 1986 to 1991, approximately 200,000 gallons of gasoline was released underground from the MTV located upstream of Qualcomm Stadium and contaminated the aquifer. The contamination extended from the tank farm, beneath Qualcomm property, to approximately where Interstate 805 crosses the San Diego River. Although remediation of the Mission Valley Aquifer has been ongoing for a period of time, the City is waiting for remediation to be complete before resuming its plans for development of the aquifer for municipal supply.

The City has been producing groundwater from the Santee/El Monte Basin, which is located in the upper reach of the San Diego River. The City is evaluating the expansion of its groundwater production facilities in this basin. The City's existing wells produce approximately 500 AFY. The well conveys groundwater directly to the City's existing raw water line from the reservoir, and ultimately, to the City's Alvarado Treatment Plant.

The San Diego Formation is a coastal plain, groundwater basin covering much of National City and the City of Chula Vista in the southern portion of San Diego County. The San Diego Formation is a confined aquifer that underlies a portion of both the Otay Valley and Sweetwater Valley groundwater basins as identified by DWR in Bulletin 118. The City desires to use the San Diego Formation for groundwater municipal supply, and seeks to manage the safe yield of the groundwater system in a prudent and efficient manner.

The City has been investigating the San Diego Formation for many years to gain a better understanding of the Basin and its possibilities. The City has been better able to characterize the water quality and quantity in the San Diego Formation through aquifer testing and monitoring well installations that have occurred since 2007. In addition, the City has been working with the USGS to develop an integrated and comprehensive understanding of the geology and hydrology of the San Diego Formation, and to use this understanding to evaluate a sustainable, long-term environmental sound use of the formation for municipal supply.

In 2013, Sweetwater Authority reached an agreement with the City to share potable water from the Richard A. Reynolds Desalination Facility, after its expansion, and jointly fund the project. This project proposes to increase the capacity of the brackish groundwater desalination facility from 3,600 AFY to 8,800 AFY. Under the terms of this agreement, the City will receive 50 percent of any water produced over 3,600 AFY at the facility. Beginning in 2020, the projected volume will be approximately 2,600 AFY. Even with the projected supply reaching 2,600 AFY, the City is assumed to average 1,900 AFY. Sweetwater Authority will be responsible for owning, constructing, and operating the brackish groundwater desalination facility.

Section 6 - Projected Demands

Approximately every three years the Public Utilities Department (Department) calculates projected water demands within its service area for planning purposes. A computer model is used (IWR-MAIN) to break down water-use by major water-use sectors: Commercial, Industrial, Residential and Public uses. Using past water-use data from the Department and demographic data provided by SANDAG land use, the model is able to correlate the data to determine sector water demands. Using this correlated data, future demographic data is used to project water demands. The model also accounts for water conservation, weather and water rate changes.

In addition to the Department, the Water Authority and MWD use regional growth forecasts to calculate projected water demands within their respective service areas. This provides for consistency between the retail and wholesale agencies projected water demands, thereby ensuring that adequate supplies are being planned for the Department's existing and future water users. The SANDAG forecasts are based on adopted community plan land use, but not citywide zoning. SANDAG forecasts the number of residents, dwelling units, and employees in an area, but not square footage, hotel rooms, or visitors (non-residents or non-employees). For urban areas the smallest forecast geography is typically at the block level, but for suburban and less developed areas the forecast geography can be larger. SANDAG typically updates the regional growth forecast every three to four years. The Department water demand projections, based on the SANDAG Series 13 Forecast land use, are incorporated in the City's 2015 UWMP. These projections are then forwarded to the Water Authority for use in the preparation of their UWMP, which is further incorporated into MWD's UWMP to calculate the ultimate water demands of the region (see **Figure 6-1**).

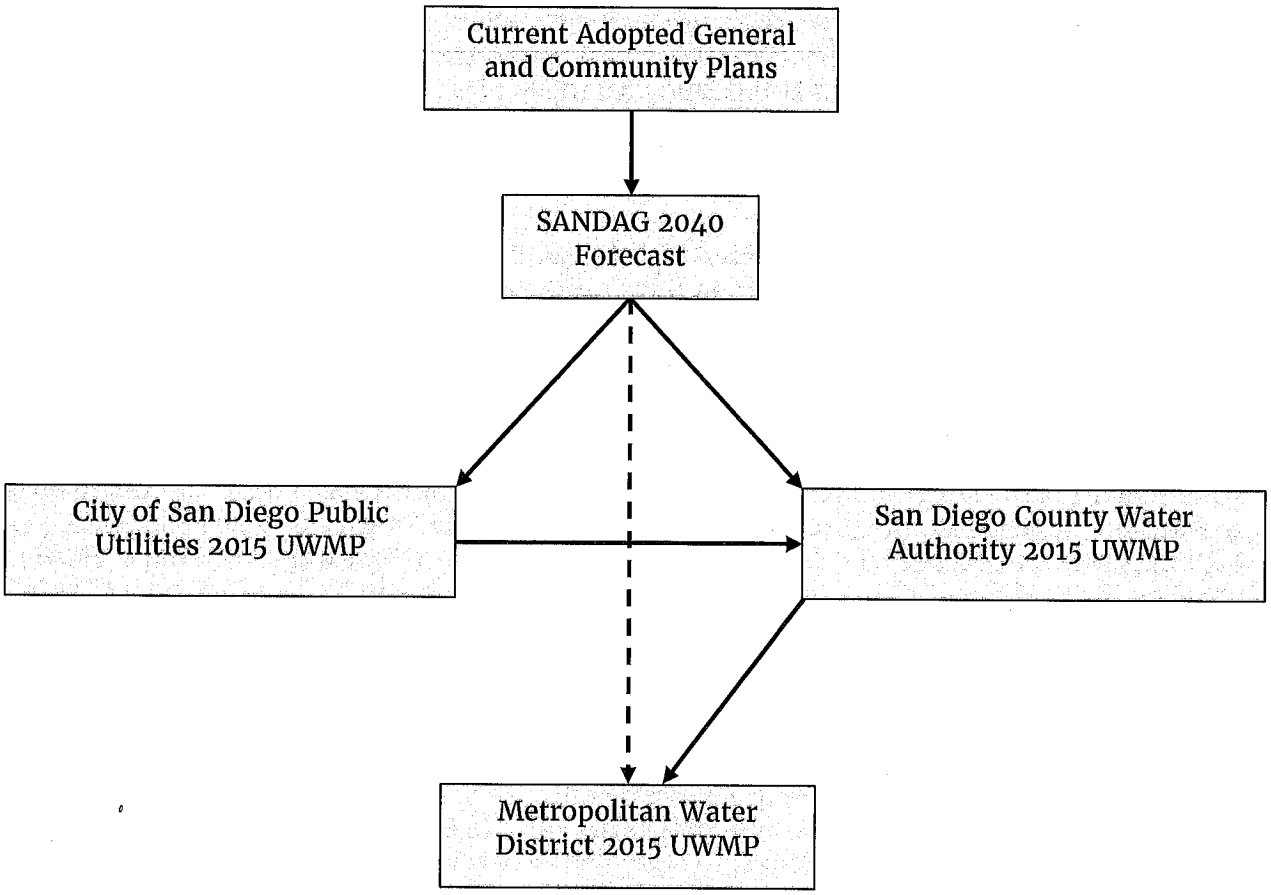
Recently, water demands for the City have been greatly suppressed due to mandatory water use restrictions and public education that were put in place by the City as a result of the current statewide mandate for conservation in response to emergency drought conditions. Because of these suppressed demands, the City had to develop near-term water use projections for its Cost of Service Study (developed in 2015). These short-term water use projections are used for setting water rates to the year 2020, and were much lower than the new long-term water demand forecast.

Thus, a method was developed to bridge the gap between the short-term water use projections and long-term water demand forecast. This method assumes that once mandatory water use restrictions are lifted, water demands would return to pre-drought (2008) levels within 15 years. In past droughts, it only took 5 to 7 years for water demands to return to pre-drought levels; but because of the severity of this drought it was assumed to take longer for the bounce back in water demands to occur.

The Department updates its UWMP every five years. The 2015 UWMP, was completed and adopted in June 2016. The time extension granted for the completion of the 2015 UWMP marks a continued focus on water use reduction strategies.

The Governor signed Assembly Bill (AB) 2067 which amended the water code extending the deadline for submitting 2015 UWMP. The bill requires each urban water supplier to submit its 2015 UWMP to the Department of Water Resources by July 1, 2016.

FIGURE 6-1
WATER DEMAND PROJECTIONS



The demands from the 2015 UWMP are used throughout this Report. The historical and projected water demands for a normal year are shown in **Table 6-1**.

As part of the requirements for complying with SB 610, **Table 6-7** and **Table 6-8,** show the single-dry year and consecutive multiple-dry year demands. All tables in this section are based on data from the 2015 UWMP.

TABLE 6-1
PAST, CURRENT, AND PROJECTED WATER DELIVERIES

			Water Use (AFY)			
			2010		2015	
Sector	Type of Use	Treatment Level	Meters	Use	Meters	Use
Single-Family Residential	Indoor and outdoor uses	Drinking Water	219,555	67,267	224,162	60,573
Multifamily Residential	Indoor and outdoor uses	Drinking Water	28,992	40,124	30,471	37,799
CII	Indoor and outdoor uses	Drinking Water	15,539	46,350	17,064	46,072
Irrigation	Landscape irrigation	Drinking Water	7,359	23,537	7,679	22,668
Other	Dust mitigation, cleaning	Drinking Water	214	89	464	0
Subtotal of Retail Area			**271,659**	**177,367**	**279,840**	**167,112**

Sector	Water Use (AFY)				
	2020	2025	2030	2035	2040
Single-family Residential	62,638	80,762	86,340	87,932	87,180
Multifamily Residential	56,766	73,191	90,080	95,841	95,786
CII	48,936	48,238	47,542	47,755	48,014
Sub-Total (Retail Area)	**168,340**	**202,191**	**223,962**	**231,528**	**230,980**

Note: The billing categories shown in the 2020 to 2040 water deliveries do not include the irrigation category that was shown in the 2010 and 2015 water deliveries as that water use was distributed among the multifamily (to account for irrigation of common association property) and CII sectors.

Source: 2020 to 2030 is extrapolation from 2015 Cost of Service Study; 2030 and after is from City's Update of Long-Term Water Demand Forecast, July 2015

Table 6-2 Summarizes the current and planned water sources the City is relying on to meet future demands.

TABLE 6-2
PLANNED WATER SUPPLY SOURCES

Basin	Average Year Water Supply (AFY)					
	2015*	2020	2025	2030	2035	2040
Verifiable Supply (Existing and Planned)						
Surface Water	6,279	22,900	22,800	22,700	22,600	22,500
Groundwater	500	3,100	3,100	3,100	3,100	3,100
Recycled Water (non-potable)	8,195	13,650	13,650	13,650	13,650	13,650
Total Verifiable Local Water Supplies	**14,974**	**39,650**	**39,550**	**39,450**	**39,350**	**39,250**
SDCWA Water Purchases with Verifiable Regional Water Supplies	**173,754**	**161,334**	**202,488**	**225,390**	**234,398**	**234,158**
Total Verifiable Water Supplies	**198,957**	**200,984**	**242,038**	**264,840**	**273,748**	**273,408**

*2015 represents actual supplies under very dry hydrologic conditions – resulting in very low surface water supplies.

6.1 Water Sales to Other Agencies

Potable Water

The City, through past agreements, sells treated water to the California American Water Company (Cal-Am), which provides water service to the cities of Coronado and Imperial Beach, and Naval Air Station North Island. The population of Naval Station North Island is located within the City of Coronado, whereas the other military bases that the City serves are within the City. The City also sells untreated water to Santa Fe Irrigation District and San Dieguito Water District. **Table 6-3** presents the water sales to other agencies.

Per the agreement between the City and Cal-Am, only local surface water is sold to Cal-Am to provide water to supply Cal-Am customers. A portion of City residents in the South Bay area are also served by Cal-Am and can be served by imported water as well. Per the agreement between the City and the City of Del Mar, the City takes deliveries of water, which the City of Del Mar purchases from the Water Authority, through the Second Aqueduct Connection at Miramar. This water is then treated at the City's Miramar WTP and transported to the City of Del Mar through several interconnections.

The City has agreements to provide surplus treated water to Otay Water District, and untreated exchange water to Ramona Municipal Water District. These water deliveries occur infrequently and for short periods of time, and are therefore not shown in **Table 6-3**.

TABLE 6-3
SALES TO OTHER AGENCIES-POTABLE

Sector	Water Use (AFY)					
	2015	2020	2025	2030	2035	2040
Wholesale Water Sales	10,229	12,200	14,106	15,453	15,759	15,821

Source: 2020 to 2030 is extrapolation from 2015 Cost of Service Study; 2030 and after is from City's Update of Long- Term Water Demand Forecast, July 2015

Recycled and Non-Revenue Water

The City has three separate agreements to sell recycled water. Olivenhain Municipal Water District and the City of Poway are provided recycled water from the City's North City Water Reclamation Plant, while Otay Water District receives recycled water from the City's South Bay Water Reclamation Plant.

Non-Revenue Water (NRW) is the difference between the potable water supplied to the system (also known as potable water production), and the potable water sold to customers (also known as metered water deliveries). NRW typically includes legitimate uses that are not metered, such as street cleaning, line flushing and fire suppression, as well as unaccounted for water. Unaccounted for water can be attributed to unauthorized consumption, meter inaccuracies, data errors, leakage on mains, leakage and overflow at storage, and leakage at service connections. Typically, NRW is presented as a percentage of total potable water production. Historically, the City reported 4.3 percent of NRW in the 2005 UWMP, and 9.0 percent of NRW in the 2010 UWMP. Non-Revenue Water for 2015 was determined to be 7.4 percent (estimated at 13,421 AFY), based on the American Water Works Association's Water Audit Software, as required by the 2015 UWMP.

TABLE 6-4
ADDITIONAL WATER USES AND LOSSES

Use	Water Use (AFY)						
	2010	2015	2020	2025	2030	2035	2040
Non-Revenue Water	12,593	13,421	15,700	18,809	18,020	18,613	18,576
Recycled Water[1]	7,951	8,195	13,650	13,650	13,650	13,650	13,650

1. Excludes wholesale recycled water that City provides outside of its service area.

Table 6-5 is a summary of and displays City's past water use from 2010 and 2015 with projected water use shown for 2020 thru 2040.

TABLE 6-5
TOTAL WATER-USE

Use	Water Demand (AFY)						
	2010	2015	2020	2025	2030	2035	2040
Retail Potable Water Sales	177,368	167,112	168,340	202,191	223,962	231,528	230,980
Wholesale Potable Water Sales	11,493	10,229	12,200	14,106	15,453	15,759	15,821
Non-Revenue Water	12,593	13,421	15,700	18,809	18,020	18,613	18,576
Sub-Total (Potable)	**201,454**	**190,762**	**196,240**	**235,106**	**257,435**	**265,900**	**265,377**
Recycled Water (Non-Potable)	7,951	8,195	13,650	13,650	13,650	13,650	13,650
Total Demand	**209,405**	**198,957**	**209,890**	**248,756**	**271,085**	**279,550**	**279,027**

The analysis in **Table 6-6** below compares the projected normal water supply and customer demands from 2010 to 2040, in five-year increments.

TABLE 6-6
PROJECTED NORMAL SUPPLY AND DEMAND COMPARISON

Normal Year Demands/Supplies	Demand and Supplies (AFY)				
	2020	2025	2030	2035	2040
Water Demand (with wholesale and conservation)	**200,984**	**242,038**	**264,840**	**273,748**	**273,408**
Local Water Supplies					
Recycled Water (City service area	13,650	13,650	13,650	13,650	13,650
Local Surface Supply	22,900	22,800	22,700	22,600	22,500
Groundwater	3,100	3,100	3,100	3,100	3,100
Sub-Total Local Supplies	**39,650**	**39,550**	**39,450**	**39,350**	**39,250**
Water Supply from SDCWA (purchased water)	161,334	202,488	225,390	234,398	234,158
Total City Water Supplies	**200,984**	**242,038**	**264,840**	**273,748**	**273,408**
Estimated Water Shortages	0	0	0	0	0

6.2 Projected Single-dry Year Water Supply and Demand

Table 6-7 provides a comparison of a single-dry year water supply with projected total water use over the next 25 years, in five-year increments. The City's demands in single-dry years are projected to be higher similar in proportion to the increase in regional water demands projected in the Water Authority's 2015 UWMP. An increase in use for landscape irrigation accounts for most of the increase in demands. It is assumed that recycled water demands would not increase in single-dry years. The wholesale water supplies from the Water Authority are assumed to increase to meet the difference between the City's increased water demands and reduced local water supplies.

TABLE 6-7
PROJECTED SINGLE-DRY YEAR SUPPLY AND DEMAND COMPARISON

Single-Dry Year (1990) Demands/Supplies	Demand and Supplies (AFY)				
	2020	2025	2030	2035	2040
Water Demand (with wholesale and conservation)	**213,161**	**256,883**	**281,167**	**290,654**	**290,292**
Local Water Supplies					
Recycled Water (City service area only)	13,650	13,650	13,650	13,650	13,650
Local Surface Supply	16,657	16,584	16,512	16,439	16,366
Groundwater	3,100	3,100	3,100	3,100	3,100
Sub-Total Local Supplies	**33,407**	**33,334**	**33,262**	**33,189**	**33,116**
Water Supply from SDCWA (purchased water)	179,754	223,549	247,906	257,466	257,176
Total City Water Supplies	**213,161**	**256,883**	**281,167**	**290,654**	**290,292**
Estimated Water Shortages	0	0	0	0	0

6.3 Projected Multiple-dry Year Water Supply and Demand

Table 6-8 compares the total water supply available in multiple-dry water years with projected total water use over the next 25 years. The City's demands in multiple-dry years are projected to be higher, similar in proportion to the increase in regional water demands projected in Water Authority's 2015 UWMP. It is presumed that recycled water demands would not increase in multiple-dry years. The wholesale water supplies from Water Authority are assumed to increase to meet the difference between the City's increased water demands and reduced local water supplies. Multiple-dry year scenarios represent hot, dry weather periods which may generate urban water demands that are greater than normal.

No extraordinary conservation measures are reflected in the demand projections. The recycled water supplies are assumed to experience no reduction in a dry year.

TABLE 6-8
PROJECTED SUPPLY AND DEMAND COMPARISON DURING MULTIPLE DRY YEAR PERIOD ENDING IN 2040

Dry Year 1 (1990) Demands/Supplies	Demand and Supplies (AFY)				
	2020	2025	2030	2035	2040
Water Demand (with wholesale and conservation)	**213,161**	**256,883**	**281,167**	**290,654**	**290,292**
Local Water Supplies					
Recycled Water (City service area only)	13,650	13,650	13,650	13,650	13,650
Local Surface Supply	16,657	16,584	16,512	16,439	16,366
Groundwater	3,100	3,100	3,100	3,100	3,100
Sub-Total Local Supplies	**33,407**	**33,334**	**33,262**	**33,189**	**33,116**
Water Supply from SDCWA (purchased water)	179,754	223,549	247,906	257,466	257,176
Total City Water Supplies	**213,161**	**256,883**	**281,167**	**290,654**	**290,292**
Estimated Water Shortages	0	0	0	0	0
Dry Year 2 (1991) Demands/Supplies	**Demand and Supplies (AFY)**				
	2020	**2025**	**2030**	**2035**	**2040**
Water Demand (with wholesale and conservation)	**200,610**	**241,581**	**264,338**	**273,228**	**272,888**
Local Water Supplies					
Recycled Water (City service area only)	13,650	13,650	13,650	13,650	13,650
Local Surface Supply	16,233	16,162	16,091	16,020	15,949
Groundwater	3,100	3,100	3,100	3,100	3,100
Sub-Total Local Supplies	**32,983**	**32,912**	**32,841**	**32,770**	**32,699**
Water Supply from SDCWA (purchased water)	167,627	208,669	231,469	240,457	240,189
Total City Water Supplies	**200,610**	**241,581**	**264,338**	**273,228**	**272,888**
Estimated Water Shortages	0	0	0	0	0
Dry Year 3 (1992) Demands/Supplies	**Demand and Supplies (AFY)**				
	2020	**2025**	**2030**	**2035**	**2040**
Water Demand (with wholesale and conservation)	**208,665**	**251,402**	**275,139**	**284,412**	**284,058**
Local Water Supplies					
Recycled Water (City service area only)	13,650	13,650	13,650	13,650	13,650
Local Surface Supply	18,962	18,879	18,796	18,714	18,631
Groundwater	3,100	3,100	3,100	3,100	3,100
Sub-Total Local Supplies	**35,712**	**35,629**	**35,546**	**35,464**	**35,381**
Water Supply from SDCWA (purchased water)	175,953	215,773	239,592	248,948	248,677
Total City Water Supplies	**208,665**	**251,402**	**275,139**	**284,412**	**284,058**
Estimated Water Shortages	0	0	0	0	0

Section 7 - Conclusion - Availability of Sufficient Supplies

The Project is consistent with water demand assumptions in the regional water resource planning documents of the City, the Water Authority and MWD. The Public Utilities Department receives the majority of its water supply from MWD through the Water Authority. In addition, MWD and the Water Authority have developed water supply plans to improve reliability and reduce dependence upon existing imported supplies. MWD's Regional Urban Water Management Plan and Integrated Resources Plan, the Water Authority's 2015 UWMP and annual water supply report include projects that meet long-term supply needs through securing water from the State Water Project, Colorado River, local water supply development and recycled water.

The forecasted normal year water demands compared with projected supplies for the Public Utilities Department are shown in **Table 7-1**. This demonstrates that with existing supplies and implementation of the projects discussed in the three agencies' planning documents there will be adequate water supplies to serve all anticipated growth (existing and future planned uses) and development.

TABLE 7-1
PROJECTED SUPPLY AND DEMAND COMPARISON – NORMAL YEAR

Normal Year Demands/Supplies	Demand and Supplies (AFY)				
	2020	2025	2030	2035	2040
Water Demand (with wholesale and conservation)	**200,984**	**242,038**	**264,840**	**273,748**	**273,408**
Local Water Supplies					
Recycled Water (City service area only)	13,650	13,650	13,650	13,650	13,650
Local Surface Supply	22,900	22,800	22,700	22,600	22,500
Groundwater	3,100	3,100	3,100	3,100	3,100
Sub-Total Local Supplies	**39,650**	**39,550**	**39,450**	**39,350**	**39,250**
Water Supply from SDCWA (purchased water)	161,334	202,488	225,390	234,398	234,158
Total City Water Supplies	**200,984**	**242,038**	**264,840**	**273,748**	**273,408**
Estimated Water Shortages	0	0	0	0	0

Table 7-2 provides a comparison of a single-dry year water supply with projected total water use over the next 25 years, in five-year increments.

TABLE 7-2
PROJECTED SINGLE-DRY YEAR SUPPLY AND DEMAND COMPARISON

Single-Dry Year (1990)	Demand and Supplies (AFY)				
	2020	2025	2030	2035	2040
Water Demand (with wholesale and conservation)	**213,161**	**256,883**	**281,167**	**290,654**	**290,292**
Local Water Supplies					
Recycled Water (City service area only)	13,650	13,650	13,650	13,650	13,650
Local Surface Supply	16,657	16,584	16,512	16,439	16,366
Groundwater	3,100	3,100	3,100	3,100	3,100
Sub-Total Local Supplies	**33,407**	**33,334**	**33,262**	**33,189**	**33,116**
Water Supply from SDCWA (purchased water)	179,754	223,549	247,906	257,466	257,176
Total City Water Supplies	**213,161**	**256,883**	**281,167**	**290,654**	**290,292**
Estimated Water Shortages	0	0	0	0	0

The multiple-dry year scenarios, within a 25-year projection, are shown in **Table 7-3**. This demonstrates that supplies will be adequate to meet all anticipated growth (existing and future planned uses) and development in multiple-dry year periods.

TABLE 7-3
PROJECTED SUPPLY AND DEMAND COMPARISON DURING MULTIPLE DRY YEAR PERIOD ENDING IN 2040

Dry Year 1 (1990) Demands/Supplies	Demand and Supplies (AFY)				
	2020	2025	2030	2035	2040
Water Demand (with wholesale and conservation)	**213,161**	**256,883**	**281,167**	**290,654**	**290,292**
Local Water Supplies					
Recycled Water (City service area only)	13,650	13,650	13,650	13,650	13,650
Local Surface Supply	16,657	16,584	16,512	16,439	16,366
Groundwater	3,100	3,100	3,100	3,100	3,100
Sub-Total Local Supplies	**33,407**	**33,334**	**33,262**	**33,189**	**33,116**
Water Supply from SDCWA (purchased water)	179,754	223,549	247,906	257,466	257,176
Total City Water Supplies	**213,161**	**256,883**	**281,167**	**290,654**	**290,292**
Estimated Water Shortages	0	0	0	0	0
Dry Year 2 (1991) Demands/Supplies	**Demand and Supplies (AFY)**				
	2020	**2025**	**2030**	**2035**	**2040**
Water Demand (with wholesale and conservation)	**200,610**	**241,581**	**264,338**	**273,228**	**272,888**
Local Water Supplies					
Recycled Water (City service area only)	13,650	13,650	13,650	13,650	13,650
Local Surface Supply	16,233	16,162	16,091	16,020	15,949
Groundwater	3,100	3,100	3,100	3,100	3,100
Sub-Total Local Supplies	**32,983**	**32,912**	**32,841**	**32,770**	**32,699**
Water Supply from SDCWA (purchased water)	167,627	208,669	231,469	240,457	240,189
Total City Water Supplies	**200,610**	**241,581**	**264,338**	**273,228**	**272,888**
Estimated Water Shortages	0	0	0	0	0
Dry Year 3 (1992) Demands/Supplies	**Demand and Supplies (AFY)**				
	2020	**2025**	**2030**	**2035**	**2040**
Water Demand (with wholesale and conservation)	**208,665**	**251,402**	**275,139**	**284,412**	**284,058**
Local Water Supplies					
Recycled Water (City service area only)	13,650	13,650	13,650	13,650	13,650
Local Surface Supply	18,962	18,879	18,796	18,714	18,631
Groundwater	3,100	3,100	3,100	3,100	3,100
Sub-Total Local Supplies	**35,712**	**35,629**	**35,546**	**35,464**	**35,381**
Water Supply from SDCWA (purchased water)	175,953	215,773	239,592	248,948	248,677
Total City Water Supplies	**208,665**	**251,402**	**275,139**	**284,412**	**284,058**
Estimated Water Shortages	0	0	0	0	0

This Report demonstrates that there are sufficient water supplies over a 25-year planning horizon to meet the projected demands of the Project as well as the existing and other planned development projects within the Public Utilities Department service area in normal, dry year, and multiple-dry year forecasts. This Project is proposing water demands which are included in the regional water resource planning documents of the City, the Water Authority, and MWD.

Source Documents

California Department of Water Resources (DWR), Progress on Incorporating Climate Change into Management of California's Water Resources, July 2006 Report
California Climate Change Center, 2006 Biennial Report: Our Changing Climate: Assessing the Risks to California, 2006
California Department of Water Resources Guidebook for Implementation of Senate Bill 610 and Senate Bill 221 of 2001, March 2011
DSD Memorandum - Request for assessment and project description, February 2013
MWD 2010 Regional Urban Water Management Plan
MWD Report on Metropolitan's Water Supplies, A Blueprint for Water Reliability, March 2003
MWD Integrated Resources Plan Update, Oct 2010
Public Utilities Department 2015 Urban Water Management Plan
Public Utilities Department Annual 2012 Water Conservation Report
Public Utilities Department Recycled Water Study July 2012
Public Utilities Department Recycled Water Master Plan August 2011
Public Utilities Department Water Purification Demonstration Project Report
Water Authority 2010 Urban Water Management Plan
Water Authority Regional Water Facilities Master Plan, 2003
Water Department Long-Range Water Resources Plan (2002-2030), December 2002
Water Department The City of San Diego Subordinated Water Revenue Bonds, Series 2002, October 2002

APPENDIX A

San Diego County Water Authority's Approval Email for the use of the Accelerated Forecasted Growth (AFG) of its 2015 UWMP

From: Friehauf, Dana [mailto:DFriehauf@sdcwa.org]
Sent: Friday, September 16, 2016 3:24 PM
To: Wiborg, Lan <LWiborg@sandiego.gov>
Cc: Bista, Seevani <SBista@sandiego.gov>; Gilmartin, Shelby <SGilmartin@sandiego.gov>; Bombardier, Tim <tbombardier@sdcwa.org>; Adrian, George <GAdrian@sandiego.gov>
Subject: RE: AFG for Preserve at Torrey Highlands - updated AFG request #

Dear Lan,

Thank you for your email regarding the City of San Diego's Preserve at Torrey Highlands Project (Torrey Highlands Project). The following is the Water Authority's response to your request to use the Accelerated Forecasted Growth (AFG) component of the Water Authority's 2015 Urban Water Management Plan to meet the unanticipated water demands associated with the Torrey Highlands Project.

The purpose of the AFG component of the demand forecast is to estimate, on a regional basis, additional demand associated with proposed projects not yet included in local jurisdictions' general plans and to plan for sufficient regional supplies to reliably meet the water demand of those projects. The Torrey Highlands Project identified in your August 24, 2016 e-mail and subsequent September 7, 2016 email from George Adrian, meets the criteria for the AFG component of the Water Authority's 2015 UWMP and we are planning to have water supplies to reliably meet the demand associated with the project. Our accounting of the remaining AFG component will be adjusted to reflect the additional demand associated with the proposed Torrey Highlands Project.

In order to accurately account for utilization of the AFG, we request that the City of San Diego send the Water Authority notification of when this project or any other project that utilized the AFG demand component is approved.

Please let me know if you have any questions or wish to discuss this matter further.
Regards,
Dana

Dana Friehauf
Water Resources Manager
San Diego County Water Authority
858-522-6749

From: Adrian, George [mailto:GAdrian@sandiego.gov]
Sent: Wednesday, September 7, 2016 3:20 PM
To: Friehauf, Dana <DFriehauf@sdcwa.org>; Bombardier, Tim <tbombardier@sdcwa.org>
Cc: Bista, Seevani <SBista@sandiego.gov>; Wiborg, Lan <LWiborg@sandiego.gov>; Gilmartin, Shelby <SGilmartin@sandiego.gov>
Subject: AFG for Preserve at Torrey Highlands - updated AFG request #

Hi Dana
We were checking our numbers for this project and have revised the calcs. So the demand # is now 138.1 AFY

So, in your reply back to us please use the new revised # of 138.1 AFY

IF you have any questions please call me or Seevani Bista at (619) 533-4222.

Thank you
George

George Adrian PE
Program Manager
City of San Diego
Public Utilities Department

T: 619-533-4680
sandiego.gov

From: Wiborg, Lan
Sent: Wednesday, August 24, 2016 10:42 AM
To: Friehauf, Dana <DFriehauf@sdcwa.org>
Cc: Bombardier, Tim <tbombardier@sdcwa.org>; Adrian, George <GAdrian@sandiego.gov>; Bista, Seevani <SBista@sandiego.gov>; Gilmartin, Shelby <SGilmartin@sandiego.gov>
Subject: AFG for Preserve at Torrey Highlands

Hi Dana:

The City of San Diego is preparing a water supply assessment for the Preserve at Torrey Highlands Project, in accordance with the requirements of SB 610.

The proposed Preserve at Torrey Highlands Project (Project) is located on 11.10 acres of vacant, undeveloped land. The site is located approximately one-quarter mile south of State Route (SR) 56 and along the west side of the planned extension of Camino Del Sur. The immediate surrounding land of the project site is presently vacant and undeveloped. Commercial and residential land uses are located both north and west of the project site. Please find attached a vicinity map for your reference.

The Project involves the construction of a 450,000 square-foot commercial office development. Specifically, a three building commercial campus consisting of four story, five story, and six story buildings, respectively, and a one-level building for an onsite café. Beneath Commercial Building 2 there will be a one-level fitness center, of approximately 5,000 square feet. In addition, a one level subterranean parking structure, and an above-grade parking structure will be constructed. Site improvements such as, associated hardscape (surface parking, driveways, and walkways), public improvements, and landscaping improvements. The proposed landscaping materials are a mix of: groundcover, various grasses, high water use shrubs and turf, and native shrubs.

Most of the proposed development for this project was not accounted for in the SANDAG Series 13 forecast, the water demand associated with the unaccounted growth was also not included in the City's 2015 Urban Water Management Plan. The previously planned water use for the site was only 4.4 AFY. So the City is giving credit to the existing usage and estimated the unaccounted water demand with this project as **139.6 acre-feet per year** as seen in the table below:

Preserve at Torrey Highlands Project Not Accounted for in the SANDAG's Series 13 Forecast			
	Water Demands (Acre-Feet per Year)		
Project	**Planned**	**Projected**	**Delta**
Preserve at Torrey Highlands	4.4	144.0	~~-139.6~~ 138.1
Total			**-139.6**

The City is requesting the use of the Accelerated Forecasted Growth (AFG) component of the Water Authority's 2015 Urban Water Management Plan to meet demands associated with this project, similar to other projects requested. Attached please find a table showing the total AFG that the City has requested to date based on the 2015 UWMP.

Your assistance with this request is greatly appreciated.

Thank you,

Lan

Lan C. Wiborg
Deputy Director
Public Utilities Department
Long-Range Planning & Water Resources Division

T1 (619) 533-4112
T2 (858) 654-4293

The City of SAN DIEGO

~ A world-class city for all ~

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APPENDIX B

San Diego County Water Authority's Accelerated Forecasted Growth (AFG) Demand Track

2015 UWMP Accelerated Forecast Growth

Response Date	Agency	Project	Estimated (AF)	Running Total (AF)	Date Certified EIR Received
Value carried forward from Total AFG Demand Increment Needed based on Series 12			**2,583.5**	2,583.3	
Projects based on Series 12 - 2010 UWMP (2015 UWMP not yet adopted)					
4/7/2016	City of San Diego	7th and Market	**115.5**	2,699.0	
4/7/2016	City of San Diego	Town & Country	**192.3**	2,891.3	
Projects based on Series 13 – 2015 UWMP					
7/26/2016	City of San Diego	Broadway Block	**69.5**	2,960.8	
8/3/2016	City of San Diego	University of San Diego Master Plan Update	**231.8**	3,192.6	
	City of San Diego	Preserve at Torrey Highlands	**138.1**	3,330.7	
			Running Total	**3,330.7**	
		Total City Usage	**3,330.7**		

APPENDIX O

Water Study

WATER STUDY
FOR
THE PRESERVE AT TORREY HIGHLANDS

PTS No. 442880, I.O. No. 24006166

Prepared By:
LEPPERT ENGINEERING CORPORATION
5190 Governor Drive, Suite 205
San Diego, CA 92122
Job No. TH 6.07-13.15

Prepared: April 4, 2016

John D. Leppert
RCE 26283 Exp. 3-31-18

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Project Location	1
Project Description	1
Average Annual Water Demands	1
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Fire Demands	2
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Project Timing	2

Exhibits

Exhibit "A"	Location Maps
Exhibit "B"	Water Study Exhibit

Appendix

Appendix I	CD of "Water System Analysis for Torrey Highlands Subarea IV" prepared by Wilson Engineering
Appendix II	Excerpts from the Torrey Highlands Public Facilities Financing Plan FY 2013
Appendix III	Excerpts from the "City of San Diego Water Department, Capital Improvements Program, Guidelines and Standards, Book 2"
Appendix IV	Our Lady of Mt. Carmel Permit Conditions (PDP No. 10965, SDP NO. 4916, CUP No. 4915, & Project No. 2752)

The Preserve at Torrey Highlands
Water Study
Job No. TH6.07-13.15
April 4, 2016

Introduction

The purpose of this water study is to calculate the water consumption for The Preserve at Torrey Highlands and examine the adequacy of the proposed 16" water main in Camino Del Sur analyzed in the "Water System Analysis for Torrey Highlands Subarea IV" prepared by Wilson Engineering, dated February 1999, see Appendix I.

The subject property is included in the Torrey Highlands Public Facilities Financing Plan FY 2013, see Appendix II for an excerpt of the aforementioned plan that shows the funding for the proposed 16" water main and the subject property within the proposed service area for that proposed 16" water main.

Project Location

The subject property is a rectangular parcel of land with a gross area of approximately 11 acres. It is located south of Torrey Santa Fe Road and west of future Camino Del Sur (Camino Ruiz) within the Torrey Highlands Community Planning Area (see Exhibit "A" - Location Maps).

Project Description

The project proposes three corporate office buildings, one café building, one fitness center, and one parking structure.

-Building 1:

Proposed 6-level office building containing 180,000 gross square feet, and 87 covered parking stalls beneath.

-Building 2:

Proposed 4-level office building containing 120,000 gross square feet, and 69 covered parking stalls beneath.

-Building 3:

Proposed 5-level office building containing 150,000 gross square feet, and 85 covered parking stalls beneath.

-Parking Structure:

Proposed 7.4-Level parking structure containing 0.4 subterranean and 7 above grade parking levels; providing 1,472 parking stalls.

-Café:

Proposed 1-level on site café building; providing approximately 3,850 square feet of space.

-Fitness Center:

Proposed 1-level Fitness Center beneath Building 2; providing approximately 5,000 square feet of space.

Average Annual Water Demand

The proposed project is an 11 acre commercial development. Per Table 2-2 from the "City of San Diego Water Department, Capital Improvements Program, Guidelines and Standards, Book 2" the unit water demand for a Commercial and Institutional land use category is 5000 gallons/net acre-day, see Appendix III. Thus the projected average daily water demand for The Preserve at Torrey Highlands is 55,000 gallons per day.

Peak Water Demands

Peak hour and maximum day water demands are estimated using the peaking factors presented in Figures 2-1 and 2-2 and the peaking factors zone map presented in Figure 2-3 of the "City of San Diego Water Department, Capital Improvements Program, Guidelines and Standards, Book 2", see appendix III. Per Figure 2-3, the subject project is in the "Coastal/Downtown" peaking factor zone. Per Figure 2-1, the Peak Hour Demand Ratio is 6.1. Per Figure 2-2, the Peak Hour Demand Ratio is 2.4.

Peak Hour Demand = Average Annual Water Demand * Peak Hour Demand Ratio
= 55,000 gpd * 6.1 = 335,500 gpd

Maximum Day Demand = Average Annual Water Demand * Maximum Day Demand Ratio
= 55,000 gpd * 2.4 = 132,000 gpd

Fire Demands

Per Table 2-3 from the "City of San Diego Water Department, Capital Improvements Program, Guidelines and Standards, Book 2" because the proposed development is Commercial, the Fire Demand is 4,000 gpm, see Appendix III.

Comparison/Conclusion

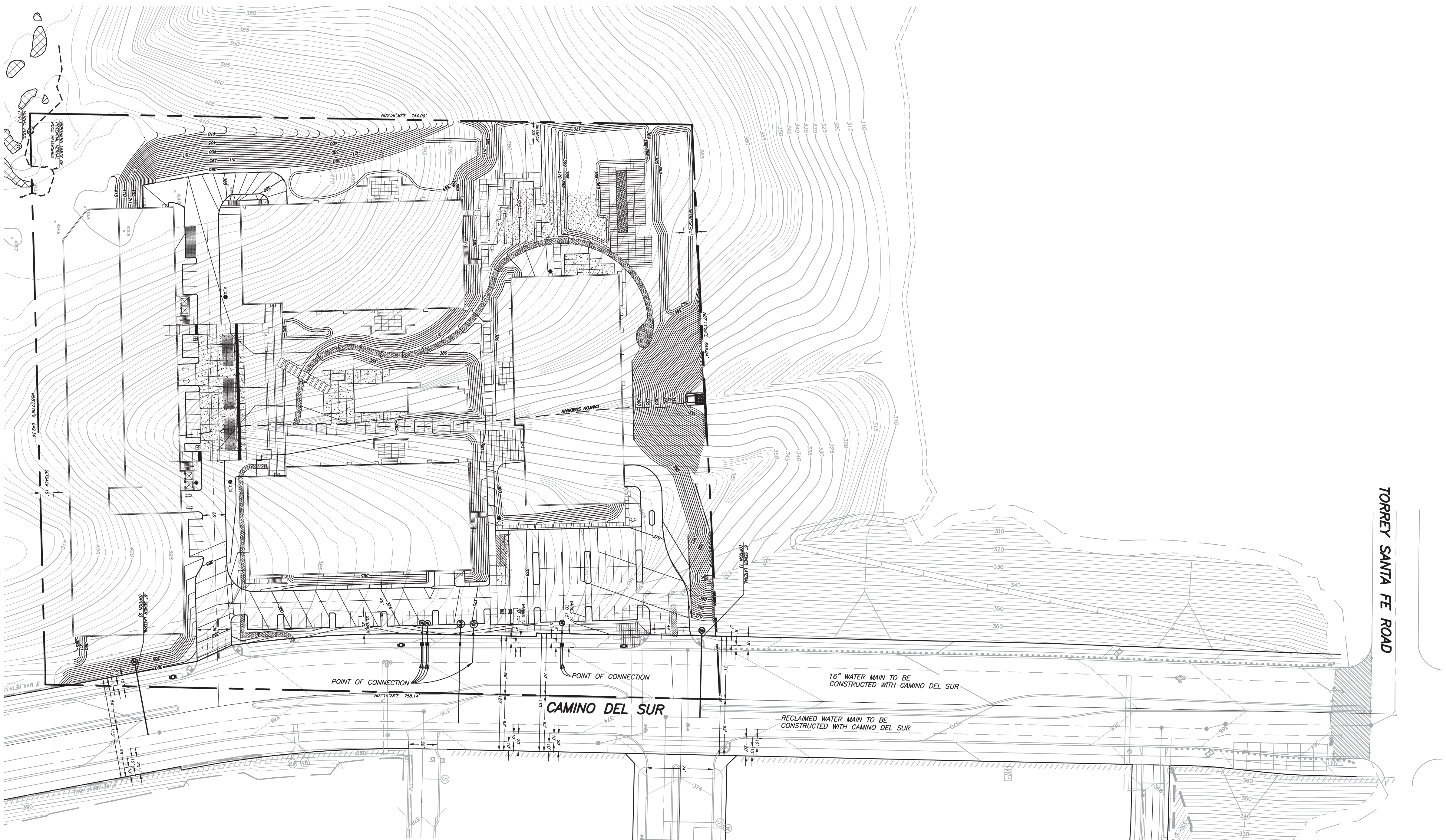
In the "Water System Analysis for Torrey Highlands Subarea IV" prepared by Wilson Engineering (Appendix I) the subject project is referred to as the "Schooley" property. On page 7 of the Wilson Engineering analysis, the Schooley property has a project water demand of 55,000 gallons per day. As described above The Preserve at Torrey Highlands project has a project water demand of 55,000 gallons per day. Thus the proposed 16" water main is adequate to service The Preserve at Torrey Highlands because it has the same water demand as the Schooley property.

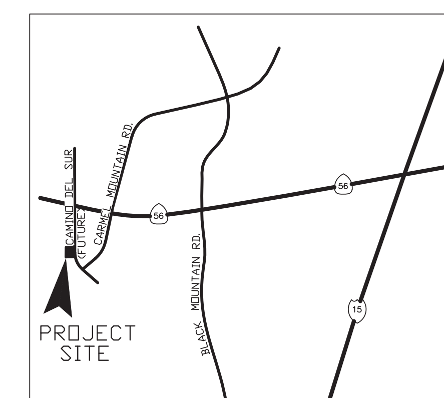
Project Timing

It is highly unlikely The Preserve at Torrey Highlands would move ahead of Merge 56 and take the lead on the construction of Camino Del Sur, so it is assumed that the aforementioned proposed 16" water main will be have been constructed prior to The Preserve at Torrey Highlands. Prior discretionary approval on this site for Our Lady of Mount Carmel was approved with Water Requirement conditions consistent with this expectation, see pages 11 and 12 of Appendix IV. The Preserve at Torrey Highlands will be conditioned as follows, *"…prior to the issuance of a Certificate of Occupancy for the first commercial office building, Camino Del Sur and Carmel Mountain Road would be open to traffic."* So, the 16" water main will have been constructed before occupancy of the project.

EXHIBIT “A”
Location Map

TORREY SANTA FE ROAD
CAMINO DEL SUR
(FUTURE)
(EXISTING)
CARMEL MOUNTAIN RD.
56
BLACK MOUNTAIN RD.
15
PROJECT LOCATION
E





VICINITY MAP
N.T.S.

1" = 50'

PREPARED BY:

NAME: LEPPERT ENGINEERING CORPORATION

ADDRESS: 5190 GOVERNOR DRIVE, SUITE 205
SAN DIEGO, CALIFORNIA 92122-2848

PHONE #: (858) 597-2001

PROJECT ADDRESS:

SEQ STATE ROUTE 56 & CAMINO DEL SUR
SAN DIEGO, CALIFORNIA 92129

PROJECT NAME:

THE PRESERVE AT TORREY HIGHLANDS

SHEET TITLE:

WATER STUDY EXHIBIT

REVISION 14:	
REVISION 13:	
REVISION 12:	
REVISION 11:	
REVISION 10:	
REVISION 9:	
REVISION 8:	
REVISION 7:	
REVISION 6:	
REVISION 5:	
REVISION 4:	
REVISION 3:	
REVISION 2:	04/04/2016
REVISION 1:	12/22/2015

ORIGINAL DATE: 11/13/2015

SHEET 1 OF 1

DEP#

NO.	DATE	BY	DESCRIPTION	NO.	DATE	BY	DESCRIPTION
6				12			
5				11			
4				10			
3	04/04/16	RL	REVISION 2	9			
2	12/22/15	RL	REVISION 1	8			
1	11/13/15	RL	ORIGINAL	7			

Leppert Engineering CORPORATION
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APPROVED BY ENGINEER OF WORK

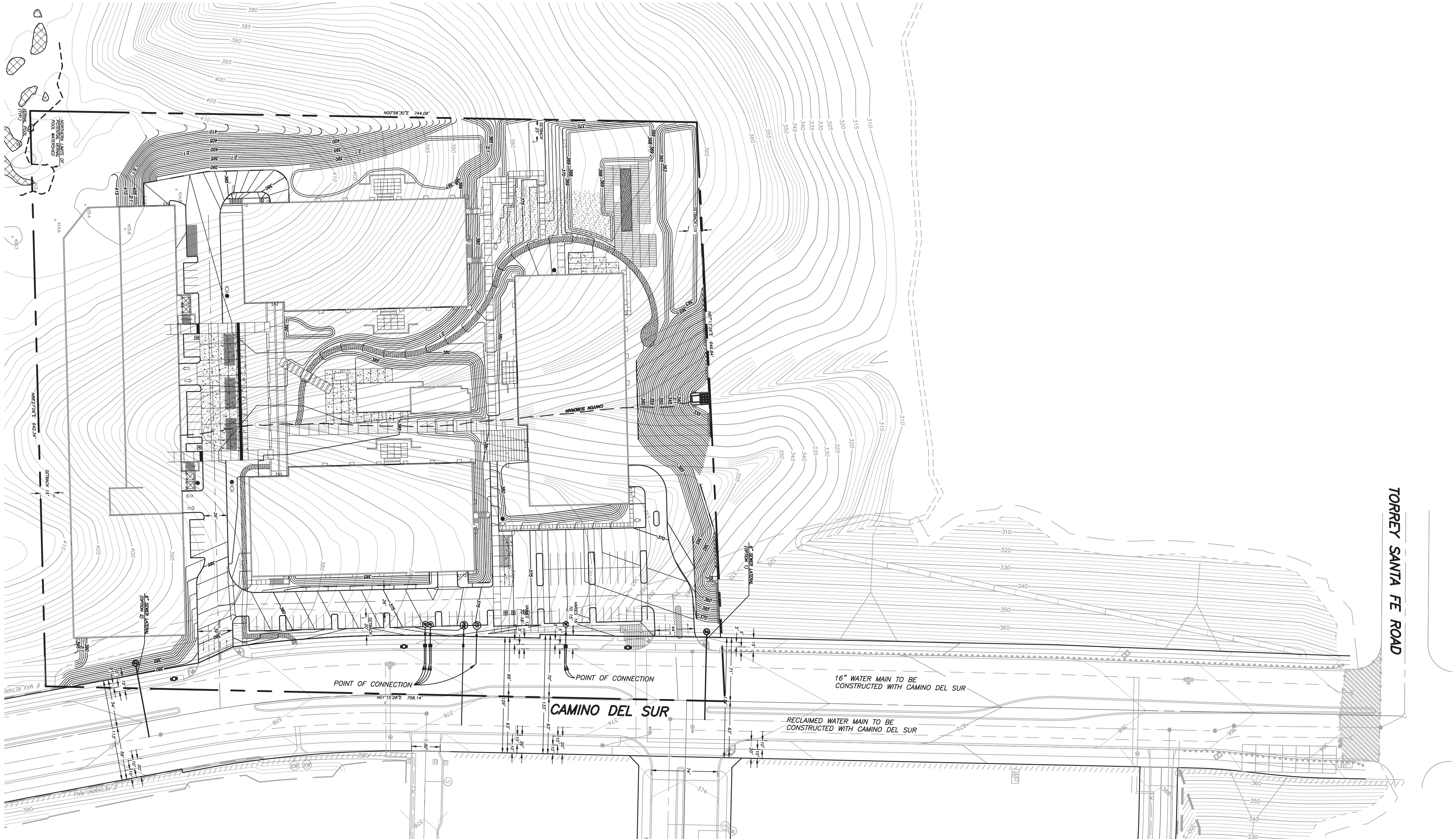
REGISTRATION R C E 26283

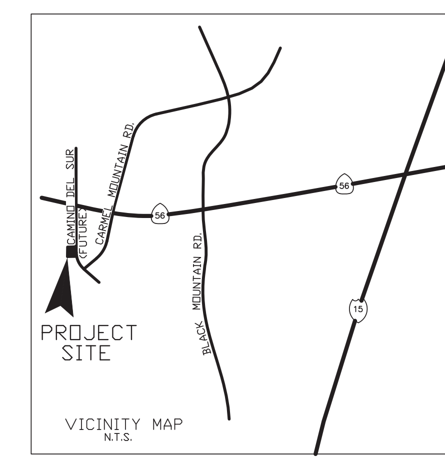
DATE

FILE CODE TH 06.07 – 13.15

PREPARATION AND REVISION LOG

EXHIBIT “B”
Water Study Exhibit





50 0 50 100
1"= 50'

NO.	DATE	BY	DESCRIPTION	NO.	DATE	BY	DESCRIPTION
6				12			
5				11			
4				10			
3	04/04/16	RL	REVISION 2	9			
2	12/22/15	RL	REVISION 1	8			
1	11/13/15	RL	ORIGINAL	7			

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APPROVED BY ENGINEER OF WORK
REGISTRATION R C E 26283
DATE
FILE CODE TH 06.07 – 13.15
PREPARATION AND REVISION LOG

PREPARED BY:
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SAN DIEGO, CALIFORNIA 92122-2848
PHONE #: (858) 597-2001

PROJECT ADDRESS:
SEQ STATE ROUTE 56 & CAMINO DEL SUR
SAN DIEGO, CALIFORNIA 92129

PROJECT NAME:
THE PRESERVE AT TORREY HIGHLANDS

SHEET TITLE:
WATER STUDY EXHIBIT

REVISION 14:
REVISION 13:
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REVISION 11:
REVISION 10:
REVISION 9:
REVISION 8:
REVISION 7:
REVISION 6:
REVISION 5:
REVISION 4:
REVISION 3:
REVISION 2: 04/04/2016
REVISION 1: 12/22/2015

ORIGINAL DATE: 11/13/2015

SHEET 1 OF 1

DEP#

APPENDIX I
CD of "Water System Analysis for Torrey Highlands Subarea IV" prepared by Wilson Engineering

APPENDIX II
Excerpts from the Torrey Highlands Public Facilities Financing Plan FY 2013

CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

TITLE: **NEW 16" WATER MAINS**

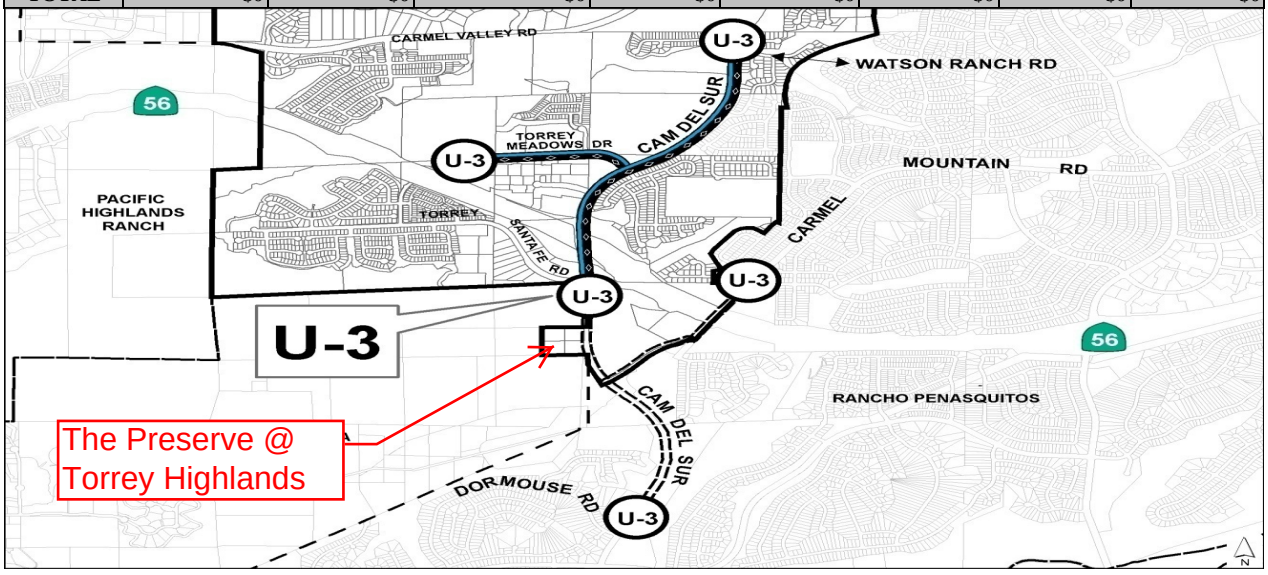
PROJECT: **U-3**

DEPARTMENT: WATER
CIP or JO #: 70-966.0

COUNCIL DISTRICT: 1
COMMUNITY PLAN: TH

SOURCE	**FUNDING:**	EXPENDED	CONT APPROP	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
FBA-TH	**$2,990,000**	$1,765,000				$1,225,000		
FBA-BMR								
FBA-PHR								
FBA-DMM								
FBA-RP								
DEV. ADV								
DEV/SUBD								
COUNTY								
STATE								
OTHER								
UNIDEN								
TOTAL	**$2,990,000**	$1,765,000	$0	$0	$0	$1,225,000	$0	$0

SOURCE	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY2025-FY2035
FBA-TH								
FBA-BMR								
FBA-PHR								
FBA-DMM								
FBA-RP								
DEV. ADV								
DEV/SUBD								
COUNTY								
STATE								
OTHER								
UNIDEN								
TOTAL	$0	$0	$0	$0	$0	$0	$0	$0



CONTACT: Leonard Wilson TELEPHONE: (619) 533-4287 EMAIL: LLWilson@sandiego.gov

CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

TITLE: **NEW 16" WATER MAINS**

		PROJECT:	**U-3**
DEPARTMENT:	WATER	COUNCIL DISTRICT:	1
CIP or JO #:	70-966.0	COMMUNITY PLAN:	TH

DESCRIPTION:

THE PROJECT PROVIDES FOR THE CONSTRUCTION OF APPROXIMATELY 16,636LF OF 16-INCH DIAMETER WATER MAINS WITHIN THE CAMINO DEL SUR (WATSON RANCH ROAD TO DORMOUSE) AND ALONG CARMEL MOUNTAIN ROAD FROM CAMINO DEL SUR TO SUNDANCE AVENUE.

JUSTIFICATION:

THIS PROJECT IS REQUIRED TO PROVIDE PRIMARY DISTRIBUTION FACILITIES TO SERVE THE COMMUNITY.

FUNDING ISSUES:

NOTES:

WESTERN PACIFIC HOUSING COMPLETED 16 INCH LINE FROM INTERSECTION OF CAMINO DEL SUR/WATSON RANCH ROAD, SOUTH TO TORREY SANTA FE DRIVE AND WEST TO TORREY MEADOW DRIVE. THE PROJECT LIMITS CONSIST OF THE FOLLOWING: WATSON RANCH ROAD TO TORREY SANTA FE ROAD (JUST SOUTH OF SR56 OVERPASS) - 8,983LF (IN SERVICE); CAMINO DEL SUR AND CARMEL MOUNTAIN ROAD(RHODES CROSSING SUBDIVISION) - 4,670LF (UNCOMPLETED); CAMINO DEL SUR (REMAINING SEGMENT BEGINNING FROM TERMINUS OF RHODES CROSSING IMPROVEMENTS, SOUTHERLY TO EXISTING 16" WATER MAIN IN CAMINO DEL SUR NORTH OF DORMOUSE RD.) - 2,983LF.

SCHEDULE:

THE REMAINDER OF THE WATER MAIN IN CAMINO DEL SUR SOUTH TO DORMOUSE AND CARMEL MOUNTAIN ROAD WILL BE COMPLETED AS FUNDS BECOME AVAILABLE.

CONTACT: Leonard Wilson TELEPHONE: (619) 533-4287 EMAIL: LLWilson@sandiego.gov

APPENDIX III
Excerpts from the "City of San Diego Water Department, Capital Improvements Program, Guidelines and Standards, Book 2"

Dwelling unit density in Table 2-1 is based on net area. The net area is measured in acres, and is 80% of the gross area for each residential zone.

2.4 Average Annual Water Demands

For most projects, average annual water demands are determined based on the unit water demand criteria presented in Table 2-2.

Table 2-2
Unit Water Demands

Land Use Category	Unit Water Demand
Residential	150 gallons/person-day
Central Business District	6000 gallons/net acre-day
Commercial and Institutional	5000 gallons/net acre-day
Fully Landscaped Park	4000 gallons/net acre-day
Hospitals	22500 gallons/net acre-day
Hotels	6555 gallons/net acre-day
Industrial	6250 gallons/net acre-day
Office	5730 gallons/net acre-day
Schools	4680 gallons/net acre-day

Average annual water demands are calculated as the sum of: (1) the residential water demand, and (2) other water demands for each land use category as follows:

Residential Water Demand (gallons/day) = Residential Population x 150 gallons/person-day

Other Water Demand (gallons/day) = Land Use Area by Category (net acres) x Unit Water Demand for Each Land Use Category (gallons/net acre-day)

Average Annual Water Demand (gallons/day) = Residential Water Demand + Other Water Demands

On some projects, particularly large residential developments, using the unit water demands in Table 2-2 may generate unrealistically high estimates of water requirements. For these large projects, the DESIGN CONSULTANT or developer may request that the CIP Project Manager consider an alternative approach, making use of the City's water demand distribution data developed for macroscale planning purposes. Similarly, the CIP Project Manager may also consider alternative unit water demand estimates for specific land use types where such estimates are based on detailed demand evaluations.

2.5 Peak Water Demands

Unless the project involves a large development that calls for an alternative approach, peak hour and maximum day water demands are estimated using the peaking factors presented in Figures 2-1 and 2-2. These peaking factors correspond to the zones identified in Figure 2-3.

FIGURE 2-1
PEAK HOUR DEMAND FACTOR

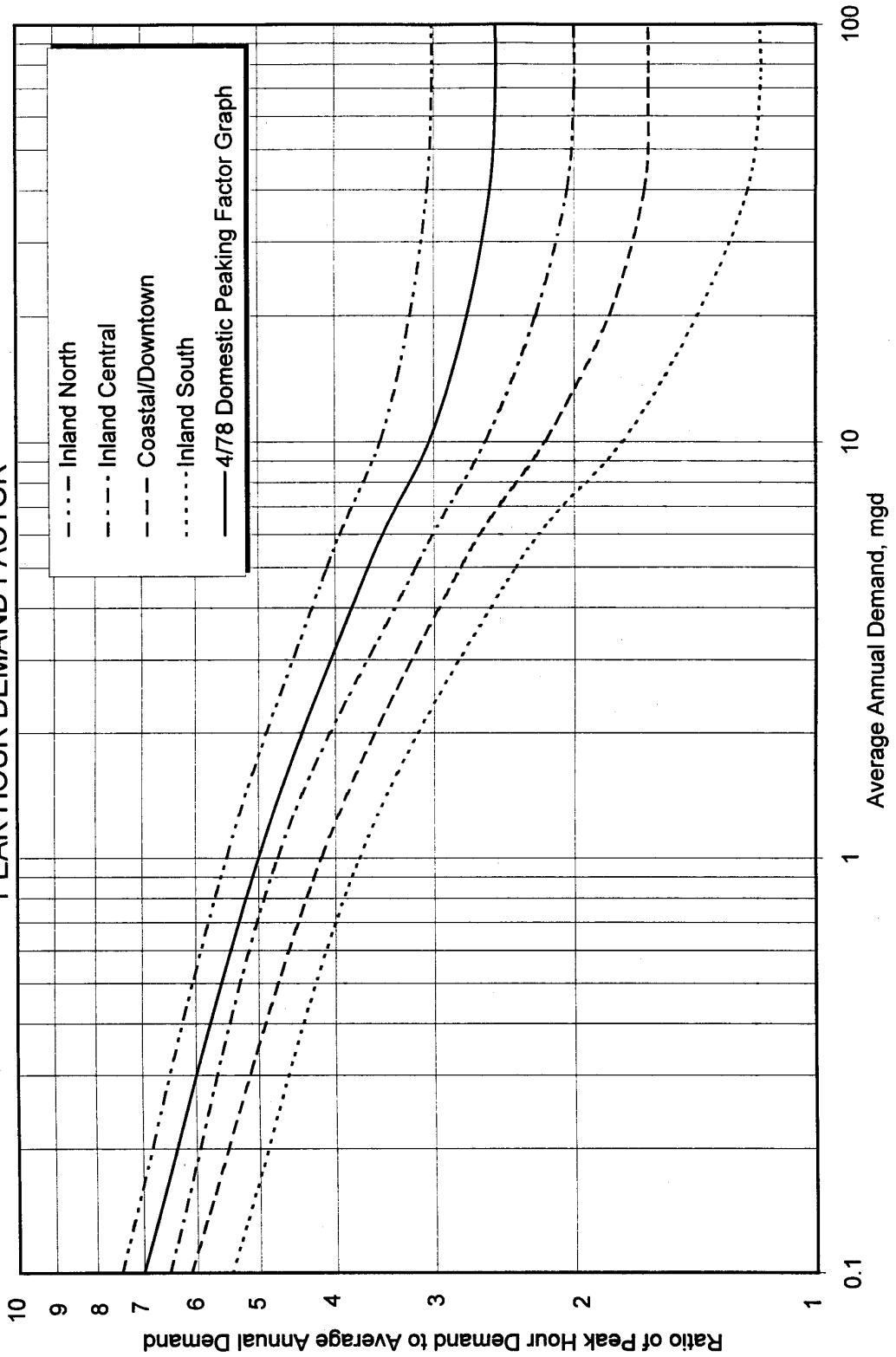
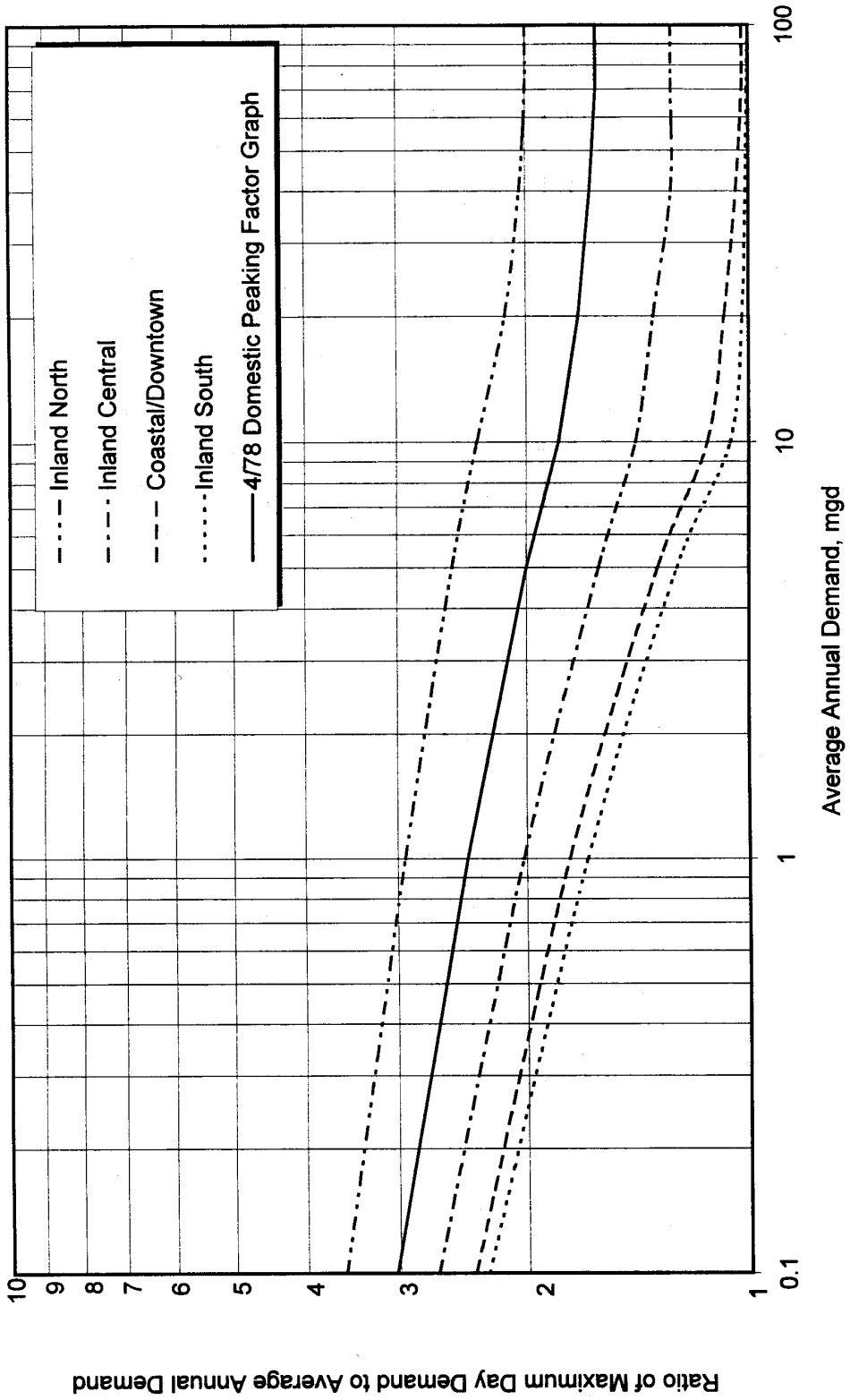
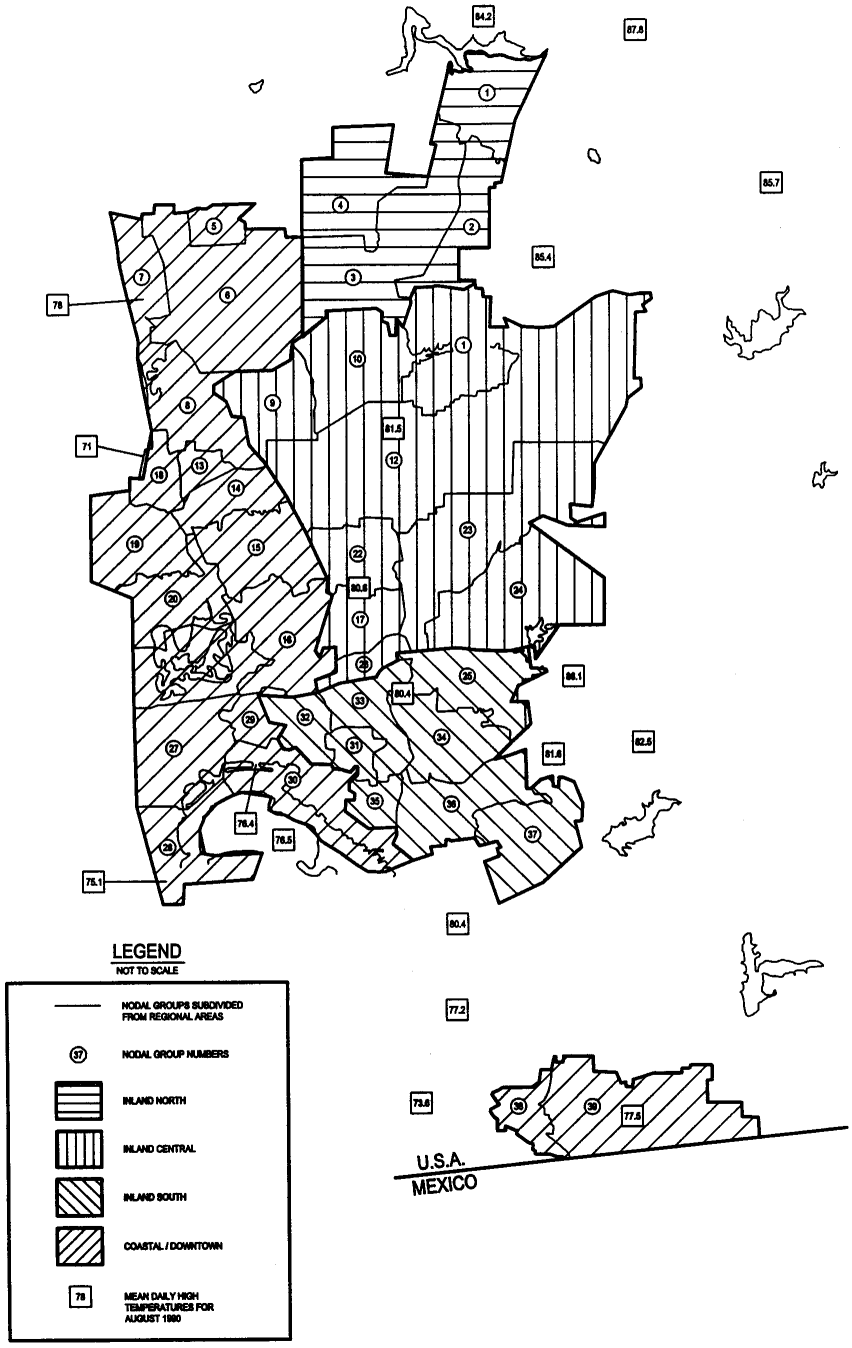


FIGURE 2-2
MAXIMUM DAY DEMAND FACTOR



PEAKING FACTOR ZONES
(BOUNDARIES BASED ON LAND USE GROUPINGS)

FIGURE 2-3



July 1999

Peak water demands are estimated as follows:

Peak Hour Demand = Average Annual Water Demand * Peak Hour Demand Ratio

Maximum Day Demand = Average Annual Water Demand * Maximum Day Demand Ratio

2.6 Fire Demands

The DESIGN CONSULTANT estimates fire demands flows by using the *Fire Suppression Rating Schedule*, Edition 6-80, Section 1 (Public Fire Suppression), published by the Insurance Services Office.

The fire flow duration for planning purposes is at least five hours. In general, minimum required fire demands for design are shown in Table 2-3.

Table 2-3
Fire Demands for Design Purposes

Development Type	Fire Demand (gpm)
Single family residential	2,000
Duplexes	2,500
Condominiums and apartments	3,000
Commercial	4,000
Industrial	6,000

Should application of the ISO methodology result in figures lower than those shown in Table 2-3, the CIP Project Manager may approve the ISO figures on a case-by-case basis following submittal of supporting calculations.

The required fire demand must be supplied from at least two fire hydrants within a maximum radius of 750 feet from the fire.

2.7 Pressure Criteria

2.7.1 Design Pressures

Water systems must be designed to provide the minimum residual pressures given:

(1) maximum day demands plus fire demand conditions, or
(2) peak hour demand conditions.

In analyzing the supply to a pressure zone, the minimum hydraulic grade line elevation available from the water source is used, a level that typically occurs during dry weather conditions. The maximum static pressure in gravity systems is determined from reservoir overflow elevations and/or the discharge control setting on pressure reducing valves, whichever is greater. The

APPENDIX IV
Our Lady of Mt. Carmel Permit Conditions (PDP No. 10965, SDP NO. 4916, CUP No. 4915, & Project No. 2752)

8508

DOC # 2004-0906550

SEP 24, 2004 10:37 AM

OFFICIAL RECORDS
SAN DIEGO COUNTY RECORDER'S OFFICE
GREGORY J. SMITH, COUNTY RECORDER
FEES: 55.00
PAGES: 17

RECORDING REQUESTED BY
CITY OF SAN DIEGO
DEVELOPMENT SERVICES
DEPARTMENT

WHEN RECORDED MAIL TO
PERMIT INTAKE
MAIL STATION 501

SI

2004-0906550

JOB ORDER NUMBER 42-0261

Planned Development Permit No.10965/Site Development Permit No. 4916/
Conditional Use Permit No. 4915
OUR LADY OF MT. CARMEL, Project #2752 (MMRP)
Planning Commission

This Planned Development/Site Development/Conditional Use Permit is granted by the Planning Commission of the City of San Diego to THE ROMAN CATHOLIC BISHOP OF SAN DIEGO, A SOLE CORPORATION, Owner/Permittee pursuant to Sections 126.0601, 126.0501 and 126.0301 of the Land Development Code of the City of San Diego. The 11.1 acre site is located at and along the future alignment of Camino del Sur and south of the future State Route 56 in the AR-1-1 zone within the Torrey Highlands Subarea Plan. The project site is legally described as the Southeast one quarter of the northeast one quarter of the southeast one quarter of section 14, township 14 south, range 3 west, San Bernardino Meridian in the County of San Diego, State of California, according to the official plat thereof.

Subject to the terms and conditions set forth in this permit, permission is granted to Owner/Permittee to develop and construct a new 102,983 square-foot church campus, 1200 seat worship center and school for 500 students grades kindergarten through eight, minor improvements in the public right-of-way, landscaping, and other minor improvements described as, and identified by size, dimension, quantity, type and location on the approved Exhibits "A," dated April 22, 2004, on file in the Office of the Development Services Department. The facility shall include:

a. A total of 102,983 square foot church campus, 1200 seat worship center & elementary school dispersed in seven buildings; the worship center at 31,161 square feet, two-story administration at 15,000 square feet; two-story parish ministries center including priest and caretaker residences at 12,022 square feet; two-story parish hall at 20,300 square feet; two-story school at 24,100 square feet in three buildings; and six temporary modular buildings at 1,800 square feet each until the permanent school buildings are constructed and which at that time the temporary buildings will be removed;

ORIGINAL

b. Bell tower; monument sign; turf play area and retaining walls;

c. Landscaping (planting, irrigation and landscape related improvements);

d. Off-street parking facilities; and

e. Accessory improvements requested by the Owner/Permittee and determined by the City Manager to be consistent with the land use and development standards in effect for this site per the adopted Community Plan, California Environmental Quality Act guidelines, public and private improvement requirements of the City Engineer, the underlying zone(s), conditions of this permit, and any other applicable regulations of the Municipal Code in effect for this site.

STANDARD REQUIREMENTS:

1. Construction, grading or demolition must commence and be pursued in a diligent manner within 36 months after the effective date of final approval by the City, following all appeals. Failure to utilize the permit within 36 months will automatically void the permit unless an Extension of Time has been granted. Any such Extension of Time must meet all the Land Development Code requirements and applicable guidelines in effect at the time the extension is considered by the appropriate decision maker.

2. No permit for the construction, occupancy or operation of any facility or improvement described herein shall be granted, nor shall any activity authorized by this permit be conducted on the premises until:

a. The Permittee signs and returns the Permit to the Development Services Department; and

b. The Permit is recorded in the Office of the San Diego County Recorder.

3. Unless this permit has been revoked by the City of San Diego the property included by reference within this permit shall be used only for the purposes and under the terms and conditions set forth in this permit unless otherwise authorized by the City Manager.

4. This permit is a covenant running with the subject property and shall be binding upon the Permittee and any successor or successors, and the interests of any successor shall be subject to each and every condition set out in this permit and all referenced documents.

5. The utilization and continued use of this permit shall be subject to the regulations of this and any other applicable governmental agencies.

6. Issuance of this permit by the City of San Diego does not authorize the Owner/Permittee for said permit to violate any Federal, State or City laws, ordinances, regulations or policies including, but not limited to, the Federal Endangered Species Act of 1973 and any amendments thereto (16 U.S.C. Section 1531 et seq.)

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7. The Owner/Permittee shall secure all necessary building permits. The Owner/Permittee is informed that to secure these permits, substantial modifications to the building and/or site improvements to comply with applicable building, fire, mechanical and plumbing codes and State law requiring access for disabled people may be required.

8. Before issuance of any building or grading permits, complete grading and working drawings shall be submitted to the City Manager for approval. Plans shall be in substantial conformity to Exhibit "A," dated April 22, 2004, on file in the Office of the Development Services Department. No change, modifications or alterations shall be made unless appropriate applications or amendment of this permit shall have been granted.

9. All of the conditions contained in this Permit have been considered and have been determined to be necessary in order to make the findings required for this discretionary permit. It is the intent of the City that the holder of this Permit be required to comply with each and every condition in order to be afforded special rights which the holder of the Permit is obtaining as a result of this Permit. It is the intent of the City that the Owner of the property which is the subject of this Permit either utilizes the property for any use allowed under the zoning and other restrictions which apply to the property or, in the alternative, that the Owner of the property is allowed the special and extraordinary rights conveyed by this Permit, but only if the Owner complies with all the conditions of the Permit.

In the event that any condition of this Permit, on a legal challenge by the Owner/Permittee of this Permit, is found or held by a court of competent jurisdiction to be invalid, unenforceable or unreasonable, this Permit shall be void. However, in such an event, the Owner/Permittee shall have the right, by paying applicable processing fees, to bring a request for a new Permit without the "invalid" conditions(s) back to the discretionary body which approved the Permit for a determination by that body as to whether all of the findings necessary for the issuance of the Permit can still be made in the absence of the "invalid" condition(s). Such hearing shall be a hearing de novo and the discretionary body shall have the absolute right to approve, disapprove or modify the proposed Permit and the condition(s) contained therein.

10. This permit may be developed in phases. Each phase shall be constructed consistent with the conditions and exhibits approved for each respective phase, per the approved Exhibits "A," dated April 22, 2004, on file in the Office of the Development Services Department.

MSCP REQUIREMENTS:

11. The following represent the MSCP requirements:

A. Third Party Beneficiary Status:

The issuance of this Permit by the City of San Diego does not authorize the Permittee for this permit to violate any Federal, State or City laws, ordinances, regulations or policies including, but not limited to, the Endangered Species Act of 1973 (EAS) and any amendments thereto (16 U.S.C. Section 1531 et seq.).

In accordance with authorization granted to the City of San Diego from the United States Fish and Wildlife Service (USFWS) pursuant to Section 10(a) of the ESA and by the California Department of Fish and Game (CDFG) pursuant to Fish and Game Code section 2835 as part of

ORIGINAL

the Multiple Species Conservation Program (MSCP), the City of San Diego through the issuance of this Permit hereby confers upon Permittee the status of Third Party Beneficiary as provided for in Section 17 of the City of San Diego Implementing Agreement (IA), executed on July 17, 1997 and on File in the Office of the City Clerk as Document No. 00-18394. Third Party Beneficiary status is conferred upon Permittee by the City: (1) to grant Permittee the legal standing and legal right to utilize the take authorizations granted to the City pursuant to the MSCP within the context of those limitations imposed under this Permit and the IA, and (2) to assure Permittee that no existing mitigation obligation imposed by the City of San Diego pursuant to this Permit shall be altered in the future by the City of San Diego, USFWS or CDFG, except in the limited circumstances described in Sections 9.6 and 9.7 of the IA.

If mitigation lands are identified but not yet dedicated or preserved in perpetuity, maintenance and continued recognition of Third Party Beneficiary status by the City is contingent upon Permittee maintaining the biological values of any and all lands committed for mitigation pursuant to this Permit and of full satisfaction by Permittee of mitigation obligations required by this Permit, as described in accordance with Section 17.1D of the IA.

B. MHPA Land Use Adjacency Guidelines:

The Owner/Permittee shall comply with the Mitigation, Monitoring and Reporting Program (MMRP) as specified in the Environmental Documentation for the "Our Lady of Mount Carmel" (PTS No. 2752, SCH No. BLANK), satisfactory to the City Manager and the City Engineer, for the following issues areas to ensure compliance with the MSCP Land Use Adjacency Guidelines: Biological Resources and Hydrology/Water Quality. Additionally, the following conditions shall apply:

B1: Fencing. Prior to issuance of any building occupancy permits, the Owner/Permittee shall construct a five-foot-high wrought iron fence along the perimeter of the site in accordance with the approved Exhibit "A", satisfactory to the City Manager and the City Engineer, to direct MHPA access to designated areas. Along the perimeter of the on-site vernal pool preserve, the wrought iron fence may be substituted for black vinyl-coated chain link fence. Any proposed changes to the proposed size, location or type of fence shall be approved by the City Manager prior to construction. All fencing shall be located on the subject premises and maintained by the Owner/Permittee in perpetuity. Any necessary future fence repairs shall be conducted in a manner which does not result in impacts to sensitive biology resource or wildlife movement.

C. On-Site Preservation:

Prior to issuance of any grading permits, the on-site vernal pool preserve area shall be placed in a conservation easement, which is then recorded on the property. The Owner/Permittee shall manage the on-site preserve area in perpetuity in accordance with the final Habitat Management Plan (HMP) prepared for the site.

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D. Habitat Management Plan:

Prior to issuance of any grading permits, the Owner/Permittee shall prepare a final habitat management plan (HMP) for the on-site preserved areas to the satisfaction of the City Manager. All costs associated with long-term management of the on-site preserved areas shall be the responsibility of the Owner/Permittee or its designated representative. The entity/designee selected by the Owner/Permittee to manage the on-site preserved lands shall be acceptable to the City.

E. MHPA Buffer:

Prior to the issuance of any building occupancy permits, the City Manager shall verify that the perimeter native landscape buffer is constructed around the entire premises, as shown in the approved landscape plans. In the northwestern corner of the site, the native buffer shall not be less than 15-feet wide from the fenced property line to the turf play area at its narrowest point, consistent with the approved Exhibit "A" Landscape Concept Plan.

ENVIRONMENTAL/MITIGATION REQUIREMENTS:

12. Prior to the issuance of each building permit which includes exterior lighting fixtures, plans shall be submitted indicating compliance with the glare and lighting requirements of the Land Development Code Sections 142.0730 and 142.0740 and other conditions addressing lighting within this permit.

13. Mitigation requirements are tied to the environmental document, specifically the Mitigation, Monitoring, and Reporting Program (MMRP). These MMRP conditions are incorporated into the permit by reference or authorization for the project.

14. As conditions of Planned Development Permit No. 10965/Site Development Permit No. 4916/Conditional Use Permit No. 4915 mitigation measures specified in the MMRP, and outlined in the Mitigated Negative Declaration, Project No. 2752 shall be noted on the construction plans and specifications under the heading ENVIRONMENTAL/MITIGATION REQUIREMENTS.

15. The Mitigation, Monitoring, and Reporting Program (MMRP) shall require a deposit of $7,000.00 to be collected prior to the issuance of grading permits to cover the City's costs associated with implementation of the MMRP.

16. A Job Order number open to the Land Development Review Division of the Development Services Department shall be required to cover the Land Development Review Division's cost associated with the implementation of the MMRP.

17. The Owner/Permittee shall comply with the Mitigation, Monitoring and Reporting Program (MMRP) as specified in Mitigated Negative Declaration, Project No. 2752, satisfactory to the City Manager and the City Engineer. Prior to issuance of any grading permits and/or building permits, mitigation measures as specifically outlined in the MMRP shall be implemented for the following issue areas:

Historical Resources

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Paleontological Resources
Transportation
Biological Resources
Land Use/Visual Quality
Multiple Habitat Planning Area

PLANNING/DESIGN REQUIREMENTS:

18. No fewer than 400 off-street parking spaces shall be maintained on the property at all times in the approximate locations shown on the approved Exhibits "A," dated April 22, 2004, on file in the Office of the Development Services Department. Parking spaces shall comply at all times with requirements of the Land Development Code and shall not be converted for any other use unless otherwise authorized by the City Manager.

19. There shall be compliance with the regulations of the underlying zone(s) except as allowed by the deviations indicated on the Exhibit "A" as approved by this permit.

20. The heights of the buildings or structures shall not exceed those heights set forth on the exhibits including, but not limited to, elevations and cross sections.

21. A topographical survey conforming to the provisions of the Land Development Code may be required if it is determined, during construction, that there may be a conflict between the buildings under construction and a condition of this permit. The cost of any such survey shall be borne by the Permittee.

22. Any future requested amendment to this permit shall be reviewed for compliance with the regulations of the underlying zone(s) which are in effect on the date of the submittal of the requested amendment.

23. All signage associated with this development shall be consistent with the signs indicated and approved on the Exhibit "A", dated April 22, 2004, and any additional signs shall comply with the sign criteria established by Citywide sign regulations.

24. Prior to the issuance of any building permits, complete outdoor lighting information shall be submitted to the Development Services Department, Land Development Review Division for review and approval. Complete lighting information shall include a plan view photometric analysis indicating an isofoot candle plot and a point by point plot to include all areas within the private property and to extend a minimum of fifty (50) feet beyond the property line, construction details as necessary to direct installation of the outdoor lighting system, manufacturers name, visors, prisms, lenses and reflectors and a lighting plan locating each fixture in plan view and a legend. The outdoor lighting system shall be designed, manufactured and installed to allow shading, adjusting, and shielding of the light source so all outdoor lighting is directed to fall only onto the same premises as light sources are located.

Prior to the issuance of any occupancy permit, a night inspection shall be required to verify compliance of the outdoor lighting system. No light shall be directed to fall outside the property line. Light levels along the perimeter of the property shall be measured no higher than three footcandles. Light levels throughout the planned development shall be the least practical level necessary to effectively illuminate the operation. Sky glow or light halo shall be reduced to the greatest extent practical and in no case shall initial light levels be measured exceeding eight

ORIGINAL

footcandles anywhere within the site. The Owner/Permittee, or an authorized representative, shall provide an illuminance meter to measure light levels as required to establish conformance with the conditions of this permit during the night inspection. Night inspections may be required additional fees as determined by the Development Services Department.

25. The use of textured or enhanced paving shall meet applicable City standards as to location, noise and friction values.

26. The subject property and associated common areas on site shall be maintained in a neat and orderly fashion at all times.

27. Outdoor storage of merchandise, material and equipment is permitted in any required interior side or rear yard, provided the storage area is completely enclosed by walls, fences or a combination thereof. Walls or fences shall be solid and not less than six feet in height and, provided further, that no merchandise, material or equipment stored not higher than any adjacent wall.

28. No mechanical equipment, tank, duct, elevator enclosure, cooling tower or mechanical ventilator or air conditioner shall be erected, constructed, converted, established, altered, or enlarged on the roof of any building, unless all such equipment and appurtenances are contained within a completely enclosed architecturally integrated structure whose top and sides may include grillwork, louvers and latticework.

29. Prior to the issuance of building permits, construction documents shall fully illustrate compliance with the Citywide Refuse and Recyclable Materials Storage Regulations (Land Development Code Section 142.0801) to the satisfaction of the City Manager. All exterior storage enclosures for trash and recyclable materials shall be located in a manner that is convenient and accessible to all occupants of and service providers to the project, in substantial conformance with the conceptual site plan marked Exhibit "A."

30. The approved Exhibit "A" shall be the overriding document for proximity of development to the vernal pools unless an amendment to this permit is obtained.

31. Prior to the issuance of any grading permit, the Owner/Permittee shall indicate on the landscaping plans areas of disturbance created by earlier geologic testing on the property to the west of this site, known by the APN number 306-050-07-00, will be revegetated to natural standards in conformance with the City's adopted Guidelines for Conducting Biological Surveys, Attachment 3 and Landscape Technical Manual. Such revegetation shall also include a five year monitoring period and eighty percent success criteria.

32. The Owner/Permittee shall install a chain link or other suitable fencing along the eastern property line. The fence shall be installed prior to the onset of grading operations and would remain as long as City staff deems necessary to protect the MHPA resources from potential trespassers.

33. Prior to the issuance of the first occupancy permit for any structure, the Owner/Permittee shall install an educational sign in the vicinity of the vernal pools on-site to provide an educational opportunity describing the vernal pools, the uniqueness of the habitat, its flora and fauna, how vernal pools form, and other like information of a informative nature concerning vernal pools.

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LANDSCAPE REQUIREMENTS:

31. No change, modification or alteration shall be made to the project unless appropriate application or amendment of this Permit has been granted by the City. All plan specifications and notes mentioned in the conditions below shall be consistent with the Land Development Code 142.0401 and Landscape Standards, Exhibit "A" Landscape Development Plan, Brush Management Plan, Details and Notes on file in the Office of the Development Services.

32. All required landscape plant materials shall be maintained in a disease, weed and litter free condition at all times. Severe pruning or "topping" of trees is not permitted. The trees shall be maintained in a safe manner to allow each tree to grow to its mature height and spread.

33. The Owner/Permittee shall be responsible for the maintenance of all street trees and landscape improvements in the public right-of-way adjacent to the property consistent with the Landscape Standards. A Landscape Maintenance Agreement and bond shall be entered into prior to issuance of any grading or construction permit.

34. If any required landscape improvements are damaged during construction, they shall be repaired and/or replaced in kind and equivalent size per the approved documents to the satisfaction of the City Manager, within 90 days of damage and prior to any Certificate of Occupancy.

35. The landscape construction plans shall not include any non-native plant species identified as invasive by the California Exotic Pest Plant Council.

BRUSH MANAGEMENT:

36. The Owner/Permittee shall implement the following requirements in accordance with the Brush Management Program shown on Exhibit "A" Brush Management Program/Landscape Development Plan, on file in the Office of the Development Services Department.

37. Prior to issuance of construction permits, all easements or right of entry permits for the purpose of Brush Management shall be obtained.

38. Prior to issuance of any engineering permits for grading, complete Brush Management, planting and irrigation plans, details and specifications (including maintenance specifications), shall be submitted to the City Manager for approval. All plans shall indicate the brush management zones depths by dimension.

39. Prior to any construction or grading, it shall be the responsibility of the Permittee to schedule a preconstruction meeting on site with the contractor and the Mitigation, Monitoring & Conservation section of Development Services Department to discuss and outline the implementation of the Brush Management Program.

TRANSPORTATION REQUIREMENTS:

40. The project shall conform to the Torrey Highlands/Subarea IV transportation Phasing Plan.

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41. Prior to issuance of any building permit, the Owner/Permittee shall assure construction of two traffic signals. One traffic signal at the intersection of the project's northern driveway and Camino del Sur and the second traffic signal at the intersection of the project's southern driveway and Camino del Sur, satisfactory to the City Engineer. If, in the opinion of the City Engineer, construction of a traffic signal on Camino del Sur does not meet traffic warrants at the time of initial occupancy of the project, this requirement may be satisfied by the applicant entering into a deferred improvements agreement, or other such instrument acceptable to the City Engineer.

42. Prior to issuance of any building permit, the construction of Camino del Sur from Carmel Mountain Road to Torrey Santa Fe Road shall be assured to the satisfaction of the City Engineer.

43. The Owner/Permittee shall assure the construction of a standard thirty foot wide driveway or two twenty foot wide driveways with a ten foot separation designated for right-in/right-out traffic movement only near the midpoint between the two proposed signalized intersections, satisfactory to the City Engineer.

44. Prior to the issuance of any building permit for the school, the Owner/Permittee shall assure the establishment of a school zone pm Camino del Sur in the vicinity of the school's site, satisfactory to the City Engineer. The school zone shall include appropriate pavement markings, signage and traffic control devices, satisfactory to the City Engineer.

45. Prior to the issuance of any building permit, the Owner/Permittee shall assure the construction of a right-turn lane at the project's northerly driveway on Camino del Sur as part of student drop-off area. The right-turn lane would require an additional twelve feet of dedication and improvement, and shall be completed satisfactorily to the City Engineer.

46. The maximum number of students allowed on site shall be 500 for all grades from Kindergarten through the Eighth grade.

ENGINEERING REQUIREMENTS:

47. Prior to the issuance of any building permits, the Owner/Permittee shall obtain an encroachment removal agreement from the City Engineer for landscaping, irrigation and appurtenances in the City right-of-way.

48. Prior to the issuance of any building permits, the Owner/Permittee shall grant to the City a five foot wide General Utility Easement along the project frontage on Camino Del Sur. The slope of the land within the easement shall be two percent toward the street.

49. Prior to the issuance of any construction permit, the Owner/Permittee shall incorporate any construction Best Management Practices necessary to comply with Chapter 14, Article 2, Division 1 (Grading Regulations) of the Municipal Code, into the construction plans or specifications.

50. Prior to the issuance of any construction permit the Owner/Permittee shall submit a Water Pollution Control Plan (PCP). The PCP shall be prepared in accordance with the guidelines in Appendix E of the City's Storm Water Standards.

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51. Prior to the issuance of any construction permit the Owner/Permittee shall incorporate and show the type and location of all post-construction Best Management Practices (BMP's) on the final construction drawings, consistent with the approved Water Quality Technical Report.

52. Prior to the issuance of any building permits, the Owner/Permittee shall initiate and process an application to vacate the portion of the existing thirty foot wide road and public highway easement, adjacent to the project southerly entrance, satisfactory to the City Engineer.

53. The drainage system for this project shall be private and will be subject to approval by the City Engineer.

54. Prior to the issuance of any building permits, the Owner/Permittee shall obtain a bonded grading permit for the grading proposed for this project. All grading shall conform to requirements in accordance with the City of San Diego Municipal Code in a manner satisfactory to the City Engineer.

55. Development of this project shall comply with all requirements of State Water Resources Control Board (SWRCB) Order No. 99-08-DWQ and the Municipal Storm Water Permit, Order No. 2001-01(NPDES General Permit No. CAS000002 and CAS0108758), Waste Discharge Requirements for Discharges of Storm Water Runoff Associated With Construction Activity. In accordance with said permit, a Storm Water Pollution Prevention Plan (SWPPP) and a Monitoring Program Plan shall be implemented concurrently with the commencement of grading activities, and a Notice of Intent (NOI) shall be filed with the SWRCB.

A copy of the acknowledgment from the SWRCB that an NOI has been received for this project shall be filed with the City of San Diego when received; further, a copy of the completed NOI from the SWRCB showing the permit number for this project shall be filed with the City of San Diego when received. In addition, the owner(s) and subsequent owner(s) of any portion of the property covered by this grading permit and by SWRCB Order No. 99-08-DWQ, and any subsequent amendments thereto, shall comply with special provisions as set forth in SWRCB Order No. 99-08-DWQ.

56. Prior to building occupancy, the Owner/Permittee shall conform to Section 62.0203 of the Municipal Code, "Public Improvement Subject to Desuetude or Damage." If repair or replacement of such public improvements is required, the owner shall obtain the required permits for work in the public right-of-way, satisfactory to the permit-issuing authority.

WASTEWATER REQUIREMENTS:

57. Prior to and during construction of the Carmel Valley Trunk Sewer, all remaining capacity within the existing pipeline has been assigned to others. In order for the Owner/Permittee to obtain any certificates of occupancy, assuming the Owner/Permittee is seeking to obtain service from the Carmel Valley Trunk Sewer, the construction of the Carmel Valley Trunk Sewer shall either be completed to the satisfaction of the City Engineer or the Owner/Permittee, by amendment, shall become signatory to the Advance Funding Agreement for the Carmel Valley Trunk Sewer, which was approved by the City Council on November 3, 2003, Document No. 298540-2. The determination of any remaining capacity in the existing sewer will be governed in accordance with the terms and conditions of this Agreement.

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58. The Owner/Permittee shall install all sewer facilities required by the accepted sewer study and in accordance with the City of San Diego Sewer Design Guide, necessary to serve this development. Sewer facilities as shown on the approved plans will require modification where they do not conform to the accepted sewer study, and Sewer Design Guide.

59. The Owner/Permittee shall design and construct all proposed public sewer facilities to the most current edition of the City of San Diego's sewer design guide. Proposed facilities that do not meet the current standards shall be redesigned.

60. Providing a sewer for this development is dependent upon prior construction of certain sewer facilities in other developments in the area. If they have not been constructed when required for this development, then the construction of certain portions of these previously approved sewer facilities, as required by the City Engineer, will become off-site improvements required for this development.

61. Proposed private underground sewer facilities located within a single lot shall be designed to meet the requirements of the California Uniform Plumbing Code and shall be reviewed as part of the building permit plan check.

WATER REQUIREMENTS:

62. Prior to the issuance of the first building permit, the Owner/Permittee shall assure, by permit and bond, the design and construction of public 16-inch potable water facilities in Camino del Sur, from Torrey Santa Fe Road to the southerly property boundary, in a manner satisfactory to the Water Department Director and the City Engineer.

63. Prior to the issuance of the first building permit, the Owner/Permittee shall assure, by permit and bond, the design and construction of 24-inch recycled water facilities from Torrey Santa Fe Road to the southerly property boundary, in a manner satisfactory to the Water Department Director and the City Engineer.

64. Prior to the submittal of any plans for engineering permits, except grading, the Owner/Permittee shall request a participation agreement with the City for which the City will reimburse the Owner/Permittee the actual cost of design and construction of public recycled water facilities beyond the Owner/Permittee's prorata share (equivalent to 8-inch facilities) in a manner satisfactory to the Water Department Director and in accordance with City regulations, standards, and practices pertaining thereto. Agreement for work shall be executed prior to issuance of the first engineering permit, except grading.

65. Prior to the issuance of any building permits, the Owner/Permittee shall assure, by permit and bond, the design and construction of new potable water services within the Camino del Sur right-of-way, in a manner satisfactory to the Water Department Director and the City Engineer. All on-site water facilities shall be private.

66. Prior to the issuance of any building permits, the Owner/Permittee shall assure, by permit and bond, the design and construction of recycled water irrigations service(s) within the Camino del Sur right-of-way, in a manner satisfactory to the Water Department Director and the City Engineer. If recycled water is not yet available, then the irrigation systems shall be designed in such a manner as to accept recycled water when available and avoid any potential cross connections.

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67. Prior to the issuance of any building permits, the Owner/Permittee shall apply for a plumbing permit for the installation of private back flow prevention devices on all water services to the development, in a manner satisfactory to the Water Department Director and the City Engineer.

68. Prior to the issuance of any certificates of occupancy, redundant 16-inch water facilities shall be complete and operational in a manner satisfactory to the Water Department Director and the City Engineer. Such facilities shall be located in Camino del Sur or Carmel Mountain Road.

69. Prior to the issuance of any certificates of occupancy, the Owner/Permittee shall install fire hydrants at locations satisfactory to the Fire Department, the Water Department Director and the City Engineer. All on-site fire hydrants shall be private.

70. Prior to the issuance of any certificates of occupancy all public water facilities, necessary to provide service to this development, shall be complete and operational in a manner satisfactory to the Water Department Director and the City Engineer.

71. The Owner/Permittee agrees to design and construct all proposed public water facilities in accordance with established criteria in the most current editions of the City of San Diego Water Facility Design Guidelines and City regulations, standards and practices pertaining thereto. Public water facilities, as shown on approved Exhibit "A," shall be modified at final engineering in accordance with accepted studies and standards.

72. Providing water for this development is dependent upon prior construction of certain water facilities in previously approved developments in this area. If facilities have not been constructed when required for this development, then the construction of certain portions of these previously approved water facilities, as required by the City Engineer, will become off-site improvements required for this development.

INFORMATION ONLY

Any party on whom fees, dedications, reservations, or other exactions have been imposed as conditions of approval of this development permit, may protest the imposition within 90 days of the approval of this development permit by filing a written protest with the City Clerk pursuant to California Government Code 66020.

APPROVED by the Planning Commission of the City of San Diego on April 22, 2004.

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ALL-PURPOSE CERTIFICATE

Type/PTS Approval Number of Document
Planned Development Permit No.10965/Site Development Permit No. 4916/Conditional Use Permit No. 4915
Date of Approval April 22, 2004

STATE OF CALIFORNIA
COUNTY OF SAN DIEGO

John S. Fisher, Development Project Manager

On 8/23/04 before me, Stacie L. Maxwell, (Notary Public), personally appeared John S. Fisher, Development Project Manager of the Development Services Department of the City of San Diego, personally known to me to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal

Signature

STACIE L. MAXWELL
Commission # 1492145
Notary Public - California
San Diego County
My Comm. Expires Jun 24, 2008

ALL-PURPOSE CERTIFICATE

OWNER(S)/PERMITTEE(S) SIGNATURE/NOTARIZATION:

THE UNDERSIGNED OWNER(S)/PERMITTEE(S), BY EXECUTION THEREOF, AGREES TO EACH AND EVERY CONDITION OF THIS PERMIT AND PROMISES TO PERFORM EACH AND EVERY OBLIGATION OF OWNER(S)/PERMITTEE(S) THEREUNDER.

Signed _____ Signed _____
Typed Name H.L. Gardner Typed Name
THE ROMAN CATHOLIC BISHOP OF SAN DIEGO

STATE OF California
COUNTY OF San Diego

On September 16, 2004 before me, Vanessa Elaine McAuliffe (Name of Notary Public) personally appeared H.L. Gardner, personally known to me ~~(or proved to me on the basis of satisfactory evidence)~~ to be the person~~(s)~~ whose name~~(s)~~ is~~/are~~ subscribed to the within instrument and acknowledged to me that he~~/she/they~~ executed the same in his~~/her/their~~ authorized capacity~~(ies)~~, and that by his~~/her/their~~ signature~~(s)~~ on the instrument the person~~(s)~~, or the entity upon behalf of which the person~~(s)~~ acted, executed the instrument.

WITNESS my hand and official seal.

Signature Vanessa Elaine McAuliffe

VANESSA ELAINE MC AULIFFE
Commission # 1371454
Notary Public - California
San Diego County
My Comm. Expires Sep 14, 2006

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PLANNING COMMISSION RESOLUTION NO. 3501-PC-1
Planned Development Permit No.10965/Site Development Permit No. 4916/
Conditional Use Permit No. 4915
OUR LADY OF MT. CARMEL

WHEREAS, THE ROMAN CATHOLIC BISHOP OF SAN DIEGO, A SOLE CORPORATION, Owner/Permittee, filed an application with the City of San Diego for a permit to develop and construct a 102,983 square foot church campus, worship center and school with a maximum enrollment of 500 students grades kindergarten through twelve, minor improvements in the public right-of-way, landscaping, and other minor improvements (as described in and by reference to the approved Exhibits "A" and corresponding conditions of approval for the associated Permit Nos. 10965, 4916 and 4915), on portions of a 11.1 acre site;

WHEREAS, the project site is located at and along the future alignment of Camino Ruiz and south of the future State Route 56 in the AR-1-1 zone of the Torrey Highlands Subarea Plan;

WHEREAS, the project site is legally described as the Southeast one quarter of the northeast one quarter of the southeast one quarter of section 14, township 14 south, range 3 west, San Bernardino Meridian in the County of San Diego, State of California, according to the official plat thereof;

WHEREAS, on April 22, 2004, the Planning Commission of the City of San Diego considered Planned Development Permit No.10965/Site Development Permit No. 4916/Conditional Use Permit No. 4915 pursuant to the Land Development Code of the City of San Diego; NOW, THEREFORE,

BE IT RESOLVED by the Planning Commission of the City of San Diego as follows:

That the Planning Commission adopts the following written Findings, dated April 22, 2004.

FINDINGS:

Findings for all Planned Development Permits - Section 126.0604

1. **The proposed development will not adversely affect the applicable land use plan.** The Torrey Highlands Subarea Plan identifies these sites for Commercial Limited (CL) uses. The CL designation allows for development of religious facilities and educational facilities through discretionary review in order to ensure compatibility with Deer Canyon. The proposed project, being determined consistent with the community plan land use, would not adversely affect the relevant land use plan.

2. **The proposed development will not be detrimental to the public health, safety, and welfare.** The permit controlling the development and continued use of the development proposed for this site contains conditions addressing the project compliance with the City's regulations and other regional, state and federal regulations to prevent

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detrimental impacts to the health, safety, and general welfare of persons residing and/or working in the area. Conditions of approval require compliance with several operational constraints and development controls intended to assure the continued health, safety and general welfare of persons residing or working in the area. All Building, Fire, Plumbing, Electrical, Mechanical Code and the City regulations governing the construction and continued operation of the development apply to this site to prevent adverse affects to those persons or other properties in the vicinity.

3. **The proposed development will comply with the regulations of the Land Development Code.** Specific conditions of approval require the continued compliance with all relevant regulations of the San Diego Land Development Code in effect for this site and have been written as such into the permit. Development of the site with a religious campus shall meet all requirements of the regulations, as allowed through a Planned Development permit. Concept plans for the project identify all other development criteria in effect for the site. All relevant regulations shall be complied with at all times for the life of the project.

4. **The proposed development, when considered as a whole, will be beneficial to the community.** The proposed project would provide opportunities for members of the community for worship, prayer, meditation and education. The operation of the church would support intrinsic values of the community and the operation of the school would provide opportunities for high quality educational experiences. The focus of these two uses on the site would benefit the community as members of the school and church seek personal improvement along cultural, ecumenical, secular and spiritual principles.

5. **Any proposed deviations pursuant to Section 126.0602(b)(1) are appropriate for this location and will result in a more desirable project than would be achieved if designed in strict conformance with the development regulations of the applicable zone.** The proposed project has been designed as a cohesive campus using similar materials, building forms, articulation and massing relative to the functions of each building. The project requires a deviation to allow the height of the church spire, church buildings and retaining walls. The spire is considered a substantial element necessary to the identification of the site as a religious center and spiritual focal point in the community. The height of the spire on the church and entry dome at sixty-five feet above grade contributes to the overall design of the campus and will result in a more desirable project than would be achieved if designed in strict compliance with the development regulations. The retaining walls are a necessary component of the overall site design to utilize the site to its maximum extent and provide for the pad elevations necessary to support buildings, parking areas, play areas and the general use of the site. The walls as designed will be appropriate for this location and will not create a precedent in the neighborhood to the detriment of the community. The walls as proposed will result in a more desirable project than would be achieved if designed in strict compliance with the development regulations.

<u>Findings for All Site Development Permits – Section 126.0504</u>

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6. **The proposed development will not adversely affect the applicable land use plan.** Being determined the proposed project is consistent with the community plan, as evidenced in finding 1 above, the proposed project will not adversely affect the relevant land use plan.

7. **The proposed development will not be detrimental to the public health, safety and welfare.** Being determined the proposed project would not result in detrimental impacts to the health, safety, and general welfare of persons residing and/or working in the area, as evidenced in finding 2 above, the permit controlling the development and continued use of the project proposed for this site would contribute in a positive manner to the community.

8. **The proposed development will comply with the applicable regulations of the Land Development Code.** Being determined the proposed project would comply, as evidenced in finding 3, with all applicable regulations, the concept plans for the project identify all other development criteria in effect for the site. All relevant regulations would be complied with at all times for the life of the project as required by the conditions of approval.

Findings for Conditional Use Permit - Section 126.0305

9. **The proposed development will not adversely affect the applicable land use plan.** Being determined the proposed project is consistent with the community plan, as evidenced in finding 1 and 6 above, the proposed project will not adversely affect the relevant land use plan.

10. **The proposed development will not be detrimental to the public health, safety and welfare.** Being determined the proposed project would not result in detrimental impacts to the health, safety, and general welfare of persons residing and/or working in the area, as evidenced in finding 2 and 7 above, the permit controlling the development and continued use of the project proposed for this site would contribute in a positive manner to the community.

11. **The proposed development will comply to the maximum extent feasible with the regulations of the Land Development Code.** Being determined the proposed project would comply, as evidenced in finding 3 and 8 above, with all applicable regulations, the concept plans for the project identify all other development criteria in effect for the site and all relevant regulations would be complied with at all times for the life of the project as required by the conditions of approval.

12. **The proposed use is appropriate at the proposed location.** The proposed project would provide opportunities for members of the community for worship, prayer, meditation and education. The operation of the church would support intrinsic values of the community and the operation of the school would provide opportunities for high

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quality educational experiences. The focus of these two uses on the site would benefit the community as members of the school and church seek to improve themselves along cultural, ecumenical, secular and spiritual principles. The physical site characteristics of slope, soil, geology and the structural properties of these factors support the proposed development at this site. The Torrey Highlands Subarea Plan identifies these sites for Commercial Limited (CL) uses. The CL designation allows for development of religious facilities and educational facilities through discretionary review. The proposed project, being determined consistent with the community plan land use, would not adversely affect the relevant land use plan and is appropriate for this location.

BE IT FURTHER RESOLVED that, based on the findings hereinbefore adopted by the Planning Commission, Planned Development Permit No.10965, Site Development Permit No. 4916, Conditional Use Permit No. 4915 is hereby GRANTED by the Planning Commission to the referenced Owner/Permittee, in the form, exhibits, terms and conditions as set forth in Permit Nos. 10965, 4916 and 4915, a copy of which is attached hereto and made a part hereof.

John S. Fisher
Development Project Manager
Development Services

Linda Lugano
Secretary to the Planning Commission

Adopted on: April 22, 2004
By a vote of: 5:0:0

Job Order No. 42-0261

cc: Legislative Recorder, Planning Department

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APPENDIX P

Sewer Study

SEWER STUDY
FOR
THE PRESERVE AT TORREY HIGHLANDS

PTS No. 442880, I.O. No. 24006166

Prepared By:
LEPPERT ENGINEERING CORPORATION
5190 Governor Drive, Suite 205
San Diego, CA 92122
Job No. TH 6.07-13.15

Prepared: April 4, 2016

John D. Leppert
RCE 26283 Exp. 3-31-18

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Greystone Torrey Highlands Sewer Study	2
Rhodes Crossing Sewer Study	3
Sewer Options for the Proposed Development	4
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Exhibits

Exhibit "A"	Location Map
Exhibit "B"	Sewer Summary Tables
Exhibit "C"	Sewer Site Plan

Appendix

Appendix I	Excerpts from the Torrey Highlands Subarea IV Sewer Study
Appendix II	Excerpts from the Greystone Torrey Highlands Sewer Study
Appendix III	Excerpts from the Rhodes Crossing Sewer Study
Appendix IV	Fixture Unit Calculations
Appendix V	Sewer Design Reference Documents

The Preserve at Torrey Highlands
Sewer Study
Job No. TH6.07-13.15
April 4, 2016

Introduction

The purpose of this sewer study is to evaluate the sewer demands generated by the proposed development for the purposes of identifying new sewer facilities that may be required to serve the project, and to validate the design criteria assumed for the subject property in the approved sewer studies for Torrey Highlands Subarea IV and Greystone Torrey Highlands. Both of these studies anticipate that the subject property will sewer to the north along Camino del Sur (Camino Ruiz), to a point of connection at the intersection of Street "A" (Torrey Santa Fe Road) and Camino Del Sur (Camino Ruiz). In addition, the sewer study for the Rhodes Crossing development to the east includes the subject property in its evaluation of the proposed sewer system in Camino Del Sur (Camino Ruiz), with a point of connection located near the southeast corner of the subject property.

Project Location

The subject property is a rectangular parcel of land with a gross area of approximately 11 acres. It is located south of Torrey Santa Fe Road and west of future Camino Del Sur (Camino Ruiz) (see Exhibit "A" - Location Map).

Project Description

The project proposes three corporate office buildings, one café building, one fitness center, and one parking structure.

-Building 1:

Proposed 6-level office building containing 180,000 gross square feet, and 87 covered parking stalls beneath.

-Building 2:

Proposed 4-level office building containing 120,000 gross square feet, and 69 covered parking stalls beneath.

-Building 3:

Proposed 5-level office building containing 150,000 gross square feet, and 85 covered parking stalls beneath.

-Parking Structure:

Proposed 7.4-Level parking structure containing 0.4 subterranean and 7 above grade parking levels; providing 1,472 parking stalls.

-Café:

Proposed 1-level on site café building; providing approximately 3,850 square feet of space.

-Fitness Center:

Proposed 1-level Fitness Center beneath Building 2; providing approximately 5,000 square feet of space.

Project Sewer Demand

The sewer flow generated by the proposed development site was estimated by determining the total number of fixture units for the development, based on a review of the preliminary architectural plans and the application of the City of San Diego's Water Meter Data Card (See Appendix IV). A total fixture unit count of 722 was estimated for the project. A conversion factor of 20 fixture units per EDU was then applied to the estimated total, resulting in approximately 36.1 EDUs for the proposed project. For

analytical purposes, this total will be rounded up to **37 EDUs**.

Torrey Highlands Subarea IV Sewer Study

The sewer study for Torrey Highlands Subarea IV ("Subarea IV Study"), prepared by Wilson Engineering identifies the subject property as the "Schooley" property (see Appendix I). The "Subarea IV Study" identifies Node 216 as the node where flows from the subject property would be intercepted by the 12" sewer main in Street "A" (Torrey Santa Fe Road). For design purposes, the 11 acre site was given a Commercial Land Use designation with a maximum density equivalency of 8.9 D.U./ Acre, or approximately **98 EDUs**.

Conclusion: Based on the estimated sewer demand for the proposed project of 25 EDUs, the development of the site as proposed will not exceed the flows estimated by the Torrey Highlands Subarea IV sewer study.

Greystone Torrey Highlands Sewer Study

The sewer study for Greystone Torrey Highlands ("Greystone Study"), prepared by Latitude 33 Planning and Engineering, identifies the subject property as a 10 acre Catholic Church (See Appendix II). The Greystone Study identifies Node 7 as the node where flows from the subject property would be intercepted by the 12" sewer main in Street "A" (Torrey Santa Fe Road). Node 7 is the same node referenced as Node 216 in the "Subarea IV Study" discussed above. For design purposes the subject property was estimated to have a demand of 25,000 GPD, or approximately **89 EDUs**.

Conclusion: Based on the estimated sewer demand for the proposed project of 25 EDUs, the development of the site as proposed will not exceed the flows estimated by the Greystone Torrey Highlands sewer study.

Rhodes Crossing Sewer Study

The sewer study for Rhodes Crossing ("Rhodes Study"), prepared by Latitide 33 Planning and Engineering, identifies the subject property as a 10 acre site Church site (See Appendix III). The "Rhodes Study" identifies SMH #25 located at the southeast corner of the subject property in Camino Del Sur (Camino Ruiz) as the point where the flows from the proposed development would be intercepted by the 10" sewer main in Camino Del Sur (Camino Ruiz). For design purposes the subject property was estimated to have a demand of 25,000 GPD, or approximately **89 EDUs**.

Conclusion: Based on the estimated sewer demand for the proposed project of 25 EDUs, the development of the site as proposed will not exceed the flows estimated by the Greystone Torrey Highlands sewer study.

Sewer Options for the Proposed Development

Based on the above referenced sewer studies, there are 2 options available for the subject property to obtain sewer service (See Sewer Site Plan, Exhibit "C"), as follows:

Option 1: This option proposes to extend an 8" sewer main to the northeast corner of our property along Camino Del Sur (Camino Ruiz) from SMH #55 as referenced in the Rhodes Crossing sewer study.

This study will demonstrate that the 8" sewer main in Camino Del Sur downstream of SMH #55 is capable of accepting the sewer demand from the proposed project.

Option 2: This option would connect to the sewer main in Camino Del Sur (Camino Ruiz) at the southeast corner of our property at SMH #25 as referenced in the Rhodes Crossing sewer study. As summarized above, the "Rhodes Study" has already included the subject property in its analysis, with an allowance of up to 89 EDUs allocated to this site. With an estimated demand of 25 EDUs for the proposed development, development of the subject property as proposed will not exceed the flows estimated by the "Rhodes Study", and further analysis of this option is not required.

Design Summary for Option 1

The "Rhodes Study" anticipated that all flow from the subject property would be directed towards the southeast corner of the property, and connect to SMH # 26 (See Appendix III). Option 1 would propose that an 8" sewer main be constructed along Camino Del Sur (Camino Ruiz) extending northerly from the northeast corner of the property to a point of connection with SMH #55 (See Exhibit "C"). The proposed 8" sewer main in Camino Del Sur (Camino Ruiz) from SMH # 55 to the point of connection to the existing 12" sewer main in Torrey Santa Fe Road was included in the "Rhodes Study". The "Rhodes Study" anticipated flows from only the northerly portion of the Rhodes property, which was calculated at **0.133 cfs** (See Appendix III). The Sewer Summary Table included as **Exhibit "B"** will demonstrate that this section of sewer main has adequate capacity to handle the flows from both the Rhodes property and the subject property at the proposed design slope of 1%.

The following calculation shows the proposed sewer flow anticipating **37 EDU** for the proposed development:

Equivalent Dwelling Units = 37 EDU
Population Factor = 3.5 persons/EDU, (See Appendix V)
Equivalent Population = 130 persons
Sewer Generation Rate = 80 gal/capita/day, (See Appendix V)
Peak Factor = 4.0, (See Appendix V)
Peak Flow = 0.028 mgd = **0.064 cfs**, (See Appendix V)

The combined sewer flow from the northerly portion of the Rhodes property and the proposed project totals **0.196 cfs**. The Sewer Summary Tables included as Exhibit "B" illustrate 2 design options, both of which meet the City's Sewer Design criteria.

Conclusion

The proposed development of the 11 acres site as office space does not exceed the expected sewer flows estimated by prior developments and sewer studies previously approved by the City of San Diego, and will not have an adverse impact on downstream facilities that are either already in place, or proposed as future facilities needed to serve the area.

EXHIBIT “A”
Location Map

TORREY SANTA FE ROAD
CAMINO DEL SUR
(FUTURE)
(EXISTING)
CARMEL MOUNTAIN RD.
56
BLACK MOUNTAIN RD.
15
PROJECT LOCATION
E

EXHIBIT “B”
Sewer Summary Tables

Sewer Study - Line Summary Table 1

The Preserve at Torrey Highlands

Job No. TH 6.07-13.15

Date: 11/13/15

Main (MH to MH)	Pop. Factor Persons/DU	In Line Units	Total Units	Population In Line	Population Total	Generation Rate (gal/capita/day)	Peak Factor	Peak Flow (gpd)	Peak Flow (cfs)	Pipe Dia. (in.)	Slope %	Depth of Flow (ft)	Velocity (ft/s)	D/d	Comments
1-2	3.5	37	37	130	130	80	4.00	41,440	0.064	8	1.80%	0.09	2.26	0.14	
2-55	3.5	0	37	130	130	80	4.00	41,440	0.064	8	1.80%	0.09	2.26	0.14	Connection into MH # 55 per sewer study for Rhodes Crossing
55-ex.	3.5	85	122	427	427	80	3.70	126,392	0.196	8	1.00%	0.18	2.54	0.27	Connection into existing 12" main in Torrey Santa Fe Road; Using Peak Factor = 3.7 as used in sewer study for Rhodes Crossing to be more conservative

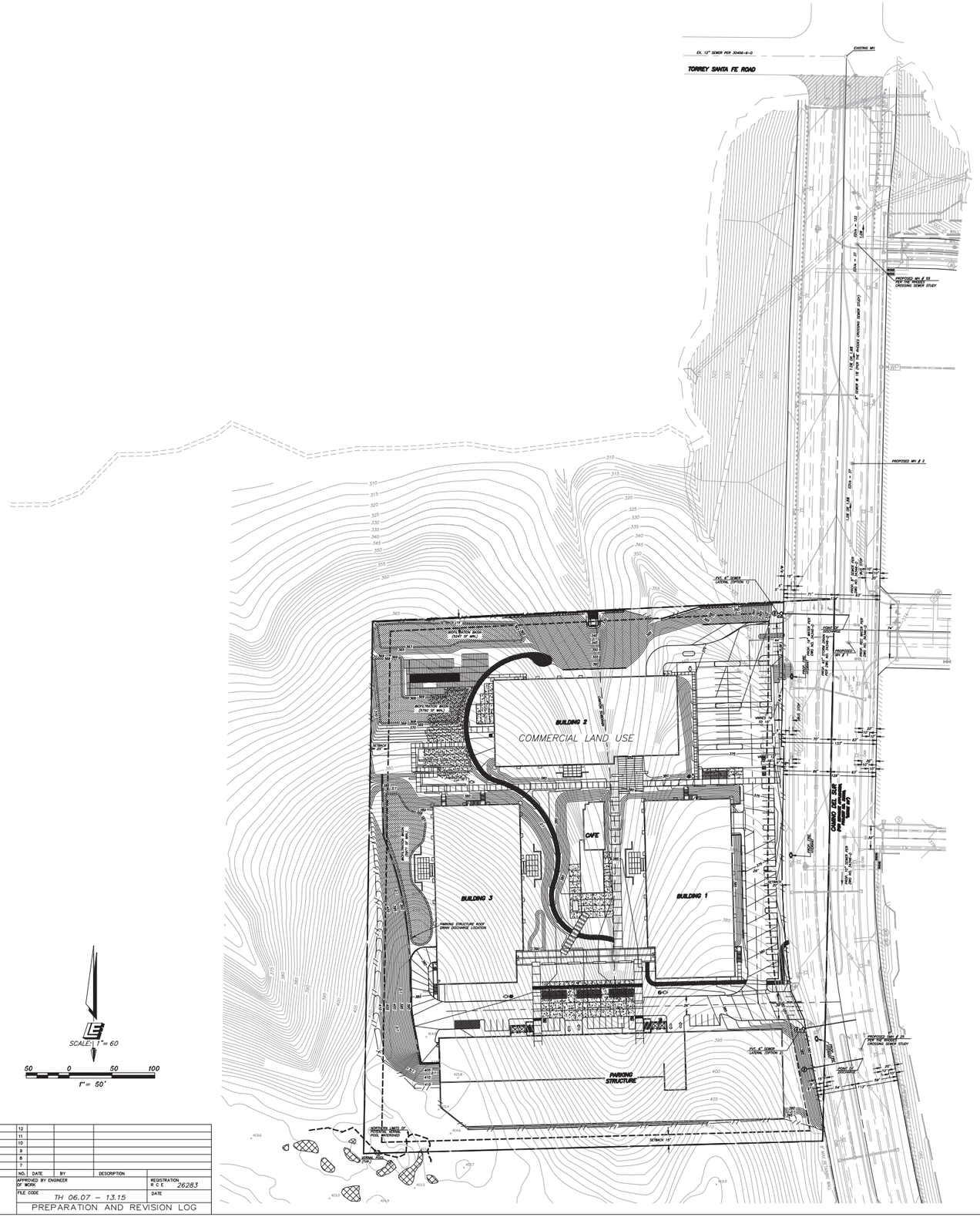
Sewer Study - Line Summary Table 2
The Preserve at Torrey Highlands

Job No. TH 6.07-13.15

Date: 11/13/15

Main (MH to MH)	Pop. Factor Persons/DU	In Line Units	Total Units	Population In Line	Population Total	Generation Rate (gal/capita/day)	Peak Factor	Peak Flow (gpd)	Peak Flow (cfs)	Pipe Dia. (in.)	Slope %	Depth of Flow (ft)	Velocity (ft/s)	D/d	Comments
1-2	3.5	37	37	130	130	80	4.00	41,440	0.064	8	1.00%	0.10	1.84	0.16	
2-55	3.5	0	37	130	130	80	4.00	41,440	0.064	8	1.00%	0.10	1.84	0.16	Connection into MH # 55 per sewer study for Rhodes Crossing
55-ex.	3.5	85	122	427	427	80	3.70	126,392	0.196	8	1.00%	0.18	2.54	0.27	Connection into existing 12" main in Torrey Santa Fe Road Using Peak Factor = 3.7 as used in sewer study for Rhodes Crossing to be more conservative

EXHIBIT “C”
Sewer Site Plan



SCALE: 1"= 60

50 0 50 100

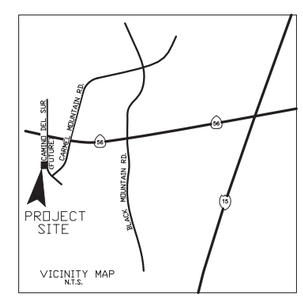
1"= 50'

SEWER STUDIES INCORPORATED BY REFERENCE:

TORREY HIGHLANDS SUBAREA IV SEWER STUDY, JANUARY 1999

GREYSTONE TORREY HIGHLANDS SEWER STUDY, JANUARY 10, 2001

RHODES CROSSING SEWER STUDY, FEBRUARY 7, 2003



VICINITY MAP
N.T.S.

PREPARED BY:

NAME: LEPPERT ENGINEERING CORPORATION

ADDRESS: 5190 GOVERNOR DRIVE, SUITE 205
SAN DIEGO, CALIFORNIA 92122-2848

PHONE #: (858) 597-2001

PROJECT ADDRESS:
SEQ STATE ROUTE 56 & CAMINO DEL SUR
SAN DIEGO, CALIFORNIA 92129

PROJECT NAME:
THE PRESERVE AT TORREY HIGHLANDS

SHEET TITLE:
SEWER STUDY EXHIBIT

REVISION 14:
REVISION 13:
REVISION 12:
REVISION 11:
REVISION 10:
REVISION 9:
REVISION 8:
REVISION 7:
REVISION 6:
REVISION 5:
REVISION 4:
REVISION 3:
REVISION 2: 04/04/2016
REVISION 1: 12/21/2015

ORIGINAL DATE: 11/13/2015

SHEET 1 OF 1

DEP#

NO.	DATE	BY	DESCRIPTION	NO.	DATE	BY	DESCRIPTION
6				12			
5				11			
4				10			
3	04/04/16	RL	REVISION 2	9			
2	12/21/15	RL	REVISION 1	8			
1	11/13/15	RL	ORIGINAL	7			

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APPROVED BY ENGINEER OF WORK

REGISTRATION R C E 26283

FILE CODE TH 06.07 – 13.15

DATE

PREPARATION AND REVISION LOG

APPENDIX I
Excerpts from the Torrey Highlands Subarea IV Sewer Study

SEWER SYSTEM ANALYSIS
FOR
TORREY HIGHLANDS SUBAREA IV

January 1999

Prepared by:

Wilson Engineering
703 Palomar Airport Road
Suite 300
Carlsbad, CA 92009
(760) 438-4422

Job No. 710-001

\\File server\fs\Docs\710-001\Reports\SEWER SYSTEM ANALYSIS.wpd

SEWER STUDY SUMMARY

SH 1 OF 1

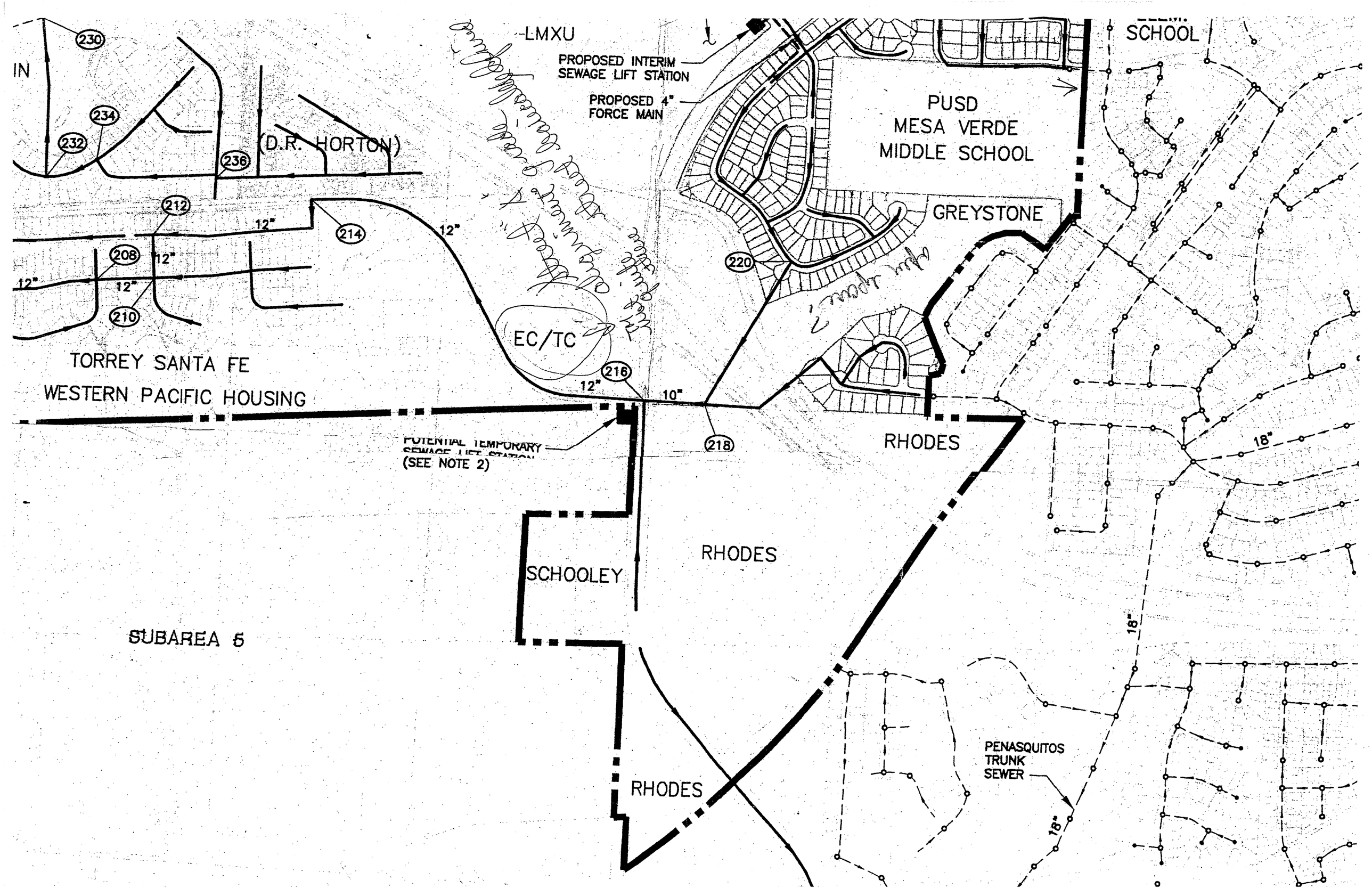
DATE 10/1/99

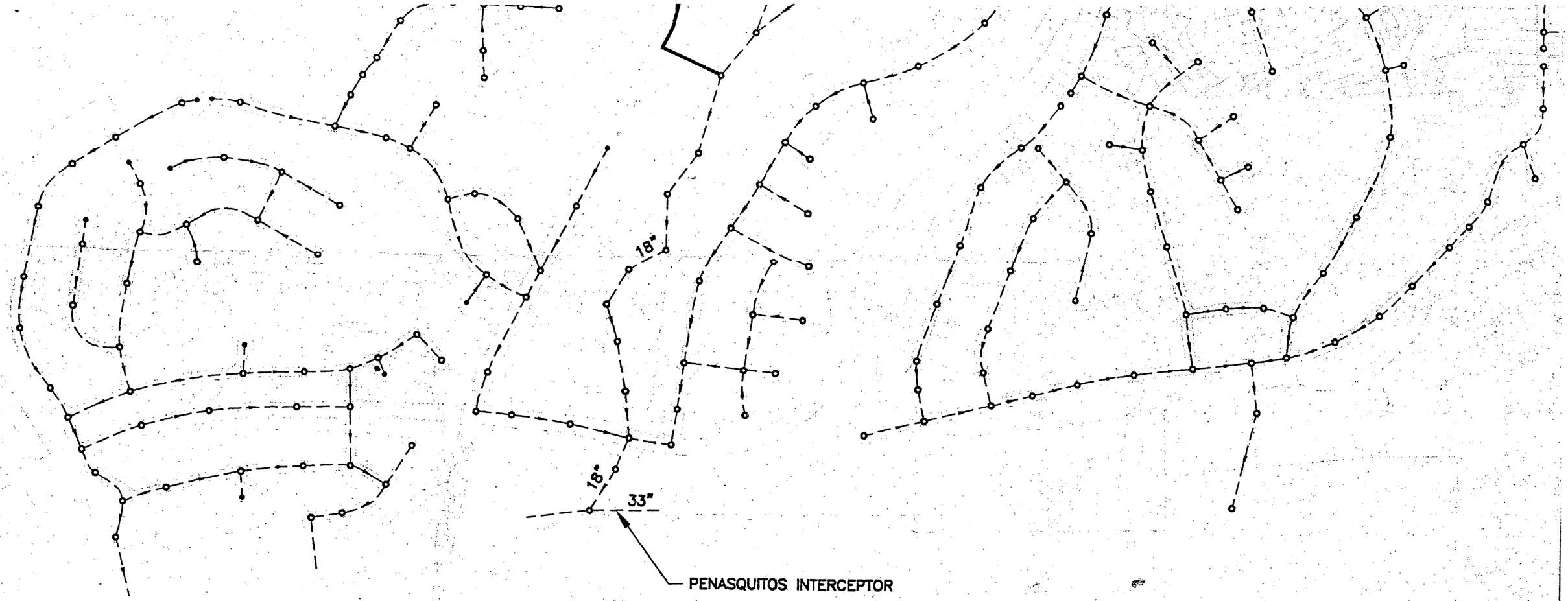
FOR: TORREY HIGHLANDS SUBAREA IV

JOB NO. 710-001

BY: ONSITE SEWER SYSTEM ANALYSIS

LINE	FROM	TO	POPULATION PER D.U.	IN-LINE D.U.'s	POPULATION SERVED IN-LINE	POPULATION SERVED TOTAL	PEAK / AVG. RATIO	PEAK DESIGN FLOW M.G.D.	PEAK DESIGN FLOW C.F.S.	LINE SIZE (INCHES)	DESIGN SLOPE (%)	do (FEET)	do/D	VELOCITY (F.P.S.)	COMMENTS
	220	218			965	965	2.51	0.19	0.30	8	1.00	0.22	0.33	2.9	Greystone: 166 SF + 120 MF
	218	216			1,076	2,041	2.29	0.37	0.58	10	0.60	0.33	0.40	2.8	Greystone: 31 SF Rhodes: 71 SF + 23 AC Co
	216	214			2,430	4,471	2.03	0.73	1.12	12	0.60	0.45	0.45	3.4	RHODES: 20 SF, 298 MF SCHOOLEY: 11 AC Comm F/C-34
	214	212			133	4,604	2.02	0.74	1.15	12	1.00	0.38	0.38	4.0	Torrey Santa Fe: 38 SF
	212	210			28	4,632	2.02	0.75	1.16	12	1.00	0.40	0.40	4.1	Torrey Santa Fe: 8 SF
	210	208			488	5,120	1.99	0.82	1.26	12	1.00	0.42	0.42	4.1	Torrey Santa Fe: 70 SF + 76
	208	206			116	5,236	1.99	0.83	1.29	12	1.00	0.42	0.42	4.1	Torrey Santa Fe: 33 SF
	206	204			70	5,306	1.98	0.84	1.30	12	1.00	0.43	0.43	4.2	Torrey Santa Fe: 20 SF
	204	202			193	5,499	1.97	0.87	1.34	12	1.00	0.44	0.44	4.3	Torrey Santa Fe: 55 SF
	202	200			60	5,559	1.97	0.88	1.36	12	1.00	0.44	0.44	4.3	McMillin: 17 SF
	236	234			719	719	2.80	0.16	0.25	8	1.00	0.21	0.31	2.7	DR Horton + McMillin 36 SF
	234	232			301	1,020	2.51	0.20	0.32	8	1.00	0.23	0.35	2.95	McMillin: 86 SF
	232	230			60	1,080	2.47	0.21	0.33	8	1.00	0.24	0.36	3.0	McMillin: 17 SF


LMXU
PROPOSED INTERIM SEWAGE LIFT STATION
PROPOSED 4" FORCE MAIN
SCHOOL
PUSD MESA VERDE MIDDLE SCHOOL
GREYSTONE
(D.R. HORTON)
230
234
232
236
212
214
208
210
220
216
218
12"
10"
18"
EC/TC
TORREY SANTA FE
WESTERN PACIFIC HOUSING
POTENTIAL TEMPORARY SEWAGE LIFT STATION (SEE NOTE 2)
RHODES
SCHOOLEY
SUBAREA 5
PENASQUITOS TRUNK SEWER



N

SCALE: 1" = 500'

NOTES:

1. ALL PIPELINES ARE 8-INCH UNLESS OTHERWISE NOTED.
2. A TEMPORARY SEWAGE LIFT STATION MAY BE CONSTRUCTED AT THIS LOCATION IF GREYSTONE AND/OR RHODES DEVELOP PRIOR TO THE TORREY SANTA FE PROJECT. THE LIFT STATION WOULD CONVEY SEWAGE SOUTH VIA A FORCE MAIN IN CAMINO RUIZ TO THE PENASQUITOS COLLECTION SYSTEM.

LEGEND

- STUDY AREA BOUNDARY
- PROPERTY BOUNDARY
- EXISTING SEWER LINE
- PROPOSED SEWER LINE
- (230) COMPUTER NODE NUMBER

WILSON ENGINEERING
CONSULTING ENGINEERS
703 PALOMAR AIRPORT ROAD, SUITE 300
CARLSBAD, CA 92009 (760) 438-4422

EXHIBIT A

PROPOSED ONSITE SEWER FACILITIES

APPENDIX II
Excerpts from the Greystone Torrey Highlands Sewer Study

ACCEPTED
2001-010-20.008

SEWER STUDY

FOR

GREYSTONE TORREY HIGHLANDS

SAN DIEGO, CALIFORNIA

Plan checker use this copy.

BY

LATITUDE 33 PLANNING AND ENGINEERING
4180 La Jolla Village Drive
Suite 330
La Jolla, CA 92037

Mark J. Rowson R.C.E. 30836
License expires 3/31/2000

REGISTERED PROFESSIONAL ENGINEER
MARK J. ROWSON
No. 30836
Exp. 3-31-2004
CIVIL
STATE OF CALIFORNIA

Tentative Map No. 98-0392

November 4, 1999
Revised June 18, 2000
Revised October 6, 2000
Revised December 7, 2000
REVISED JANUARY 10, 2001

Job No. 379.20

"A" Street Gravity Sewer Study Summary

Property	Land Use	Number of Units	Sewage Generation Factor	Sewage Flow (GPD)		Total Sewage Flow (GPD)	Percent of Total Flow
Greystone							
	Residential	104	280 GPD/Unit	29,120			
	Commercial	2.1 Ac.	2500 GPD/ Ac.	5,250			
				Subtotal	34,370	34,370	21.4%
Rhodes							
	Residential	71	280 GPD/Unit	19,880			
	Commercial	13.85 Ac.	2500 GPD/ Ac.	34,625			
				Subtotal	54,505	88,875	34.0%
Catholic Church							
	Church	10 Ac.	2500 GPD/ Ac.	25,000			
				Subtotal	25,000	113,875	15.6%
Goodell							
	Industrial	18.6 Ac.	2500 GPD/ Ac.	46,500			
				Subtotal*	46,500	160,375	29.0%
						Total	100.0%

CONCLUSION

The depth of flow was calculated for each existing segment of offsite sewer. One small 81-foot segment in Sundance Avenue was built at a slope of 0.40%, which is too flat to handle even the existing flows through the system. The City allowed construction of this main even though it did not meet the minimum design standards. Several alternative designs were investigated to determine the solution to this existing capacity constraint. The existing sewer must be maintained in operation until a parallel sewer is constructed. The proposed solution is to build a parallel sewer approximately 10 feet north of the existing sewer main starting at the confluence of the three existing sewers at Thunderhead Street and Sundance Avenue. The new sewer will be built at a steeper slope to accommodate the flow. Table 1 of the Sewer Study Summary for new Manhole 50 to 49 provides the design data for this new segment of sewer. This sewer would connect to the existing trunk sewer manhole via a drop manhole structure. The existing sewer mains could remain with a small weir structure constructed upstream to allow just the peak or overflow to pass through the new sewer main. Other alternatives investigated would conflict with the City's Sewer Design Guidelines or would accommodate only a portion of the flow.

All offsite trunk mains will be adequate for the interim and ultimate sewer systems proposed. The Sub-area IV plan indicates that the Carmel Valley Trunk sewer has adequate capacity to serve this project. The study, "Sewer System Analysis for Torrey Highlands Subarea IV", prepared by Wilson Engineering evaluated the capacity of the existing trunk sewer facilities and has made recommendations for new sewer mains and improvements to existing facilities that

Latitude 33

Planning and Engineering

Table 3

Sewer Study Summary

For: "A" Street Gravity Sewer

Job No. 379.20
By: B.K.

Line	From	To	Population Per D. U.	In- Line D. U.'s	Population Served In-Line	Population Served Total	Peak/ Avg. Ratio	Peak Design Flow M.G.D.	Peak Design Flow C.F.S.	Line Size (Inches)	Design Slope (%)	dn (Feet)	dn/D	Velocity F.P.S.	Comments
	16	15	3.5	4	14	14	4.417	0.0049	0.0077	8	1.00	0.04	0.06	0.90	
	15	14	3.5	10	35	35	3.906	0.0109	0.0169	8	1.00	0.05	0.08	1.30	
	14	13	3.5	16	56	105	3.371	0.0283	0.0438	8	1.00	0.09	0.13	1.64	
	13	12	3.5	25	88	193	3.107	0.0479	0.074	8	1.00	0.11	0.17	1.88	
	12	11	3.5	12	42	235	3.026	0.0568	0.0878	8	1.00	0.12	0.18	2.06	
	11	10	3.5	11	39	273	2.965	0.0648	0.1002	8	1.00	0.13	0.19	2.17	
	10	9	3.5	0	0	273	2.965	0.0648	0.1002	8	1.00	0.13	0.19	2.17	
	9	8	3.5	0	0	273	2.965	0.0648	0.1002	10	1.00	0.13	0.15	1.95	
	8	7	3.5	239	837	1110	2.456	0.2180	0.3373	10	0.50	0.27	0.32	2.24	
	7	6	3.5	255	894	2003	2.269	0.3637	0.5627	12	0.50	0.32	0.32	2.60	
	6	5	3.5	0	0	2003	2.269	0.3637	0.5627	12	0.50	0.32	0.32	2.60	
	5	4	3.5	0	0	2003	2.269	0.3637	0.5627	12	0.50	0.32	0.32	2.60	
	4	3	3.5	0	0	2003	2.269	0.3637	0.5627	12	0.50	0.32	0.32	2.60	
	3	2	3.5	0	0	2003	2.269	0.3637	0.5627	12	0.50	0.32	0.32	2.60	
	2	1	3.5	0	0	2003	2.269	0.3637	0.5627	12	0.50	0.32	0.32	2.60	

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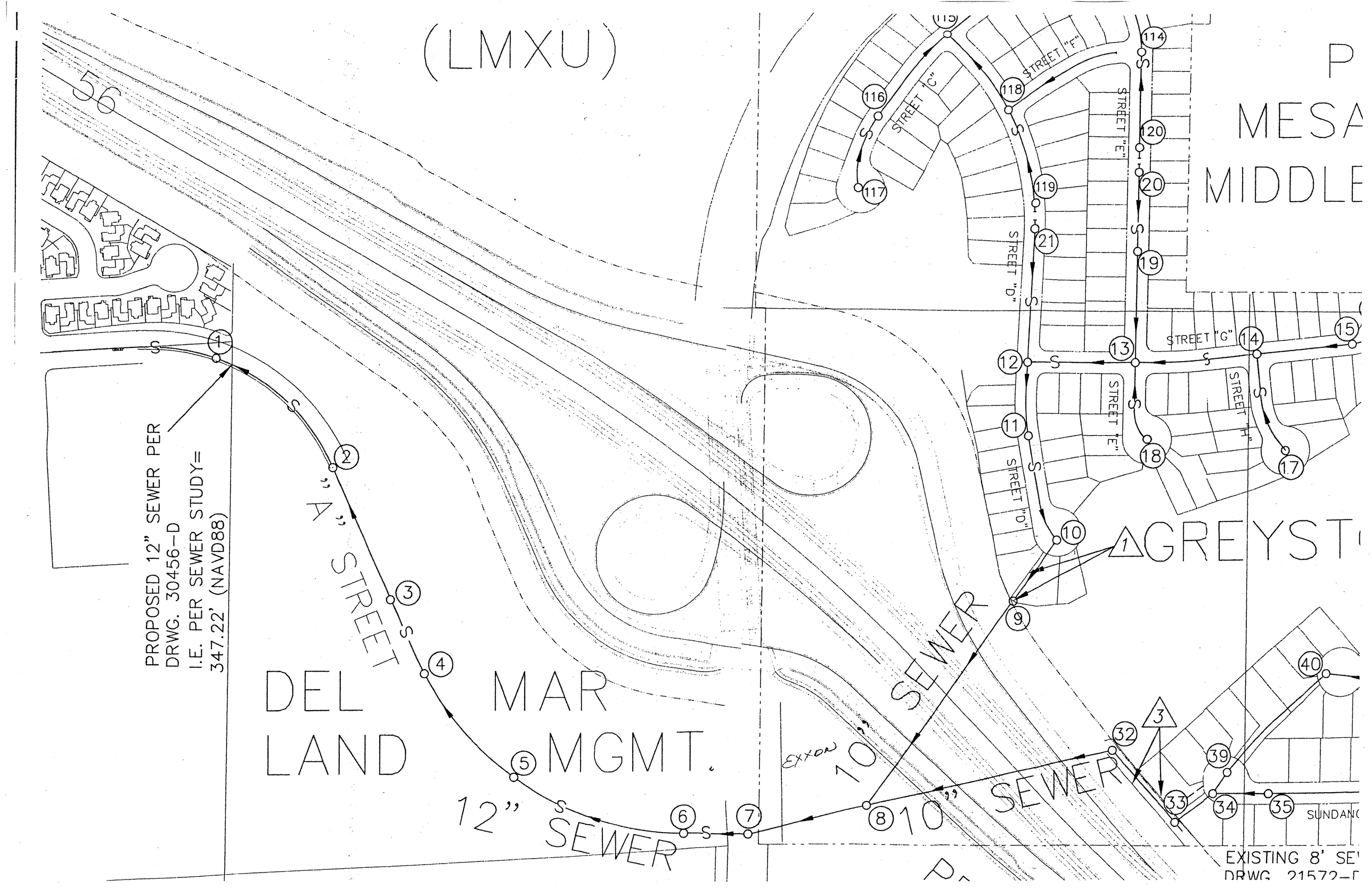
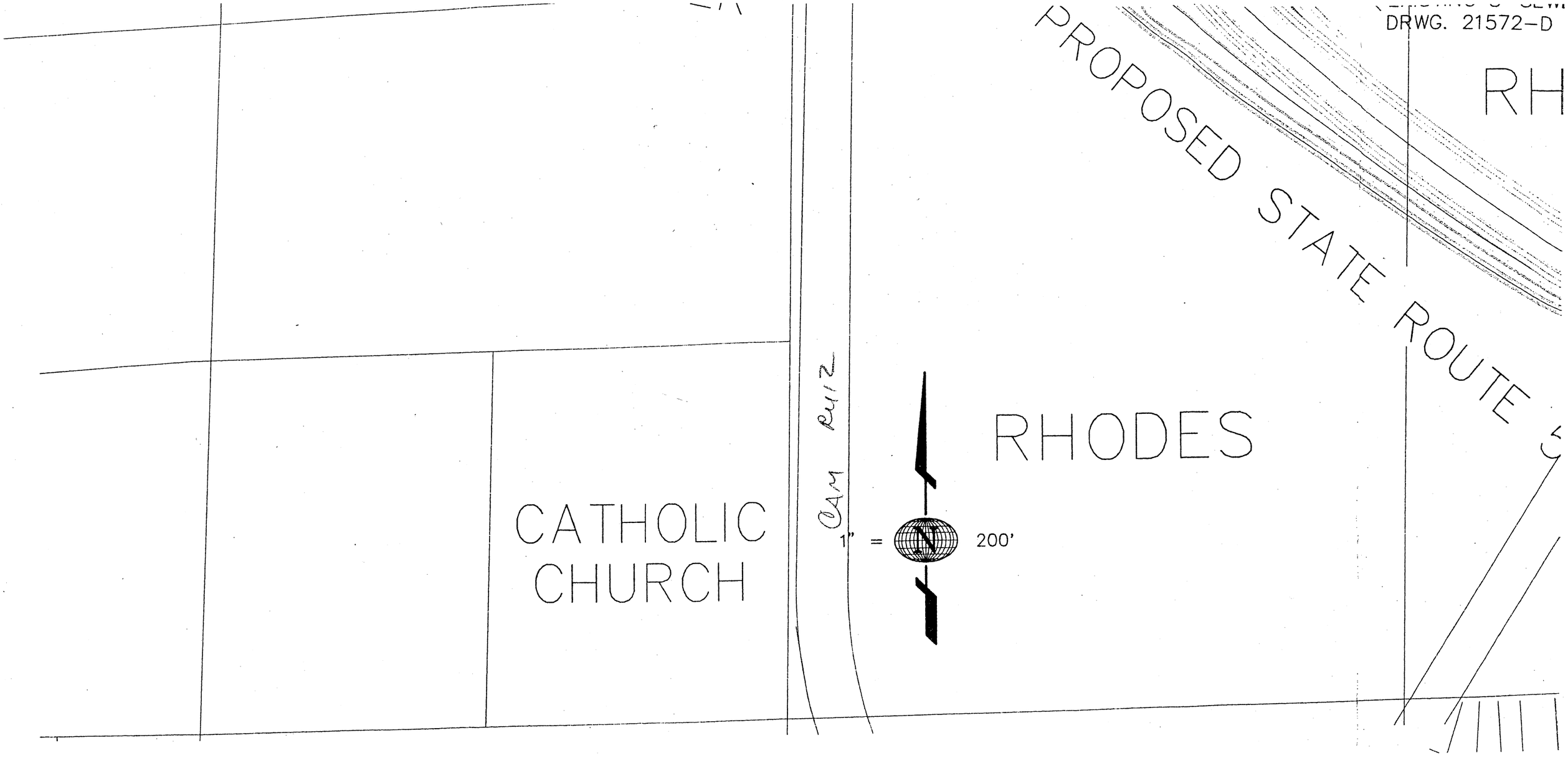
e-mail: latitude33.com


(LMXU)
56
PROPOSED 12" SEWER PER
DRWG. 30456-D
I.E. PER SEWER STUDY=
347.22' (NAVD88)
"A" STREET
DEL MAR
LAND MGMT.
12" SEWER
10" SEWER
EXXON
STREET "C"
STREET "F"
STREET "E"
STREET "D"
STREET "G"
STREET "H"
GREYST
MIDDLE
SUNDANC
EXISTING 8' SE
DRWG. 21572-D



Latitude 33
Planning and Engineering
4180 La Jolla Village Dr., Ste. 330
La Jolla, CA 92037
858-552-0033 Fax 858-552-0756

NOTES:

1. ALL PIPELINES ARE 8-INCH UNLESS OTHERWISE NOTED
2. THE LIFT STATION PROPOSED FOR THE GREYSTONE LI BE A PERMANENT PRIVATE LIFT STATION UNLESS A GRAVITY SEWER IS BUILT IN "B" STREET.

\\SERVER\133\300\379.2\DWG\EXHIBIT\379-SEWER EXH.DWG

APPENDIX III
Excerpts from the Rhodes Crossing Sewer Study

PRELIMINARY
SANITARY SEWER STUDY
RHODES CROSSING

(V.T.M. 98-0559)
(W.O. 98-0559)

SAN DIEGO, CALIFORNIA

November 5, 2002 (1ST Submittal)
December 18, 2002 (Revision #1)
February 7, 2003 (Revision #2)

PREPARED FOR:

RHODES PROPERTIES
4495 POINT LOMA AVENUE
SAN DIEGO, CA 92107

PREPARED BY:

LATITUDE 33 PLANNING AND ENGINEERING
4933 PARAMOUNT DRIVE, SECOND FLOOR
SAN DIEGO, CALIFORNIA 92123
(858) 751-0633

REGISTERED PROFESSIONAL ENGINEER
Keith L. Keeter
No. 31138
EXP. 06/30/04
CIVIL
STATE OF CALIFORNIA

LAT33 J.N. 352.3

KEITH L. KEETER R.C.E. 31138
REGISTRATION EXPIRES 6/30/04

Prepared By: SK/DB
Reviewed By: SK/KK

File:TMSewerReport.doc, @ 02/07/03

REACH NO.	MH TO MH	D.U. IN LINE	D.U. TOTAL	LAND USE	POP/D.U.	POP SERVED	GAL/DAY	DESIGN FLOW GAL/DAY	PEAK FACTOR	PEAK FLOW (CFS)
System No. 3										
16	17 To 18				2.8	703	80	56224	2.75	0.239
17	18 To 19				2.8	703	80	56224	2.75	0.239
18	19 To 20				2.8	703	80	56224	2.75	0.239
19	20 To 21				2.8	703	80	56224	2.75	0.239
20	21 To 22					703	80	56224	2.75	0.239
21	22 To 23					703	80	56224	2.75	0.239
	22 To 23					7.07 Acres	2500GPD/Ac	17675	4	0.109
22	23 To 24			C & MF	(= 0.109 CFS(Commercial (3A))+ 0.239 CFS(MF)					0.348
23	24 To 25			C & MF						
24	25 To 26			Church	(= 0.141 CFS(Commercial (3B))+ 0.348 CFS					0.490
25	26 To 27			Ch,C, & MF		10 ACRES	2500 GPD/Ac.	25000	2.75	0.106
	26 To 27			Ch,C, & MF	(=0.490 CFS +0.106 CFS)					0.596
26	27 To 28			Commercial						
27	28 To 29			Ch,C,MF,SF		1.67 Acres	2500 GPD/Ac.	4175	4	0.026
	28 To 29		264	Ch,C,MF,SF	(=0.596 CFS +0.023 CFS (SF)+0.026 CFS (Commercial (3C))					0.644
28	29 To 30			Ch,C,MF,SF						
29	30 To 31			Ch,C,MF,SF						
30	31 To 32		634	Ch,C,MF,SF	(=0.619 CFS +0.321 CFS (MF))					0.965
31	38 To 39			Commercial		9.13 Acres	2500GPD/Ac	22825	4	0.141
32	39 To 40			Commercial						
33	40 To 25			Commercial						
34	41 To 43	10	10	SF RESID.	3.5	35	80	2800	4	0.017
35	42 To 43	3	3	SF RESID.	3.5	11	80	840	4	0.005
36	43 To 28	0	13	SF RESID.	3.5	46	80	3640	4	0.023
37	45 To 32	5	5	SF RESID. (3E)	3.5	18	80	1440	4	0.009
	45 To 32	382	382	MF RESID. (3E)	2.8	1070	80	85568	2.5	0.331
38	44 To 31	370	370	MF RESID.(3D)	2.8	1036	80	82880	2.5	0.321
39	32 To exist	0	1021	Ch,C,MF&SF	(=0.939 CFS +0.331 CFS (MF)+0.009 CFS (SF))					1.305
									Subtotal	1.305
					Connect to existing 10" sewer (Drawing No. not yet assigned)					

CHANGED CALCS

TABLE NO. 2

File:10-29swrstudy.xls / Sheet1 11/4/02

Sewer Hydraulics Calculations

REACH NO.	MH TO MH	LAND USE	FLOW (cfs)	SIZE (d)	n-VALUE	Slope (%)	K'	*D/d	*Ca	D(n)	Area (a)	Velocity
System No. 3												
16	17 To 18	251	0.239	8	0.013	0.41	0.1432	0.38	0.2739	3.0	0.1217	2.0
17	18 To 19	251	0.239	8	0.013	0.41	0.1432	0.38	0.2739	3.0	0.1217	2.0
18	19 To 20	MF	0.239	8	0.013	0.41	0.1432	0.38	0.2739	3.0	0.1217	2.0
19	20 To 21	MF	0.239	8	0.013	0.41	0.1432	0.38	0.2739	3.0	0.1217	2.0
20	21 To 22	MF	0.239	8	0.013	0.43	0.1397	0.38	0.2739	3.0	0.1217	2.0
21	22 To 23	MF	0.239	8	0.013	0.43	0.1397	0.38	0.2739	3.0	0.1217	2.0
22	23 To 24	C &MF	0.348	10	0.013	0.32	0.1302	0.36	0.2546	3.6	0.1768	2.0
23	24 To 25	C &MF	0.348	10	0.013	0.32	0.1302	0.36	0.2546	3.6	0.1768	2.0
24	25 To 26	C &MF	0.490	10	0.013	0.25	0.2072	0.47	0.3527	4.7	0.2449	2.0
25	26 To 27	Ch, C, MF	0.596	10	0.013	0.31	0.2263	0.49	0.3827	4.9	0.2658	2.2
26	27 To 28	Ch, C, MF	0.596	10	0.013	0.31	0.2263	0.49	0.3827	4.9	0.2658	2.2
27	28 To 29	Ch, C, MF,SF	0.644	10	0.013	0.35	0.2303	0.50	0.393	5.0	0.2729	2.4
28	29 To 30	Ch, C, MF, SF	0.644	10	0.013	0.35	0.2348	0.50	0.393	5.0	0.2729	2.4
29	30 To 31	Ch, C, MF,SF	0.644	10	0.013	0.35	0.2348	0.50	0.393	5.0	0.2729	2.4
30	31 To 32	Ch, C, MF,SF	0.965	10	0.013	0.8	0.2281	0.49	0.3827	4.9	0.2658	3.6
31	38 To 39	C	0.141	8	0.013	2.3	0.0357	0.19	0.1039	1.5	0.0462	3.1
32	39 To 40	C	0.141	8	0.013	2.3	0.0356	0.19	0.1039	1.5	0.0462	3.1
33	40 To 25	C	0.141	8	0.013	2.3	0.0356	0.19	0.1039	1.5	0.0462	3.1
34	41 To 43	SF	0.017	8	0.013	6.5	0.0026	0.05	0.0147	0.4	0.0065	2.7
35	42 To 43	SF	0.005	8	0.013	3	0.0012	0.04	0.0105	0.3	0.0047	1.1
36	43 To 28	SF	0.023	8	0.013	4.4	0.0041	0.07	0.0242	0.6	0.0108	2.1
37	45 To 32	MF,SF	0.340	8	0.013	7.5	0.0476	0.21	0.1199	1.7	0.0533	6.4
38	44 To 31	MF	0.321	8	0.013	30.9	0.0221	0.15	0.0739	1.2	0.0328	9.8
39	32 To exist		1.305	10	0.013	1.4	0.2332	0.5	0.393	5.0	0.2729	4.8

TABLE NO. 3

File:10-29swrstudy.xls / Sheet2 Date:11/4/02

REACH NO.	MH TO MH	Land Use	FLOW (cfs)	SIZE (d)	n-VALUE	Slope (%)	K'	*D/d	*Ca	D(n)	Area (a)	Velocity
System No. 4												
40	46 To 47	4	0.007	8	0.013	1	0.0027	0.05	0.0147	0.4	0.0065	1.1
41	47 To 48	5	0.009	8	0.013	1	0.0033	0.06	0.0192	0.5	0.0085	1.0
42	48 To 49	10	0.017	8	0.013	1	0.0066	0.08	0.0294	0.6	0.0131	1.3
43	49 To 50	13	0.023	8	0.013	1.5	0.0071	0.09	0.035	0.7	0.0156	1.4
	50 to exist.	49	0.074	8	0.013	2	0.0201	0.14	0.0668	1.1	0.0297	2.5
System No. 5												
44	37 To 36	C	0.025	8	0.013	1	0.0096	0.10	0.0409	0.8	0.0182	1.4
45	36 To 35	C	0.025	8	0.013	1	0.0096	0.10	0.0409	0.8	0.0182	1.4
46	35 To 34	C	0.025	8	0.013	1	0.0096	0.10	0.0409	0.8	0.0182	1.4
47	34 To 52	C	0.025	8	0.013	1	0.0096	0.10	0.0409	0.8	0.0182	1.4
48	52 To 53	C	0.107	8	0.013	1	0.0410	0.2	0.1118	1.6	0.0497	2.2
49	53 to 54	C	0.107	8	0.013	1	0.0410	0.2	0.1118	1.6	0.0497	2.2
50	54 to 55	C	0.133	8	0.013	1	0.0510	0.23	0.1365	1.8	0.0607	2.2
51	55 To Exist.	C	0.133	8	0.013	1	0.0510	0.23	0.1365	1.8	0.0607	2.2
52	33 To 54	SS	0.002	6	0.013	2	0.0012	0.04	0.0105	0.2	0.0026	0.8

(1) REACHES 6-11, 14, 15, 35, & 40--47 HAVE DESIGN FLOWS LESS THAN 0.06 c.f.s. VELOCITIES ARE LESS THAN 2.00 f.p.s.
(2) BASED ON THE CITY OF SAN DIEGO'S PUBLISHED DESIGN EXCEPTION, THE ABOVE REACHES WERE DESIGNED WITH A SLOPE NO LESS THAN 1%.
* PER HANDBOOK OF HYDRAULICS TABLE 7-4 AND 7-14.
(3) SYSTEM NO. 4 EXISTING SEWER DATA TAKEN FROM "VISTA ALLEGRE SEWER STUDY" BY FRASER ENGINEERING, INC., DATED 10/20/95
(4) SYSTEM NO. 5 EXISTING SEWER DATA TAKEN FROM "SEWER STUDY FOR TORREY SANTA FE" BY HUNSAKER & ASSOCIATES, DATED 7/11/00
(5) REACH 52 IS A PRIVATE 6" LATERAL. MIN. SLOPE = 2.0%

TABLE NO. 3

File:10-29swrstudy.xls / Sheet2 Date:11/4/02

Sewer Flow Calculations

REACH NO.	MH TO MH	D.U. IN LINE	D.U. TOTAL	LAND USE	POP/D.U.	POP SERVED	GAL/DAY	DESIGN FLOW GAL/DAY	PEAK FACTOR	PEAK FLOW (CFS)
System No. 4										
4			4	SF RESID.	3.5	14	80	1120	4	0.007
4			5	SF RESID.	3.5	18	80	1400	4	0.009
4			10	SF RESID.	3.5	35	80	2800	4	0.017
4			13	SF RESID.	3.5	46	80	3640	4	0.023
									Subtotal	0.023
					Connect to existing 8" sewer (Drawing No. 27816-D)					
System No. 5										
44	37 To 36			Commercial	(area 5A)	1.6 Acres	2500GPD/Ac	4000	4	0.025
45	36 To 35			Commercial						
46	35 To 34			Commercial						
47	34 To 52			Commercial						
48	52 To 53			Commercial	(area 5B)	6.9 Acres	2500GPD/Ac	17250	4	0.107
49	53 To 54			Commercial						
50	54 To 55			Commercial	(areas 5A+5B+5C)					0.133
51	55 To Exist.			Commercial						
52	33 To 54	1	1	Self Stor.(5C)	3.5	4	280 GPD/E.D.U.	280	4	0.002
	33 To 54	0	0	Storage (No D.U.'s - See 5C (reach 52) for D.U.'s associated with storage office).					Subtotal	0.133
					Connect to existing 8" sewer (Drawing No. 30456-D)					

ADDED SEVERAL NEW MH'S

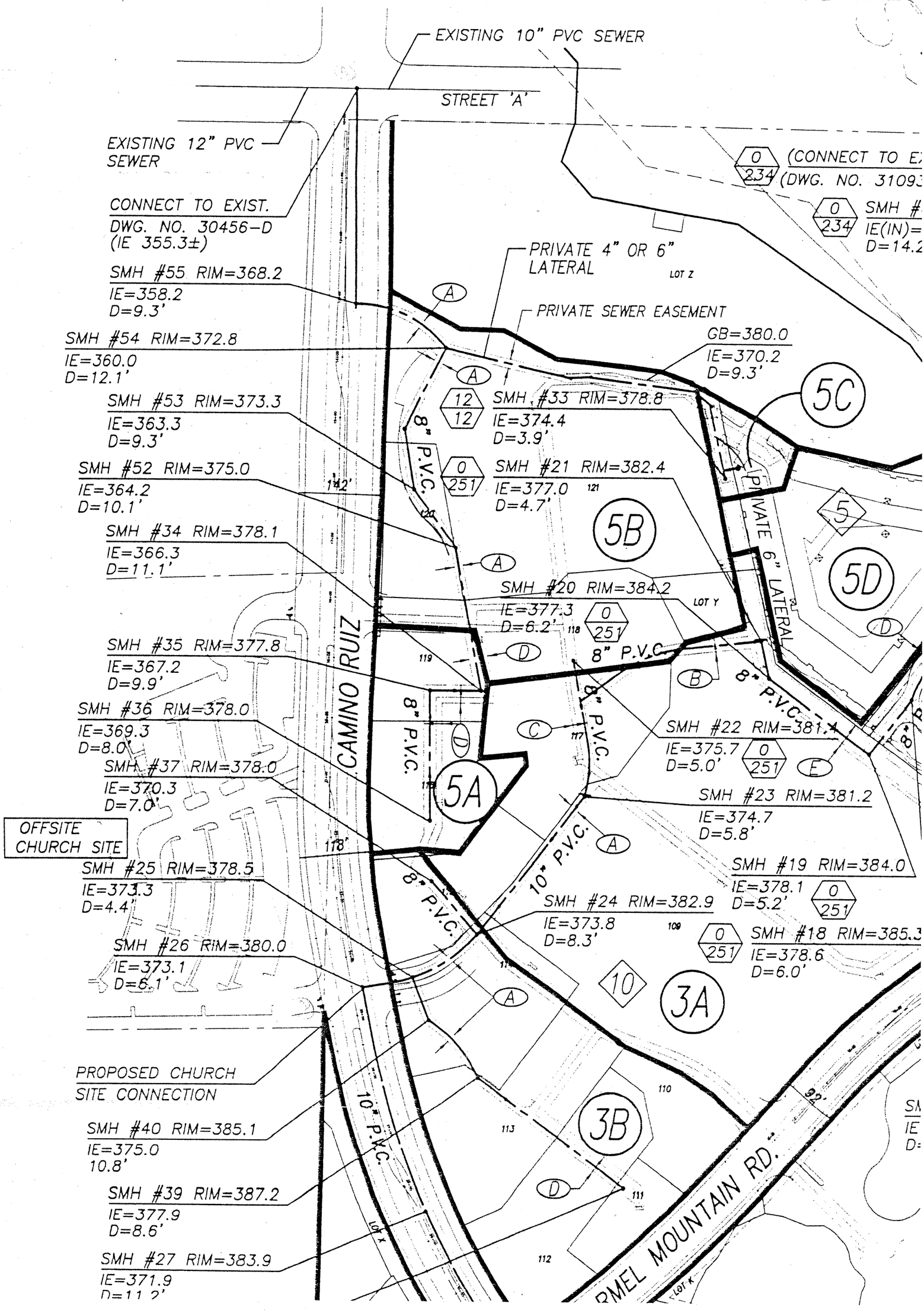
TABLE NO. 2

File:10-29swrstudy.xls / Sheet1 11/4/02

RHODES

(VTM, PCD, PRD

SANITARY SE



APPENDIX IV
Fixture Unit Calculations

City of San Diego
Development Services
1222 First Ave., MS-302
San Diego, CA 92101
(619) 446-5000

THE CITY OF SAN DIEGO

Water Meter Data Card

FORM
DS-16
AUGUST 2011

Project No.:	**Notification No.:**	**Sales Order No.:**
Water Meter Address:		Connection Object No.:
Building or Project Address:		
Maximum Length of the Water System:	No. of Building Stories:	Flushometer Valve Fixtures Used ❒ Yes ❒ No

TABLE A-2- *2010 California Plumbing Code*

Appliances, Appurtenances or Fixtures	Minimum Fixture Branch Pipe Size	Private	Public	Asssembly	X	# Fixtures Added	# Fixtures Removed	# Fixtures Remaining	TOTAL ACROSS ±
Bathtub or Combination Bath/Shr (fill)	1/2”	4.0	4.0	-	X				
3/4” Bathtub Fill Valve	3/4”	10.0	10.0	-	X				
Bidet	1/2”	1.0	-	-	X				
Clothes Washer, domestic	1/2”	4.0	4.0	-	X				
Dental Unit, cuspidor	1/2”	-	1.0	-	X				
Dishwasher, domestic	1/2”	1.5	1.5	-	X				
Drinking Fountain or Water Cooler	1/2”	0.5	0.5	0.75	X	32			16
Hose Bib	1/2”	2.5	2.5	-	X				
Hose Bib, each additional	1/2”	1.0	1.0	-	X				
Lavatory	1/2”	1.0	1.0	1.0	X	96			96
Lawn Sprinkler, each head	-	1.0	1.0	-	X				
Mobile Home, each (Minimum)	-	12.0	-	-	X				
Bar Sink	1/2”	1.0	2.0	-	X				
Clinic Faucet Sink	1/2”	-	3.0	-	X				
Clinic Flushometer Valve with or without faucet	1”	-	8.0	-	X				
Kitchen Sink, domestic	1/2”	1.5	1.5	-	X				
Laundry Sink	1/2”	1.5	1.5	-	X				
Service Sink or Mop Basin	1/2”	1.5	3.0	-	X	16			24
Washup Sink, each set of faucets	1/2”	-	2.0	-	X				
Shower, per head	1/2”	2.0	2.0	-	X	10			20
Urinal, 1.0 GPF Flushometer Valve	3/4”	3.0	4.0	5.0	X	32			96
Urinal, greater than 1.0 GPF Flush V.	3/4”	4.0	5.0	6.0	X				
Urinal, flush tank	1/2”	2.0	2.0	3.0	X				
Washfountain, circular spray	3/4”	-	4.0	-	X				
Wtr Closet, 1.6 GPF Gravity Tank	1/2”	2.5	2.5	3.5	X				
Wtr Closet, 1.6 GPF Flushomtr Tank	1/2”	2.5	2.5	3.5	X				
Wtr Closet, 1.6 GPF Flushomtr Valve	1”	5.0	5.0	8.0	X	94			470
Wtr Closet, >1.6 GPF Gravity Tank	1/2”	3.0	5.5	7.0	X				
Wtr Closet, >1.6 GPF Flushomtr Valve	1”	7.0	8.0	10.0	X				
Other Water Requirements	GPM for								

For Explanations, see *2010 California Plumbing Code, page 318.*

Total Fixture Units -> Show NET change in demand (for non-residential use ONLY)	722

= 36.1 Dwelling Units

CAPACITY FEES ARE BASED ON ALL NEW AND / OR ADDITIONAL DEMAND

Note: If any fixtures or water requirements are designated by GPM - City Staff will convert all use to GPM for meter sizing.

I affirm that the information given is correct. The approval given for minimum meter size and maximum water capacity of water pipe are based solely on the information and the building plans. Any deviation under construction will require resubmission of corrected data for determination of adequacy of water pipe and meter sizes.

Signature (Owner/Tenant or Agent) _____ Date Signed _____

The portion below will be completed by the Development Services Department

Total F.U. for Water capacity Fees: _____ Total F.U. for Sewer Capacity Fees: _____ (Total F.U. for Meter Sizing: _____)

Pressure Regulation Required? Yes ❒ No ❒ Backflow Preventor Required? Yes ❒ No ❒

Approved Meter Size: **Water Supply Line Size:**

Development Services Department Approved By: Date Approved:

Printed on recycled paper. Visit our web site at www.sandiego.gov/development-services.
Upon request, this information is available in alternative formats for persons with disabilities.

Instructions for the completion and filing of Water Meter Data Card

Water Meter Address
Often several buildings share one water meter. In this case, the water meter address may be different than the permitting building address.

Contact the Public Utilities Department: Water at (619) 515-3500 to determine the address of the existing meters. A new meter will require a new address. All addresses are assigned by the Development Services Department.

Building Address
List the building (project) address, if different from the meter address.

Maximum Length of Water System
Provide the maximum length of the water system, measured from the meter to the plumbing fixture furthest from the meter.

Number of Building Stories
Provide the number of building stories.

Water Closet Gravity Tank vs. Flushometer Valve
Carefully place your fixture count in the correct location for accurate meter sizing.

Matrix to Determine Meter Size and Water/Sewer Demand
Complete the columns of the matrix by supplying the quantity and type of fixtures being "Added" "Re-maining" and/or "Removed." **Note:** Relocated are considered "Remaining" since there is no change in demand.

Accuracy of the fixture unit count is necessary to determine the appropriate meter size. See Figure 1 below for an example.

Fixture Unit Multiplier
Each plumbing fixture is given a fixture unit value based from the 2010 California Plumbing Code. Fixture units are used for water meter sizing purposes. The unit count for each fixture is determined by multiplying the number of each fixture type by the number in the multiplier column.

Fixtures Added
In the "Fixtures Added" column, list the number of new fixtures or the number of fixtures being added to an existing project under the appropriate fixture type. See Figure 1. Example A.

Fixtures Removed
In the "Fixtures Removed" column, list the number of fixtures that are actually being removed which will create a reduction in the water/sewer demand. **Note:** Replacing a sink with a new sink or a water closet with a new water closet, etc., does not constitute "removed," they are considered "remaining." See Figure 1. Example B. Leave this column blank for purely residential uses.

Fixtures Remaining
In the "Fixtures Remaining" column, list the number of fixtures that will remain or that will be relocated during the construction phase of the project.

Other Water Requirements
There are some fixtures not listed or items that cannot be given a fixture unit value. An example is the gallons per minute (GPM) requirements for process water (water that is used in industrial, manufacturing and commercial facilities for processing purposes). Process water includes car washfacilities, cooling towers, boilers, can wash, autoclaves, photo development equipment and any other non-fixture type water usage application. (Do not include the GPM requirements for closed systems.) Fire sprinkler flow for a combined system should be listed here. Make sure this information is provided on your plans.

Sprinkler Heads
Add all 1/4, 1/2, 3/4 and full irrigation sprinkler heads to determine the total number of full sprinkler heads. For example, two 1/4 heads and one 1/2 head will equal one full sprinkler head. Leave blank if separate irrigation meter.

GPM (Gallons per Minute)
When any Water Requirement is listed by GPM demand, **ALL** fixtures will be converted to GPM for the benefit of meter sizing. Capacity fees will be based on a combination of both fixture unit count and GPM demand.

GENERAL USE - applies to business, commercial, industrial, and assembly occupancies other than those defined under "Heavy Use." Included are the public and common areas in hotels, motels, and multi-dwelling buildings.

HEAVY USE - applies to toilet facilities in occupancies that place a heavy, but intermittent time-based demand on the water supply system, such as schools, auditoriums, stadiums, race courses, transportation terminals, theaters, and similar occupancies where queuing is likely to occur during periods of peak use.

FIGURE 1. Example A of Fixture Matrix Use

1.0 multiplied by 2 bar sinks = +2 additional demand, etc.

Fixtures Remaining does not affect fees but it may affect meter sizing.

Appliances, Appurtenances or Fixtures	Minimum Fixture Branch Pipe Size	Private	Public	Asssembly	X	# Fixtures Added	# Fixtures Removed	# Fixtures Remaining	TOTAL ACROSS ±
Bar Sink	1/2"	1.0	2.0	-	X	2	-	-	+2
Bathtub or Combination Bath/Shr (fill)	1/2"	4.0	-	-	X	2	-	-	+8
Bidet	1/2"	1.0	-		X	-	-	-	-
		Total Fixtures				Show NET Increase or Decrease in Demand			+10

FIGURE 1. Example B of Fixture Matrix Use

Appliances, Appurtenances or Fixtures	Minimum Fixture Branch Pipe Size	Private	Public	Asssembly	X	# Fixtures Added	# Fixtures Removed	# Fixtures Remaining	TOTAL ACROSS ±
Bar Sink 1/2"	1/2"	1.0	2.0	-	X	-	1	2	-1
Bathtub or Combination Bath/Shr (fill)	1/2"	4.0	-	-	X	1	-	2	+4
Bidet	1/2"	1.0	-		X	1	-		+1
		Total Fixtures				Show NET Increase or Decrease in Demand			+4

APPENDIX V
Sewer Design Reference Documents

TABLE 1-1
CITY OF SAN DIEGO SEWER DESIGN GUIDE
DENSITY CONVERSIONS

Zone	Maximum Density (DU/Net Ac)	Population per DU	Equivalent Population (Pop/Net Ac)
AR-1-1, RE-1-1	0.1	3.5	0.4
RE-1-2	0.2	3.5	0.7
AR-1-2, RE-1-3	1	3.5	3.5
RS-1-1, RS-1-8	1	3.5	3.5
RS-1-2, RS-1-9	2	3.5	7.0
RS-1-3, RS-1-10	3	3.5	10.5
RS-1-4, RS-1-11	4	3.5	14.0
RS-1-5, RS-1-12	5	3.5	17.5
RS-1-6, RS-1-13	7	3.5	24.5
RS-1-7, RS-1-14	9	3.5	31.5
RX-1-1	11	3.4	37.4
RT-1-1	12	3.3	39.6
RX-1-2, RT-1-2, RU-1-1	14	3.2	44.8
RT-1-3, RM-1-2	17	3.1	52.7
RT-1-4	20	3.0	60.0
RM-1-3	22	3.0	66.0
RM-2-4	25	3.0	75.0
RM-2-5	29	3.0	87.0
RM-2-6	35	2.8	98.0
RM-3-7, RM-5-12	43	2.6	111.8
RM-3-8	54	2.4	129.6
RM-3-9	73	2.2	160.6
RM-4-10	109	1.8	196.2
RM-4-11	218	1.5	327.0

TABLE 1-1
CITY OF SAN DIEGO SEWER DESIGN GUIDE
DENSITY CONVERSIONS (Continued)

Zone	Maximum Density (DU / Net Ac)	Population Per DU	Equivalent Population (Pop/Net Ac)
Schools/Public	8.9	3.5	31.2
Offices	10.9	3.5	38.2*
Commercial/Hotels	12.5	3.5	43.7*
Industrial	17.9	3.5	62.5*
Hospital	42.9	3.5	150.0*

Figures with asterisk (*) represent equivalent population per floor of the building.

Definitions:
DU = Dwelling Units
Ac = Acreage
Pop = Population

Net Acreage is the developable lot area excluding areas that are dedicated as public streets in acres. Gross Area is the entire area in acres of the drainage basin, including lots, streets, etc.

For undeveloped areas, assume Net Acreage = 0.8 x Gross Area in Acres

For developed areas, calculate actual Net Acreage.

Tabulated figures are for general case. The tabulated figures shall not be used if more accurate figures are available.

Population is based on actual equivalent dwelling units (EDU) or the maximum estimate obtained from zoning.

Conversion of Fixture Units to Equivalent Dwelling Units (EDU): The Water Meter Data Card, maintained by the Development Services Department, contains a table of plumbing fixtures that should be used for determining the equivalent dwelling units (EDU's) for the purpose of estimating the rate of wastewater generation in residential, commercial, or industrial areas. Currently, the basis for conversion is: 20 fixtures = 1 EDU and 1 EDU = 280 gallons of wastewater per day.

In high rise building areas, flow rates shall be based on the most current, adopted edition of the applicable Plumbing Code, assuming one lateral per area. The most conservative flow rate shall govern.

PUBLIC UTILITIES DEPARTMENT

PEAKING FACTOR FOR SEWER FLOWS
(Dry Weather)

Ratio of Peak to Average Flow*
Versus Tributary Population

Population	Ratio of Peak to Average Flow	Population	Ratio of Peak to Average Flow
200	4.00	4,800	2.01
500	3.00	5,000	2.00
800	2.75	5,200	1.99
900	2.60	5,500	1.97
1,000	2.50	6,000	1.95
1,100	2.47	6,200	1.94
1,200	2.45	6,400	1.93
1,300	2.43	6,900	1.91
1,400	2.40	7,300	1.90
1,500	2.38	7,500	1.89
1,600	2.36	8,100	1.87
1,700	2.34	8,400	1.86
1,750	2.33	9,100	1.84
1,800	2.32	9,600	1.83
1,850	2.31	10,000	1.82
1,900	2.30	11,500	1.80
2,000	2.29	13,000	1.78
2,150	2.27	14,500	1.76
2,225	2.25	15,000	1.75
2,300	2.24	16,000	1.74
2,375	2.23	16,700	1.73
2,425	2.22	17,400	1.72
2,500	2.21	18,000	1.71
2,600	2.20	18,900	1.70
2,625	2.19	19,800	1.69
2,675	2.18	21,500	1.68
2,775	2.17	22,600	1.67
2,850	2.16	25,000	1.65
3,000	2.14	26,500	1.64
3,100	2.13	28,000	1.63
3,200	2.12	32,000	1.61
3,500	2.10	36,000	1.59
3,600	2.09	38,000	1.58
3,700	2.08	42,000	1.57
3,800	2.07	49,000	1.55
3,900	2.06	54,000	1.54
4,000	2.05	60,000	1.53
4,200	2.04	70,000	1.52
4,400	2.03	90,000	1.51
4,600	2.02	100,000+	1.50

***Based on formula:** **Peak Factor = 6.2945 x $(pop)^{-0.1342}$**
(Holmes & Narver, 1960)

FIGURE 1-1

APPENDIX Q

Conceptual Waste Management Plan

CONCEPTUAL WASTE MANAGEMENT PLAN
for

The Preserve at Torrey Highlands

SDP PTS#442880

Date: April 4, 2016
LEC Job No.: TH 6.07-13.15

Prepared For:
THE PRESERVE AT TORREY HIGHLANDS, LLC
C/O CISTERRA DEVELOPMENT
3580 CARMEL MOUNTAIN ROAD, SUITE 460
SAN DIEGO, CA 92130
PHONE: (619) 615-0200

Prepared By:
LEPPERT ENGINEERING CORPORATION
5190 GOVERNOR DRIVE, SUITE 205
SAN DIEGO, CA 92122
PHONE: (858) 597-2001

_____
By: John D. Leppert, RCE 26283

_____
Date

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Appendix III - City of San Diego 2016 Certified Construction & Demolition Recycling Facility Directory
Appendix IV - San Diego Municipal Code: Refuse and Recyclable Materials Storage Regulations
Appendix V - San Diego Municipal Code: Recycling Ordinance

INTRODUCTION

Cumulative Impacts

Projects that include construction, demolition, and/or renovation of 40,000 square feet or more of building space may generate approximately 60 tons of waste or more, and are considered to have cumulative impacts on solid waste facilities.[1]

Since the Preserve at Torrey Highlands development exceeds this threshold for solid waste generation, this WMP has been prepared to mitigate the direct impacts of this project by addressing the following elements of the project as applicable:

a. A timeline for each of the three main phases of the project (demolition, construction, and occupancy).
b. Tons of waste anticipated to be generated (demolition, construction, and occupancy).
c. Type of waste to be generated (demolition, construction, and occupancy).
d. Describe how the project will reduce the generation of construction and demolition (C & D) debris
e. Describe how the C & D materials will be reused on-site
f. Include the name and location of recycling, reuse, and landfill facilities where recyclables and waste will be taken if not reused on-site
g. Describe how the C&D waste will be source separated if a mixed C&D facility is not used for recycling
h. Describe how the waste reduction and recycling goals will be communicated to subcontractors
i. Describe how a "buy recycled" program for green construction products, including mulch and compost will be incorporated into the project.
j. Describe how the Refuse and Recyclable Materials Storage Regulations (LDC Chapter 14, Article 2 Division 8) will be incorporated into design of building's waste storage area
k. Describe how compliance with the Recycling Ordinance (Municipal Code Chapter 6, Article 6, Division 7) will be incorporated in the operational phase
l. Describe any International Standards of Operation (ISO), or other certification, if any.

[1] City of San Diego Development Services Department, CEQA *Significance Determination Thresholds* dated January 2011

EXISTING CONDITIONS

The Preserve at Torrey Highlands development is an approximately 11.1 acre site located south of the intersection of Torrey Santa Fe Road and Camino Del Sur, just south of State Route 56, in the Torrey Highlands community of the City of San Diego. (*See Exhibit "A" - Location Map*) The site is currently an undeveloped site and all of the surrounding adjacent parcels are also undeveloped. (*See Exhibit "B" – Project Location on Aerial Photograph*) However, there are plans in process by others for the extension of Camino Del Sur which will front the proposed project.

PROPOSED PROJECT

The Preserve at Torrey Highlands development proposes the construction of three new commercial office buildings (4 story, 5 story, and 6 story) with one level of subterranean parking, one Cafe (1 story), one Fitness Center, below Building 2, and one above grade parking structure with a partial level of subterranean parking. (*See Exhibit "C" – Site Map*)

The project requires a Community Plan Amendment, Rezone and Site Development Permit, which are currently being reviewed by the City of San Diego under PTS# 442880. At the time of preparation of this report, the project is being processed through the City's Sustainable Building Expedite Program. The proposed development qualifies to participate in this program because it is pursuing, at minimum, a LEED Silver rating.

The following is a breakdown of the proposed development summary:

Table 1: Development Summary[2]

	Proposed Development
Office Building 1	180,000 SF
Office Building 2	120,000 SF
Office Building 3	150,000 SF
Café	3,850 SF
Fitness Center	5,000 SF
Total Commercial	**458,850SF**
Parking Structure	444,000 SF

Construction practices will comply with local, state, and federal regulations regarding the handling of building materials to ensure that waste minimization requirements are met.

WASTE MANAGEMENT IMPLEMENTATION

The Developer shall notify the City of San Diego's Environmental Services Department (ESD) at least seven days prior to when:

- A Demolition Permit is issued

[2] Per "Development Summary" found on draft Site Development Plan Set Sheet G00.01, and "Site Plan" found on draft Site Development Plan Set Sheet A00.50, prepared by Gensler, dated 4/4/2016.

- Demolition begins onsite
- Inspections are needed

A Solid Waste Management Coordinator (SWMC) will be appointed and their name and contact information should be provided to ESD at least seven days prior to the start of work and when a new person is appointed. The SWMC will oversee implementation of the WMP during demolition, grading, and construction. Among other measures already described in this report, the SWMC will educate all workers and subcontractors about the goals and responsibilities of complying with the WMP and issue stop work orders if noncompliance occurs. The SWMC will provide daily inspections of bins to ensure no overtopping or spillage, and a less than 5%, by weight or by volume, level of contamination. The SWMC will also maintain all records, documentation and photos (where applicable) ensuring compliance with the WMP.

Construction and Demolition Debris Diversion Deposit Program (O-19420 & O-19694)

Starting on July 1, 2008, all new construction projects are required to pay a refundable solid waste deposit on construction waste. This ordinance requires the applicant to do the following: [3]

- All applicants for a Building Permit or a Demolition/Removal Permit shall submit a properly completed *Waste Management Form Part I* with the Building Permit or Demolition/Removal Permit application, in accordance with the requirements set forth in the Land Development Manual (*see Exhibit "D" – Waste Management Form*)
- All applicants shall pay a refundable deposit at the time the Building Permit or Demolition/Removal Permit is issued, per City of San Diego Information Bulletin 119, "Construction and Demolition Debris".
- No Building Permit or Demolition/Removal Permit shall be issued unless the applicant has submitted a properly completed *Waste Management Form Part I* and paid the required deposit.

Chapter 6, Article 6, Division 6 of the San Diego Municipal Code discusses the "Construction and Demolition Debris Diversion Deposit Program, see Appendix I.

[3] City of San Diego Municipal Code §66.0604

Demolition

The existing project site is undeveloped, therefore there will be no demolition phase associated with this development.

Construction

Grading anticipated to begin September 2016. Construction duration estimated to last for ±22 months.

LEED Certification[4]

Description of how the subject project anticipates complying with the Affordable/In-Fill Housing & Sustainable Buildings Expedite Program in accordance with Info Bulletin No. 538, and the City of San Diego General Plan Conservation Element (CE) dated March 2008 with respect to measures that apply to solid waste:

Per CE-A.2: The project will reduce waste by improving management and recycling programs, both during and after construction.

Per CE-A.9: The project will use materials that have recycled content, or use materials that are derived from sustainable or rapidly renewable sources to the extent possible, through factors including:

- Scheduling time for deconstruction and recycling activities to take place during project demolition and construction phases;
- Selection of low-emitting adhesives, paints, coatings, carpet systems, composite wood, agrifiber products, and others

Per CE-A.10: The project will include features in buildings to facilitate recycling of waste generated by building occupants and associated refuse storage areas.

- Provide permanent, adequate, and convenient space for individual building occupants to collect refuse and recyclable material.
- Provide a recyclables collection area that serves the entire building or project. The space should allow for the separation, collection and storage of paper, glass, plastic, metals, yard waste and other materials as needed

In addition, the project intends to pursue LEED Silver Certification. This will likely involve sustainable development and conservation measures above and beyond the goals and policies listed in the City's Conservation Element.

On-Site Grading

The proposed project anticipates the need for 49,000 cubic yards of exported cut to accommodate the Preserve at Torrey Highlands development. This export will be competitively bid with the intention of finding a site relatively close to the project for truck and transfer. Therefore, at this point in the project planning, we are anticipating this export to generate no waste stream to the landfill.

[4] Per "The Preserve at Torrey Highlands Sustainability Letter", dated 11/18/2015.

Dirt Calculation:[5]

$$49{,}000cy \times \frac{1.30tons}{cy} = 63{,}700tons \text{ of Excavated Earth}$$

Nominal amounts of vegetation removed as part of the grading process (clearing and grubbing) will be processed and recycled 100% at a suitable green waste recycling facility, creating no waste stream to the landfill.

Other anticipated waste associated with the grading operation includes negligible amounts of trash generated by contractors working on-site.

Building Construction

The proposed Preserve at TH development includes the construction of three office buildings and an amenity building totaling 458,850 square feet, and the construction of a parking structure totaling 444,000 square feet.

From the City of San Diego ESD provided waste factor,[6] we estimate the following building construction waste:

Construction Waste Calculation:

$$902{,}850sf \times \frac{3lbs}{sf} \times \frac{.0005tons}{lb} = 1{,}354tons \text{ of Building Construction Waste}$$

Source Separation

During the construction of the Preserve at Torrey Highlands development, separate bins will be designated for the collection of the following construction materials:

- Drywall
- Concrete
- Clean Wood
- Scrap Metal
- Cardboard
- Trash
- Mixed C&D Debris

These bins will be clearly labeled, located in areas to avoid contamination, and regularly inspected by the Solid Waste Management Coordinator to remove contaminates. These materials will be either reused in the building construction process, or taken to designated recycling facilities which have been certified by the City of San Diego and have a diversion rate of 100%. In Table 2 below, preliminary estimates of the quantities of these separated materials have been provided to help facilitate the adequate sizing of these bins as well as anticipate the amount of construction waste that will be diverted from the landfill. City of San Diego

[5] Conversion rate of 1.30 Tons per CY per the City of San Diego Construction & Demolition Debris Conversion Rate Table.

[6] 3lbs/sf CEQA Guidelines for a Waste Management Plan dated June 2013 http://www.sandiego.gov/environmental-services/pdf/recycling/wmpguidelines.pdf accessed 6/04/2014.

Information Bulletin 119 discusses "Requirements for Recycling and Disposal of Construction and Demolition Debris", see Appendix II.

Table 2: Source Separation Material Estimates

Waste to be Separated	**Est. Quantity Generated**[7]	**Est. Quantity Diverted**	**Handling**[8]	**Diversion Rate**[8]
Drywall	193 tons	193 tons	EDCO Recovery & Transfer (San Diego, CA)	100%
Concrete	193 tons	193 tons	Hanson Aggregates West – Miramar (San Diego, CA)	100%
Clean Wood	193 tons	193 tons	Miramar Greenery (San Diego, CA)	100%
Scrap Metal	193 tons	193 tons	Allan Company (San Diego, CA)	100%
Cardboard	193 tons	193 tons	Allan Company (San Diego, CA)	100%
Mixed C&D Debris	193 tons	116 tons	EDCO Recovery & Transfer (San Diego, CA)	60%
Estimated Total:	**1,158 tons generated**	**1,081 tons diverted**		

[7] Direction on estimating tonnage per material from Lisa Wood, City of San Diego's Environmental Services Department on 4-29-13 (approximately 1/7 each material, 1/7 mixed debris, 1/7 trash).
[8] Recycling facilities identified are subject to change at time of construction, however all facilities will be selected from the City of San Diego's Certified C&D Recycling Facility Directory List *(see Appendix III)*.

Recycling Ordinance (O-19678) – Storage Areas[9]

Table 3 below shows the minimum exterior storage area requirements for nonresidential development projects.

Table 3: Minimum Exterior Refuse and Recyclable Material Storage Areas for Nonresidential Development

Gross Floor Area Per Development (Square Feet)	Minimum Refuse Storage Area Per Development (Square Feet)	Minimum Recyclable Material Storage Area Per Development (Square Feet)	Total Minimum Area Per Development (Square Feet)
0-5,000	12	12	24
5,000-10,000	24	24	48
10,001-25,000	48	48	96
25,001-50,000	96	96	192
50,001-75,000	144	144	288
75,001-100,000	192	192	384
100,001+	192 plus 48 square feet for every 25,000 square feet of building area above 100,001	192 plus 48 square feet for every 25,000 square feet of building area above 100,001	384 plus 96 square feet for every 25,000 square feet of building area above 100,001

SOURCE: City of San Diego Municipal Code Table 142-08C

The Preserve at Torrey Highlands development will construct 458,850 sf of non-residential building area; therefore the project will be required to provide a minimum of 1,073 sf of refuse storage area and 1,073 sf of recyclable material storage area per the Table above, as shown in the calculation below:

$$192sf + \left[\left(\frac{458{,}850sf}{25{,}000sf}\right) \times 48sf\right] = 1{,}073sf$$

To the greatest extent that it is economically feasible, every effort will be made to utilize recycled products. Priority will be given for locally sourced products and construction materials.

The required refuse and recycling storage area has been incorporated into the project design per the City of San Diego Land Development Code Chapter 14, Article 2, Division 8, see Appendix IV.

[9] City of San Diego Municipal Code §142.0810-§142.0830

Occupancy

Unlike Construction, Occupancy is an on-going process. Therefore, it requires an ongoing plan to manage and reduce waste in order to meet the waste reduction goals established by local and state policy. The project shall comply with *Recycling Ordinance (O-19678) – Recycling Services & Education*[10]

Occupancy Waste

During occupancy and after build out of the entire project, the expected annual waste to be generated from the development will be approximately:

<u>*Commercial Waste Calculation:*</u>

$$458{,}850 sf \times \frac{0.0017 tons}{sf, year} = 780 tons / year$$

This calculation is based on an "Office" waste generation rate of 0.0017 tons per sf per year.[11]

According to a 2008 study for the State of CA Integrated Waste Management Board, the following are the ten most prevalent material types in commercial disposed waste:[12]

- Lumber
- Food
- Uncoated Corrugated Cardboard
- Remainder/Composite Paper
- Remainder/Composite Inerts and Other
- Remainder/Composite Plastic
- Carpet
- Prunings and Trimmings
- Remainder/Composite Organic
- Other Misc. Paper
- Remainder/Composite Organic

The developer shall implement the following services to comply with the City of San Diego Municipal Code Chapter 6, Article 6, Div. 7, see Appendix V:
<u>Recycling services</u>:

- Collection of recyclables at least twice a month
- Collection of at least plastic and glass bottles and jars, paper, newspaper, metal containers, and cardboard
- Designated recycling collection areas

Appropriate recycling containers and signage

[10] City of San Diego Municipal Code §66.0701-§66.0718
[11] The City of San Diego Waste Generation Factors – Occupancy Phase
[12] Contractor's Report: *California 2008 Statewide Waste Characterization Study* http://www.calrecycle.ca.gov/WasteChar/WasteStudies.htm#2014study accessed 10/21/2015.

CONCLUSIONS

This Conceptual Waste Management Plan was prepared per the direction of LDR-Environmental staff during the review of the project's discretionary application (PTS# 442880) because the proposed development exceeds the significance thresholds outlined in the City of San Diego Development Services Department, *Significance Determination Thresholds*, dated January 2011. To assure the impacts are mitigated to below a level of significance (reducing waste below the 60 ton threshold, or achieving a 75% diversion rate, consistent with State laws and the City's approved Zero Waste Plan), ESD staff will be invited to a preconstruction meeting prior to the start of the construction phase. Additionally, education materials prepared to comply with the Recycling Ordinance as described in the Occupancy Phase section of this Plan will be approved prior to requesting a Temporary Certificate of Occupancy.

Prior to the issuance of a building permit, the applicant shall ensure that a representative of the City's Environmental Services Department (ESD) attends a preconstruction meeting to ensure that the following measures as described in this report have been successfully implemented:

- continued pursuance of LEED Silver certification,
- source separation bins are appropriately used to minimize contamination levels,
- the C&D Ordinance deposit has been paid,
- exported dirt from grading operation taken to alternate project site and therefore diverted from landfill,
- an appropriate diversion rate (from the Waste Management Plan) has been included on the deposit form, and
- separated materials are being taken to the appropriate certified facility.

Prior to the issuance of any certificate of occupancy/tentative certificate of occupancy the applicant shall invite a representative of the City's ESD to inspect the following measures as described in this report have been successfully implemented:

- adequate storage area has been provided as consistent with the City's Storage Ordinance,
- hauler(s) has been retained to provide recyclable materials collection, and
- education materials for building tenants/owners have been prepared as required per the City's Recycling Ordinance.

The following **Table 4** summarizes the waste impacts and the waste reduction goals for each project phase.

Total Waste Reduction Goals

Table 4: Calculated Diversion Rate

Phase/Type	Amount	Conversion Rate	Est. Tons Generated	Handling[13]	Diversion Target	Est. Tons Diverted	Est. Tons Disposed
Construction:							
Grading	49,000 CY Export	1.3 T/CY	63,700	Utilized on another project site needing Fill	100%	63,700	0
New Construction	902,850 sf	3 lbs/sf	1,354	Source Separation/Recycling	50%	677	677
		Total:	**65,054**		**99%**	**65,054**	**677**
Occupancy:							
Commercial	458,850 sf	0.0017 T/sf yr	780	Compliance w/ Recycling Ordinance	50%	390	390
		Total:	**780**			**390**	**390**

[13] Recycling facilities identified are subject to change at time of construction, however all facilities will be selected from the City of San Diego's Certified C&D Recycling Facility Directory List *(see Appendix III)*.

Exhibit “A” - Location Map

Exhibit "A" – Location Map
The Preserve at TH

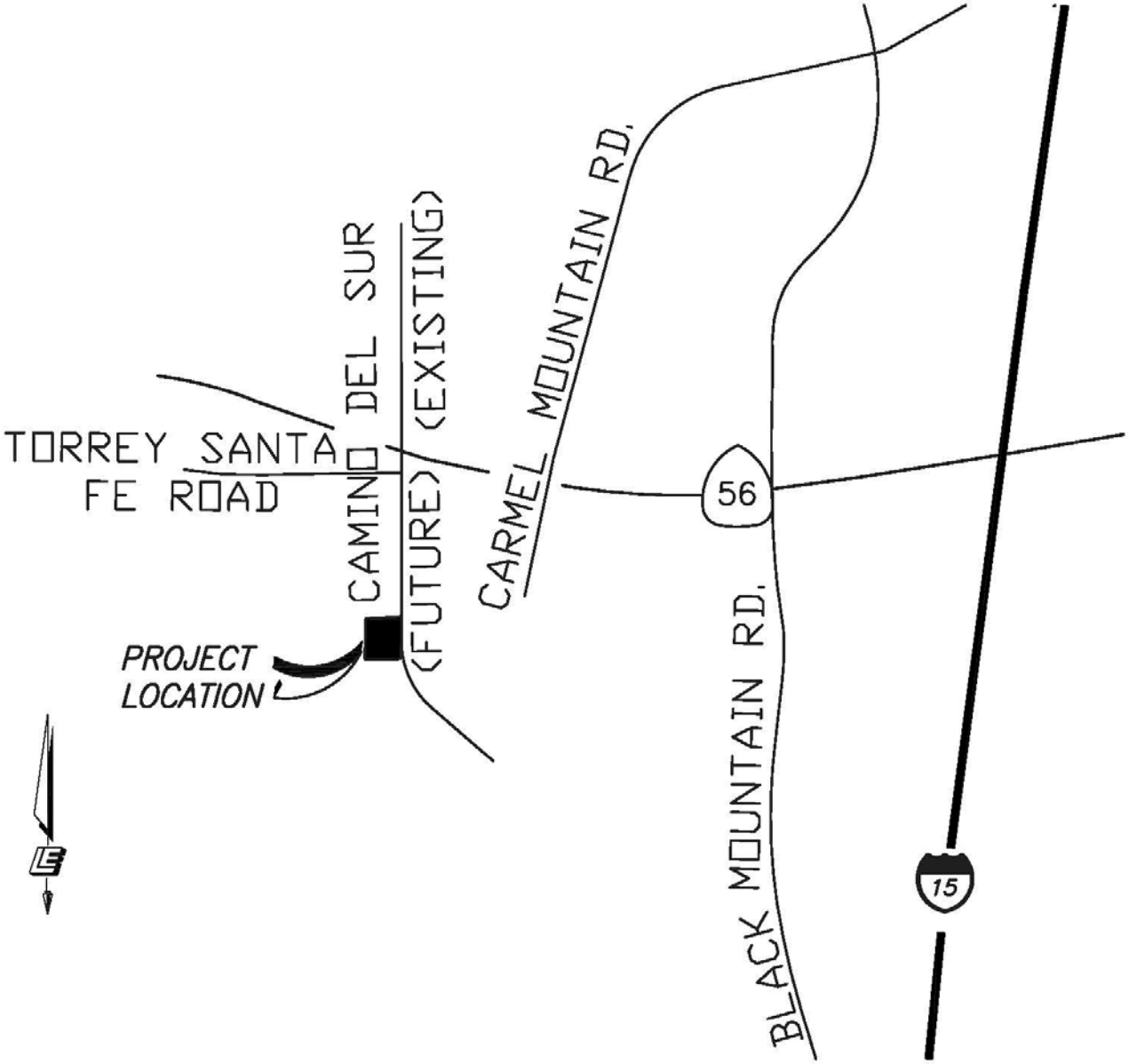


Exhibit “B” - Project Location on Aerial Photograph

Exhibit "B" – Project Location on Aerial Photograph
The Preserve at TH

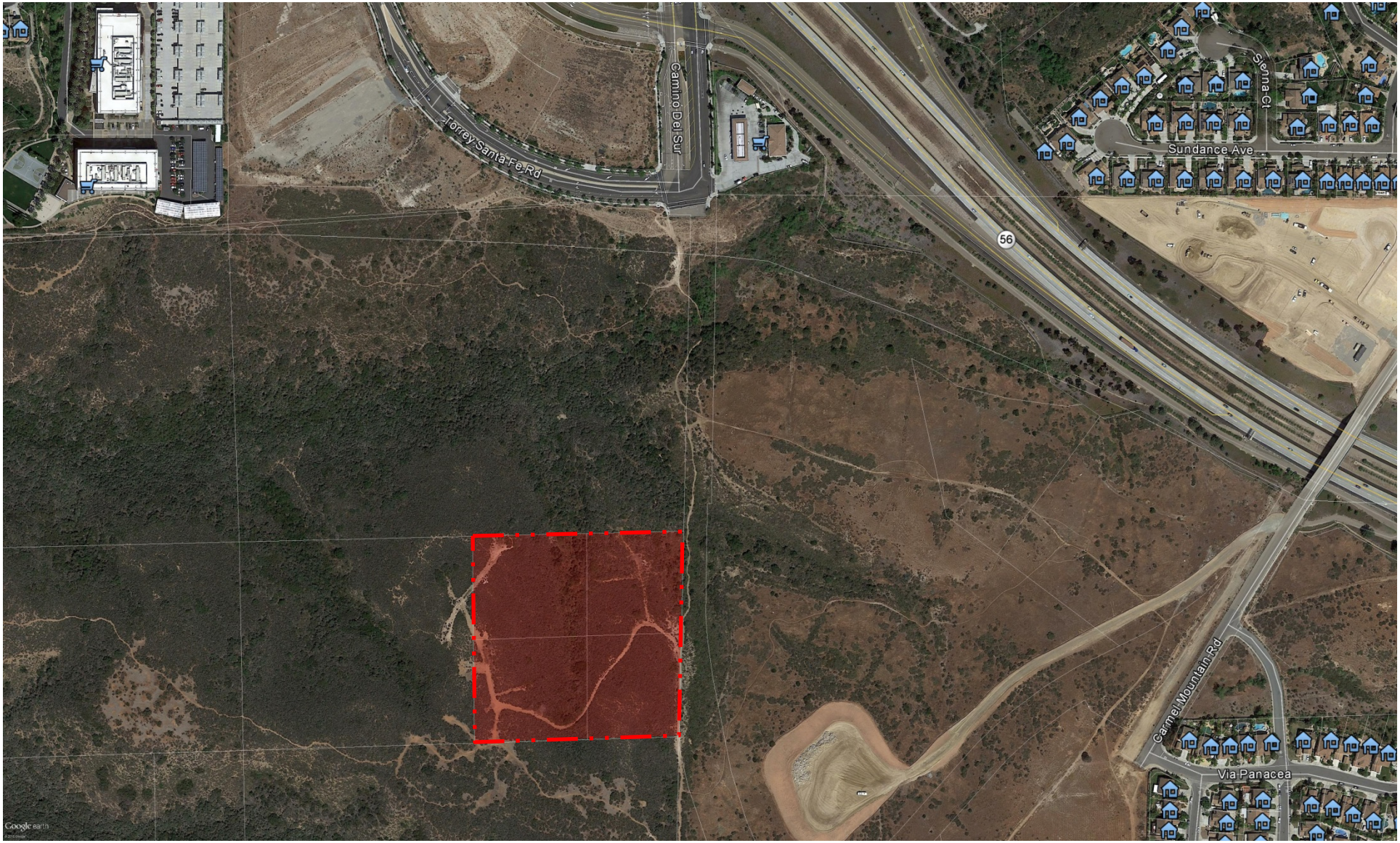


Exhibit “C” - Site Plan

NO.	DATE	BY	DESCRIPTION
6			
5			
4			
3	04/04/16	RL	RESUBMITTAL 2
2	11/18/15	RL	RESUBMITTAL 1
1	08/31/15	RL	ORIGINAL

NO.	DATE	BY	DESCRIPTION
12			
11			
10			
9			
8			
7			

APPROVED BY ENGINEER OF WORK:

FILE CODE: TH 06.07–13.15

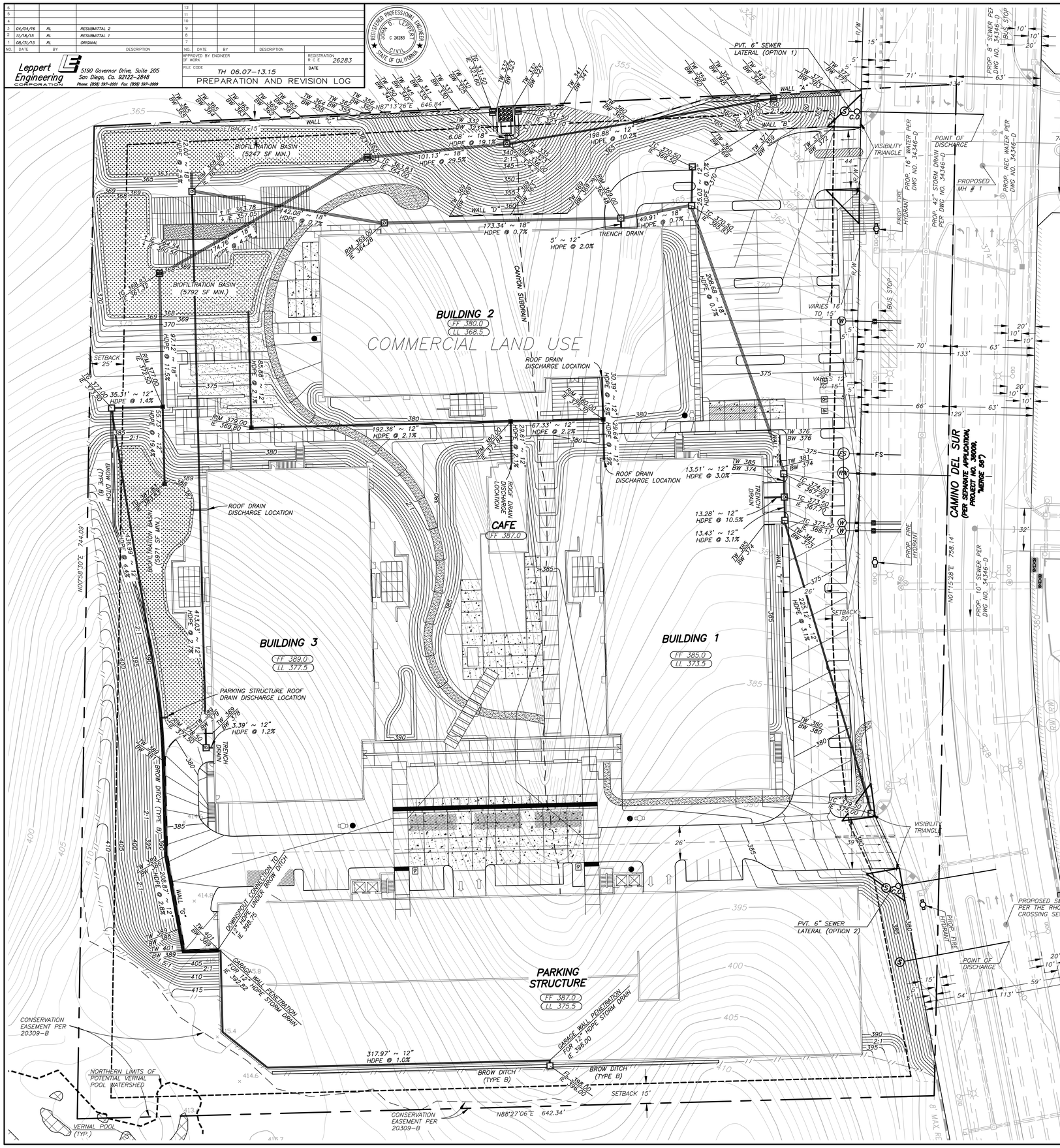
REGISTRATION: R.C.E. 26283

DATE

PREPARATION AND REVISION LOG

Leppert Engineering CORPORATION
5190 Governor Drive, Suite 205
San Diego, Ca. 92122–2848
Phone: (858) 597–2001 Fax: (858) 597–2009

REGISTERED PROFESSIONAL ENGINEER JOHN D. LEPPERT C 26283 CIVIL STATE OF CALIFORNIA



LEGEND:

PROPERTY LINE	
DAYLIGHT LINE	
PROPOSED RETAINING WALL	
PROPOSED SEWER LATERAL	S
PROPOSED FIRE SERVICE	FS
PROPOSED RECLAIMED WATER SERVICE	RW
PROPOSED DUAL 2" WATER SERVICE	W
FINISHED FLOOR ELEVATION	FF 376.0
GARAGE LOWER LEVEL ELEVATION	LL 353.0
NATURAL DRAINAGE FLOW	
FIRE HYDRANT	
STANDPIPE	
EXISTING TOPO	340
PROPOSED TOPO	394
ENERGY DISSIPATER AND RIP RAP	SDD–105, SDD–104
CATCH BASIN (TYPE I)	D–29
CATCH BASIN (TYPE F)	SSD–119
STORM DRAIN CLEANOUT (TYPE A)	D–9
CURB INLET (TYPE B)	SDD–116
BROOKS BOX WITH GRATE	
BROOKS BOX WITH LID	
VERNAL POOL	
LIMIT OF POTENTIAL VERNAL POOL WATERSHED	

GRADING INFORMATION:

TOTAL CUT: 127,000C.Y. ±
TOTAL FILL: 78,000 C.Y. ±
TOTAL EXPORT: 49,000 C.Y. ±
MAX. HEIGHT OF CUT SLOPE: 25'± (VARIES 1.5:1 TO 2:1)
MAX. HEIGHT OF FILL SLOPE: 37' (2:1)
MAX. DEPTH OF FILL: 39'±
MAX. DEPTH OF CUT: 40'±
AREA OF DISTURBANCE: 9.44 AC. (NET)
PERCENT DISTURBANCE: 93% (BASED ON NET AREA)
RETAINING WALL INFORMATION:

A. 174 L.F., 1' – 9' HIGH
B. 92 L.F., 1' – 12' HIGH
C. 318 L.F., 1' – 9' HIGH
D. 89 L.F., 1' – 6' HIGH
E. 37 L.F., 1' – 11' HIGH
F. 158 L.F., 1' – 11' HIGH
G. 215 L.F., 1' – 12' HIGH

GEOLOGIC HAZARD CATEGORY: 51 & 53

EASEMENTS: NONE

VISIBILITY TRIANGLES:
NO OBSTRUCTION INCLUDING LANDSCAPING, SOLID WALLS OR MONUMENT SIGNS IN THE VISIBILITY AREA SHALL EXCEED 3 FEET IN HEIGHT.

ENCROACHMENT MAINTENANCE REMOVAL AGREEMENT:
EMRA REQUIRED FOR PRIVATE SEWER LATERAL IN PUBLIC RIGHT OF WAY.

STORM WATER NOTES:

1. PRIOR TO THE ISSUANCE OF ANY CONSTRUCTION PERMIT, THE OWNER/PERMITTEE SHALL ENTER INTO A MAINTENANCE AGREEMENT FOR THE ONGOING PERMANENT BMP MAINTENANCE, SATISFACTORY TO THE CITY ENGINEER.

2. PRIOR TO THE ISSUANCE OF ANY CONSTRUCTION PERMIT, THE OWNER/PERMITTEE SHALL INCORPORATE ANY CONSTRUCTION BEST MANAGEMENT PRACTICES NECESSARY TO COMPLY WITH CHAPTER 14, ARTICLE 2, DIVISION 1 (GRADING REGULATIONS) OF THE SAN DIEGO MUNICIPAL CODE, INTO THE CONSTRUCTION PLANS OR SPECIFICATIONS.

3. DEVELOPMENT OF THIS PROJECT SHALL COMPLY WITH ALL STORM WATER CONSTRUCTION REQUIREMENTS OF THE STATE CONSTRUCTION GENERAL PERMIT, ORDER NO. 2009–00090DWQ, OR SUBSEQUENT ORDER, AND THE MUNICIPAL STORM WATER PERMIT, ORDER NO. R9–2007–0001, OR SUBSEQUENT ORDER. IN ACCORDANCE WITH ORDER NO. 2009–0009DWQ, OR SUBSEQUENT ORDER, A RISK LEVEL DETERMINATION SHALL BE CALCULATED FOR THE SITE AND A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) SHALL BE IMPLEMENTED CONCURRENTLY WITH THE COMMENCEMENT OF GRADING ACTIVITIES.

4. PRIOR TO ISSUANCE OF A GRADING OR A CONSTRUCTION PERMIT, A COPY OF THE NOTICE OF INTENT (NOI) WITH A VALID WASTE DISCHARGE ID NUMBER (WDID#) SHALL BE SUBMITTED TO THE CITY OF SAN DIEGO AS A PROOF OF ENROLLMENT UNDER THE CONSTRUCTION GENERAL PERMIT. WHEN OWNERSHIP OF THE ENTIRE SITE OR PORTIONS OF THE SITE CHANGES PRIOR TO FILING OF THE NOTICE OF TERMINATION (NOT), A REVISED NOI SHALL BE SUBMITTED ELECTRONICALLY TO THE STATE WATER RESOURCES BOARD IN ACCORDANCE WITH THE PROVISIONS AS SET FORTH IN SECTION II.C OF ORDER NO. 2009–0009–DWQ AND A COPY SHALL BE SUBMITTED TO THE CITY.

5. PRIOR TO THE ISSUANCE OF ANY CONSTRUCTION PERMIT, THE APPLICANT SHALL SUBMIT A TECHNICAL REPORT THAT WILL BE SUBJECT TO FINAL REVIEW AND APPROVAL BY THE CITY ENGINEER, BASED ON THE STORM WATER STANDARDS IN EFFECT AT THE TIME OF THE CONSTRUCTION PERMIT ISSUANCE.

STORM WATER DISCHARGE:
AT THE STORM WATER DISCHARGE LOCATION, A SUITABLE ENERGY DISSIPATER IS TO BE INSTALLED TO REDUCE THE DISCHARGE TO NON–ERODIBLE VELOCITIES.

LEGAL DESCRIPTION:
THE PROPERTY CONSISTS OF FOUR CONTIGUOUS PARCELS: (1) THE NORTHWEST QUARTER OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 14, TOWNSHIP 14 SOUTH; (2) THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 14, TOWNSHIP 14 SOUTH; (3) THE SOUTHWEST QUARTER OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 14, TOWNSHIP 14 SOUTH; AND (4) THE SOUTHEAST QUARTER OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 14, TOWNSHIP 14 SOUTH; ALL IN RANGE 3 WEST, SAN BERNARDINO BASE AND MERIDIAN, IN THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF. ALL FOUR PARCELS ARE SHOWN ON RECORD OF SURVEY, NO. 15686.

ASSESSOR'S PARCEL NUMBERS: 306–050–16, 306–050–18, 306–050–19, 306–050–28

SITE AREA: GROSS AREA: 11.10 ACRES
NET AREA: 10.19 ACRES

ZONING, LOTS AND ACREAGE:
THE PROPERTY IS CURRENTLY ZONED AR–1–1. A REZONE IS BEING PROCESSED WITH THIS SDP TO CHANGE THE ZONE TO IR–3–1. THE PROPERTY CURRENTLY EXISTS IN THE FORM OF FOUR SEPARATE, BUT CONTIGUOUS, PARCELS. THE PROPOSED PROJECT WILL BUILD OVER THE EXISTING INTERNAL PARCEL LINES.

THE EXISTING OWNERSHIP CONSISTS OF APPROXIMATELY 11.10 ACRES. AFTER DEDICATION OF CAMINO DEL SUR ALONG THE EASTERLY PROJECT FRONTAGE, THE NET ACREAGE IS ESTIMATED TO BE 10.33 ACRES.

GRADING:
GRADING SHOWN HEREON IS PRELIMINARY AND IS SUBJECT TO MODIFICATION IN FINAL DESIGN. ALL GRADED SLOPES ARE DESIGNED WITH A 2:1 SLOPE GRADIENT, OTHER THAN THAN A SMALL PORTION OF THE CUT SLOPE ALONG THE WEST PROPERTY LINE NEAR THE CONSERVATION EASEMENT THAT IS 1.5:1.

STREETS AND ACCESS:
THE PROJECT WILL OBTAIN ACCESS TO CAMINO DEL SUR AT TWO LOCATIONS APPROXIMATELY AS SHOWN. CAMINO DEL SUR WILL MOST LIKELY BE BUILT BY OTHERS AS AN FBA–FUNDED IMPROVEMENT IN ADVANCE OF DEVELOPMENT OF THE SUBJECT PROJECT. THIS PROJECT SHALL PARTICIPATE IN THE CONSTRUCTION OF CAMINO DEL SUR BY PAYING ITS FAIR SHARE OF FBA FEES. (SEE TORREY HIGHLANDS PFFP, PROJECTS T–3.1B AND T–3.2B). THE PROPOSED PRIVATE DRIVE AT THE NORTH END OF THE SUBJECT PROJECT HAS BEEN DESIGNED TO LINE UP WITH THE ACCESS PROPOSED FOR THE DEVELOPMENT ACROSS THE STREET. TRAFFIC SIGNALS WILL BE PROVIDED AT BOTH OF THESE ACCESS POINTS.

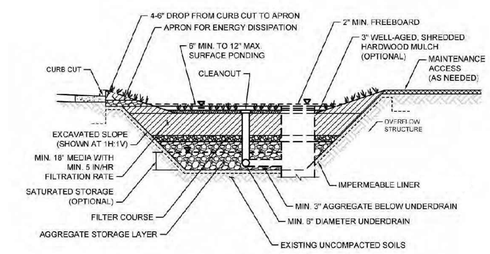
DRAINAGE:
OFFSITE FLOWS FROM THE SOUTH AND WEST OF THE PROPERTY ARE DIVERTED AROUND THE PROJECT VIA A BROW DITCH AND STORM DRAIN SYSTEM THAT DISCHARGES TO NORTHWEST CORNER OF THE PROPERTY. THE PROPOSED ON–SITE DRAINAGE SYSTEM WILL MAINTAIN THE EXISTING DRAINAGE PATTERNS. SURFACE WATER WILL FLOW IN A PRIVATE ON–SITE SYSTEM, APPROXIMATELY AS SHOWN, AND WILL BE DISCHARGED THROUGH AN ENERGY DISSIPATER STRUCTURE, E.G. RSD D–42, ADJACENT TO THE NORTHERLY PROPERTY LINE. THE DISSIPATER STRUCTURE WILL BE DESIGNED TO REDUCE EXIT VELOCITIES TO A NON–EROSIVE LEVEL.

SEWER AND WATER:
A MASTER WATER STUDY HAS ALREADY BEEN APPROVED FOR THE TORREY HIGHLANDS COMMUNITY. THIS STUDY SHOWS A 16" WATER MAIN IN CAMINO DEL SUR ALONG THE ENTIRE FRONTAGE OF THE SUBJECT PROJECT. THIS MAIN WILL PROVIDE WATER SERVICE TO THE PROJECT. IT IS ANTICIPATED THAT THIS LINE WILL BE CONSTRUCTED CONCURRENTLY WITH THE CONSTRUCTION OF CAMINO DEL SUR. THIS WATER LINE IS ALSO AN FBA–FUNDED IMPROVEMENT (SEE TORREY HIGHLAND PFFP, PROJECT NO. U–3).

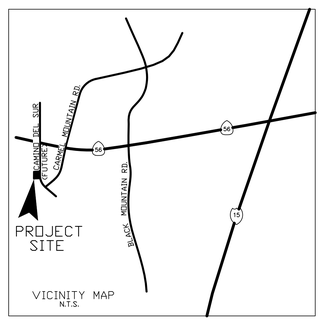
A MASTER SEWER STUDY HAS ALSO BEEN APPROVED FOR THE TORREY HIGHLANDS COMMUNITY. THIS PROJECT WILL BE SERVED BY EITHER THE OUTFALL SEWER MAIN THAT IS NOW LOCATED WITHIN THE TORREY SANTA FE ROAD RIGHT–OF–WAY, I.E. NORTHERLY OF THE SUBJECT PROJECT OR A NEW SEWER MAIN, LOCATED WITHIN THE PROPOSED CAMINO DEL SUR RIGHT–OF–WAY, THAT WILL SERVE THE SUBJECT PROJECT AS WELL AS THE PROPOSED DEVELOPMENT ACROSS THE STREET.

RECLAIMED WATER IS AVAILABLE IN CAMINO DEL SUR, WHICH THIS PROJECT WILL UTILIZE FOR ONSITE LANDSCAPING IRRIGATION.

BENCHMARK:
CALIFORNIA DEPARTMENT OF TRANSPORTATION BRASS DISK 56–5.25 1987
ELEVATION = 412.79 M.S.L. NAVD29 3RD ORDER.
TOPOGRAPHIC INFORMATION PER FLOWN TOPOGRAPHY PREPARED BY MORENO PHOTO SURVEYS, DATED SEPTEMBER 10. 1998



TYPICAL BIOFILTRATION BASIN SECTION
NOT TO SCALE



VICINITY MAP
N.T.S.

PREPARED BY:
NAME: LEPPERT ENGINEERING CORPORATION
ADDRESS: 5190 GOVERNOR DRIVE, SUITE 205
SAN DIEGO, CALIFORNIA 92122–2848
PHONE #: (858) 597–2001

PROJECT ADDRESS:
SEQ STATE ROUTE 56 & CAMINO DEL SUR
SAN DIEGO, CALIFORNIA 92129

PROJECT NAME:
THE PRESERVE AT TORREY HIGHLANDS

SHEET TITLE:
PROPOSED GRADING & DRAINAGE

REVISION 14:	
REVISION 13:	
REVISION 12:	
REVISION 11:	
REVISION 10:	
REVISION 9:	
REVISION 8:	
REVISION 7:	
REVISION 6:	
REVISION 5:	
REVISION 4:	
REVISION 3:	
REVISION 2:	04/04/2016
REVISION 1:	11/18/2015
ORIGINAL DATE:	8/31/2015
SHEET	C–1 OF 43
DEP#	

SCALE: 1"= 30'

30 0 30 60
1"= 30'

CODE ANALYSIS (BASED ON 2013 C.B.C.)

	OFFICE BLDG 1	OFFICE BLDGS 2 & 3	PKG STRUCT
USE	COMMERCIAL OFFICE	COMMERCIAL OFFICE	PARKING
OCCUPANCY	B	B	S-2
CONSTRUCTION TYPE	TYPE I - B	TYPE III - A	TYPE I - B
SPRINKLERS	YES	YES	YES
ALLOWABLE AREA			
BASE AREA (TABLE 503)	UL	28,500	79,000
FRONTAGE INCREASE (PER 506.2) **		0	0
SPRINKLER INCREASE (PER 506.3)		57000	158000
ALLOWABLE AREA PER FLOOR		85,500	237,000
LARGEST PROPOSED AREA PER FLOOR	30,000	30,000	59,800
NUMBER OF STORIES (TABLE 503)	11	5	11
SPRINKLER STORY INCREASE (PER504.2)	1	1	1
TOTAL ALLOWABLE STORIES	12	6	12
PROPOSED STORIES	6	4 TO 5	7.4
TOTAL BLDG AREA MULTIPLIER (PER 506.4)		3	3
TOTAL AREA ALLOWABLE	UL	256,500	711,000
LARGEST PROPOSED AREA	180,000	150,000	439,690
BUILDING HEIGHT			
BASE HEIGHT (TABLE 503)	160'-0"	65'-0"	160'-0"
SPRINKLER INCREASE (PER 504.2)	20'-0"	20'-0"	20'-0"
TOTAL ALLOWABLE HEIGHT	180'-0"	85'-0"	180'-0"
MAXIMUM PROPOSED HEIGHT	99'-0"	84'-6"	73'-0"
BUILDING ELEMENTS - FIRE RATING (HOURS)			
(PER TABLE 601)			
PRIMARY STRUCTURAL FRAME	2	1	2
BEARING WALLS EXTERIOR	2	2	2
BEARING WALLS INTERIOR	2	1	2
NON-BEARING WALLS EXTERIOR	PER DISTANCE TO P.L.	PER DISTANCE TO P.L.	PER DISTANCE TO P.L.
NON-BEARING WALLS INTERIOR	0	0	0
FLOOR CONSTRUCTION	2	1	2
ROOF CONSTRUCTION	1	1	1
SHAFT ENCLOSURES ***	1 TO 2	1 TO 2	1 TO 2
INTERIOR EXIT STAIRWAY AND RAMPS ****	1 TO 2	1 TO 2	1 TO 2
EXIT PASSAGEWAY *****	2	2	2

** FRONTAGE INCREASE NOT | FRONTAGE INCREASE NOT NEEDED
*** 2-HR WHEN CONNECTING ‹ 2-HR WHEN CONNECTING 4 OR MORE STORIES (INCLUD
**** 2-HR WHEN CONNECTING ‹ 2-HR WHEN CONNECTING 4 OR MORE STORIES PER SEC.
***** ENTIRE EXIT PASSAGEWAY S ENTIRE EXIT PASSAGEWAY SHALL MAINTAIN INTERIOR E

TRAVEL DISTANCES

DEAD END CORRIDOR	50'-0" PER SEC. 1018.4 EXCEPTION	PER SEC. 1018.4 EXCEPTION 2
EXIT ACCESS TRAVEL DISTANCE	300'-C PER TABLE 1016.2	PER TABLE 1016.2
CORRIDOR FIRE RESISTANCE RATING	0 PER TABLE 1018.1 (WITH AP	PER TABLE 1018.1 (WITH APPROVED SPRINKLER SYSTEM)

BUILDING CODE ANALYSIS

SCALE: 1" = 1'-0"

ON BEHALF OF OUR CLIENT, THE PRESERVE AT TORREY HIGHLANDS, LLC, PLEASE ACCEPT THIS LETTER AS OUR DESCRIPTION OF HOW THE SUBJECT PROJECT ANTICIPATES COMPLYING WITH THE AFFORDABLE/IN-FILL HOUSING & SUSTAINABLE BUILDINGS EXPEDITE PROGRAM IN ACCORDANCE WITH INFO BULLETIN NO. 538, AND THE CITY OF SAN DIEGO GENERAL PLAN CONSERVATION ELEMENT (CE) DATED MARCH 2008:

1. PER CE-A.2: THE PROJECT INTENDS TO REDUCE FUEL EMISSION LEVELS BY ENCOURAGING ALTERNATIVE MODES OF TRANSPORTATION AND INCREASING FUEL EFFICIENCY BY PROVIDING SECURE BICYCLE STORAGE AND SHOWER FACILITY FOR EMPLOYEES WHO BIKE TO WORK, AND EV CHARGING STATIONS TO ENCOURAGE THE USE OF ELECTRIC VEHICLES.
2. PER CE-A.2: THE PROJECT INTENDS TO REDUCE THE URBAN HEAT ISLAND EFFECT THROUGH SUSTAINABLE DESIGN AND BUILDING PRACTICES, INCLUDING REFLECTIVE COOL ROOFING, SHADE STRUCTURES OVER PARKING STALLS, AND THE PLANTING OF TREES (CONSISTENT WITH HABITAT AND WATER CONSERVATION POLICIES) FOR THEIR MANY ENVIRONMENTAL BENEFITS, INCLUDING NATURAL CARBON SEQUESTRATION.
3. PER CE-A.2: THE PROJECT WILL REDUCE WASTE BY IMPROVING MANAGEMENT AND RECYCLING PROGRAMS, BOTH DURING AND AFTER CONSTRUCTION.
4. PER CE-A.5: THE PROJECT WILL EMPLOY SUSTAINABLE OR "GREEN" BUILDING TECHNIQUES FOR THE CONSTRUCTION AND OPERATION OF THE BUILDINGS.
5. PER CE-A.7: THE PROJECT WILL CONSTRUCT AND OPERATE BUILDINGS USING MATERIALS, METHODS, AND MECHANICAL AND ELECTRICAL SYSTEMS THAT ENSURE A HEALTHFUL INDOOR AIR QUALITY. AVOID CONTAMINATION BY CARCINOGENS, VOLATILE ORGANIC COMPOUNDS, FUNGI, MOLDS, BACTERIA, AND OTHER KNOWN TOXINS.
6. PER CE-A.9: THE PROJECT WILL USE MATERIALS THAT HAVE RECYCLED CONTENT, OR USE MATERIALS THAT ARE DERIVED FROM SUSTAINABLE OR RAPIDLY RENEWABLE SOURCES TO THE EXTENT POSSIBLE.
7. PER CE-A.10: THE PROJECT WILL INCLUDE FEATURES IN BUILDINGS TO FACILITATE RECYCLING OF WASTE GENERATED BY BUILDING OCCUPANTS AND ASSOCIATED REFUSE STORAGE AREAS.
8. PER CE-A.11: THE PROJECT WILL IMPLEMENT SUSTAINABLE LANDSCAPE DESIGN AND MAINTENANCE.
9. PER CE-A.12: THE PROJECT INTENDS TO REDUCE THE SAN DIEGO URBAN HEAT ISLAND.
10. PER CE-B.1: THE PROJECT INTENDS TO PROTECT AND CONSERVE OPEN SPACES TO THE EXTENT POSSIBLE.
11. PER CE-B.2: THE PROJECT INTENDS TO APPLY THE APPROPRIATE ZONING AND ENVIRONMENTALLY SENSITIVE LANDS (ESL) REGULATIONS TO LIMIT DEVELOPMENT OF FLOODPLAINS, SENSITIVE BIOLOGICAL AREAS INCLUDING WETLANDS, STEEP HILLSIDES, AND CANYONS.
12. PER CE-B.3: THE PROJECT DESIGN WILL USE NATURAL LANDFORMS AND FEATURES AS INTEGRATING ELEMENTS IN PROJECT DESIGN TO COMPLEMENT AND ACCENTUATE THE CITY'S FORM.
13. PER CE-B.4: THE PROJECT WILL LIMIT AND CONTROL RUNOFF, SEDIMENTATION, AND EROSION BOTH DURING AND AFTER CONSTRUCTION ACTIVITY.
14. PER CE-B.5: THE PROJECT WILL MAXIMIZE THE INCORPORATION OF TRAILS AND GREENWAYS LINKING LOCAL AND REGIONAL OPEN SPACE AND RECREATION AREAS INTO THE PLANNING AND DEVELOPMENT REVIEW PROCESSES.
15. PER CE-B.6: THE PROJECT WILL PROVIDE AN APPROPRIATE DEFENSIBLE SPACE BETWEEN OPEN SPACE AND URBAN AREAS THROUGH THE MANAGEMENT OF BRUSH, THE USE OF TRANSITIONAL LANDSCAPING, AND THE DESIGN OF STRUCTURES. THE OWNER WILL CONTINUE TO IMPLEMENT A BRUSH MANAGEMENT SYSTEM.
16. PER CE-E.2: THE PROJECT WILL APPLY WATER QUALITY PROTECTION MEASURES TO LAND DEVELOPMENT PROJECTS EARLY IN THE PROCESS-DURING PROJECT DESIGN, PERMITTING, CONSTRUCTION, AND OPERATIONS-IN ORDER TO MINIMIZE THE QUANTITY OF RUNOFF GENERATED ON-SITE, THE DISRUPTION OF NATURAL WATER FLOWS AND THE CONTAMINATION OF STORM WATER RUNOFF.
17. PER CE-E.3: THE PROJECT WILL REQUIRE CONTRACTORS TO COMPLY WITH ACCEPTED STORM WATER POLLUTION PREVENTION PLANNING PRACTICES FOR ALL PROJECTS.

SUSTAINABILITY SUMMARY

***NOTE:** SEE SEPERATE SUSTAINABILITY LETTER FOR FURTHER DETAILS.

OWNER / PROPERTY MGR.

CISTERRRA DEVELOPMENT
3580 CARMEL MOUNTAIN ROAD
SUITE 460
SAN DIEGO, CA 92130
PHONE: 619-615-0200
CONTACT: JASON WOOD (PROJECT PRINCIPAL)

ARCHITECT

GENSLER
225 BROADWAY
SUITE 1600
SAN DIEGO, CA 92101
PHONE: 619-557-2500
FAX: 619-557-2520
CONTACT: DARREL FULLBRIGHT

CIVIL

LEPPERT ENGINEERING CORPORATION
5190 GOVERNOR DRIVE
SUITE 205
SAN DIEGO, CA 92122
PHONE: 858-597-2001
FAX: 858-597-2009
CONTACT: JOHN LEPPERT

LANDSCAPE

GROUNDLEVEL LANDSCAPE ARCHITECTURE
2605 STATE STREET
SUITE B
SAN DIEGO, CA 92103
PHONE: 619-325-1995
CONTACT: SCOTT L SANDEL, ASLA, PRINCIPAL

ENVIRONMENTAL

DUDEK
605 THIRD STREET
ENCINITAS, CA 92024
PHONE: 760-479-4858
CONTACT: ASHA R. BLEIER, AICP, LEED AP BD+C

PROJECT TEAM

SCALE: 1" = 1'-0"

DRAWING INDEX

Sheet Number	Sheet Name
G00.00	COVER
G00.01	PROJECT INFO / INDEX
C-1	GRADING & DRAINAGE
C-2	TOPO & SLOPE ANALYSIS
L1.1	LANDSCAPE SITE PLAN
L1.2	LANDSCAPE LEGEND & NOTES
L1.3	IRRIGATION PLAN AND CALCULATIONS
L1.4	BRUSH MANAGEMENT PLAN
L1.5	BRUSH MANAGEMENT NOTES
L1.6	LANDSCAPE DIAGRAM AND CALCULATIONS
A00.01	EXTERIOR PERSPECTIVE VIEWS
A00.50	SITE PLAN
A00.51	FIRE ACCESS PLAN
A00.52	SUBTERRANEAN PARKING PLAN
A00.53	TRAIL CONNECTION PLAN
A02.01	OFFICE BLDG 1 - FLOOR PLANS
A02.02	OFFICE BLDG 1 - FLOOR PLANS
A02.03	OFFICE BLDG 1 - FLOOR PLANS
A02.04	OFFICE BLDG 1 - FLOOR PLANS & ROOF PLAN
A02.05	OFFICE BLDG 2 - FLOOR PLANS
A02.06	OFFICE BLDG 2 - FLOOR PLANS
A02.07	OFFICE BLDG 2 - FLOOR PLANS
A02.08	OFFICE BLDG 2 - ROOF PLAN
A02.09	OFFICE BLDG 3 - FLOOR PLANS
A02.10	OFFICE BLDG 3 - FLOOR PLANS
A02.11	OFFICE BLDG 3 - FLOOR PLANS
A02.12	OFFICE BLDG 3 - ROOF PLAN
A02.13	CAFE - FLOOR PLANS & ROOF PLAN
A02.14	PARKING STRUCTURE - FLOOR PLANS
A02.15	PARKING STRUCTURE - FLOOR PLANS
A02.16	PARKING STRUCTURE - FLOOR PLANS
A02.17	PARKING STRUCTURE - FLOOR & ROOF PLAN
A09.01	OFFICE BLDG 1 - EXTERIOR ELEVATIONS
A09.02	OFFICE BLDG 1 - EXTERIOR ELEVATIONS
A09.03	OFFICE BLDG 2 - EXTERIOR ELEVATIONS
A09.04	OFFICE BLDG 2 - EXTERIOR ELEVATIONS
A09.05	OFFICE BLDG 3 - EXTERIOR ELEVATIONS
A09.06	OFFICE BLDG 3 - EXTERIOR ELEVATIONS
A09.07	CAFE - EXTERIOR ELEVATIONS
A09.08	PARKING STRUCTURE - EXTERIOR ELEVATIONS
A09.09	PARKING STRUCTURE - EXTERIOR ELEVATIONS
A09.10	PARKING STRUCTURE - EXTERIOR ELEVATIONS
A09.11	SITE SECTIONS

DRAWING INDEX

(5) COMMUNITY PLAN AMENDMENT (CPA)
(5) REZONE
(4) SITE DEVELOPMENT PERMIT (SDP)
(3) PLANNED DEVELOPMENT PERMIT (PDP)

PERMIT & DISCRETIONARY ACTION LIST

SCOPE OF WORK

CONSTRUCT THREE NEW COMMERCIAL OFFICE BUILDINGS (4 STORY, 5 STORY & 6 STORY) WITH ONE LEVEL SUBTERRANEAN PARKING, ONE AMENITY BUILDING (1 STORY) AND ONE ABOVE GRADE PARKING STRUCTURE (7 LEVELS UP / 1 LEVELS DOWN). PERMIT ALSO INCLUDES SITE IMPROVEMENTS INCLUDING SURFACE PARKING, DRIVEWAYS, WALKWAYS, LANDSCAPING, GRADING, AND 1,093 LINEAR FEET OF RETAINING WALL. NO EXISTING STRUCTURES OR SITE IMPROVEMENTS EXIST ON THE SITE.

DEVELOPMENT SUMMARY

OVERALL SITE	11.10 ACRES
SITE WITHIN LIMIT OF WORK	10.33 ACRES
TOTAL OFFICE BLDG. 1	180,000 SF
TOTAL OFFICE BLDG. 2	120,000 SF
TOTAL OFFICE BLDG. 3	150,000 SF
	TOTAL = 450,000 SF
IP-3-1 MAXIMUM FAR: 2.0 *PARKING STRUCTURE IS EXCLUDED FROM FAR AS IT MEETS AT LEAST TWO OF THE FOLLOWING CRITERIA: 1. PER SEC 113.0234 (D)(3)(B)(I), THE PARKING STRUCTURE INCLUDES AT LEAST ONE SUBTERRANEAN FLOOR. 2. PER SEC 113.0234 (D)(3)(B)(IV), THE PARKING STRUCTURE IS AT LEAST 40 PERCENT OPEN ON AT LEAST TWO ELEVATIONS.	0.98 FAR

ACCESSORY SUMMARY

AMENITY CAFE BLDG.	3,850 SF
FITNESS CENTER	5,000 SF

ZONING SUMMARY

	ALLOWABLE	PROPOSED
TYPE I-B		
(N) OFFICE BLDG. 1	180'-0"	99'-0"
(N) PARKING STRUCTURE	180'-0"	75'-0"
TYPE III-A		
(N) OFFICE BLDG. 2	85'-0"	70'-0"
(N) OFFICE BLDG. 3	85'-0"	84'-6"

PROJECT ADDRESS:

SEQ STATE ROUTE 56 & CAMINO DEL SUR
SAN DIEGO, CA 92129

APN: 306-050-16, 306-050-18, 306-050-19, 306-050-28

LEGAL DESCRIPTION

THE PROPERTY CONSISTS OF FOUR CONTIGUOUS PARCELS: (1) THE NORTHWEST QUARTER OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 14, TOWNSHIP 14 SOUTH; (2) THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 14, TOWNSHIP 14 SOUTH; (3) THE SOUTHWEST QUARTER OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 14, TOWNSHIP 14 SOUTH; AND (4) THE SOUTHEAST QUARTER OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 14, TOWNSHIP 14 SOUTH, ALL IN RANGE 3 WEST, SAN BERNARDINO BASE AND MERIDIAN, IN THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF. ALL FOUR PARCELS ARE SHOWN ON RECORD OF SURVEY, NO. 15686.

ZONING CLASSIFICATION

IP-3-1
INDUSTRIAL PARK ZONE

SETBACKS

FRONT = 20'
STREET SIDE = N/A
SIDE = 15'
REAR = 25'

APPLICABLE BUILDING CODES

2013 CALIFORNIA BUILDING CODE (CBC)
2013 CALIFORNIA ELECTRICAL CODE (CEC)
2013 CALIFORNIA MECHANICAL CODE (CMC)
2013 CALIFORNIA PLUMBING CODE (CPC)
2013 CALIFORNIA FIRE CODE (CFC)
2013 BUILDING ENERGY EFFICIENCY STANDARDS (TITLE 24)
NFPA 13 (FIRE SPRINKLERS)

THE PRESERVE AT TORREY HIGHLANDS

SEQ STATE ROUTE 56 & CAMINO DEL SUR
SAN DIEGO, CA 92129

APN# 306-050-16, 306-050-18, 306-050-19, 306-050-28

Gensler

225 Broadway
Suite 1600
San Diego CA 92101
Tel: 619.557.2500
Fax: 619.557.2520

Issue	Date & Issue Description	By	Check
	2015-08-31 SDP SUBMITTAL		
	2015-11-18 SDP SUBMITTAL #2		
	2016-02-29 SDP SUBMITTAL #3		

Seal/Signature

LICENSED ARCHITECT JAMES K HEINLY C 28830 REN. 9/30/17 STATE OF CALIFORNIA

Project Name
THE PRESERVE AT TORREY HIGHLANDS

Project Number
55.7511.000

Description
PROJECT INFO / INDEX

Scale
As indicated

G00.01

Ref. North

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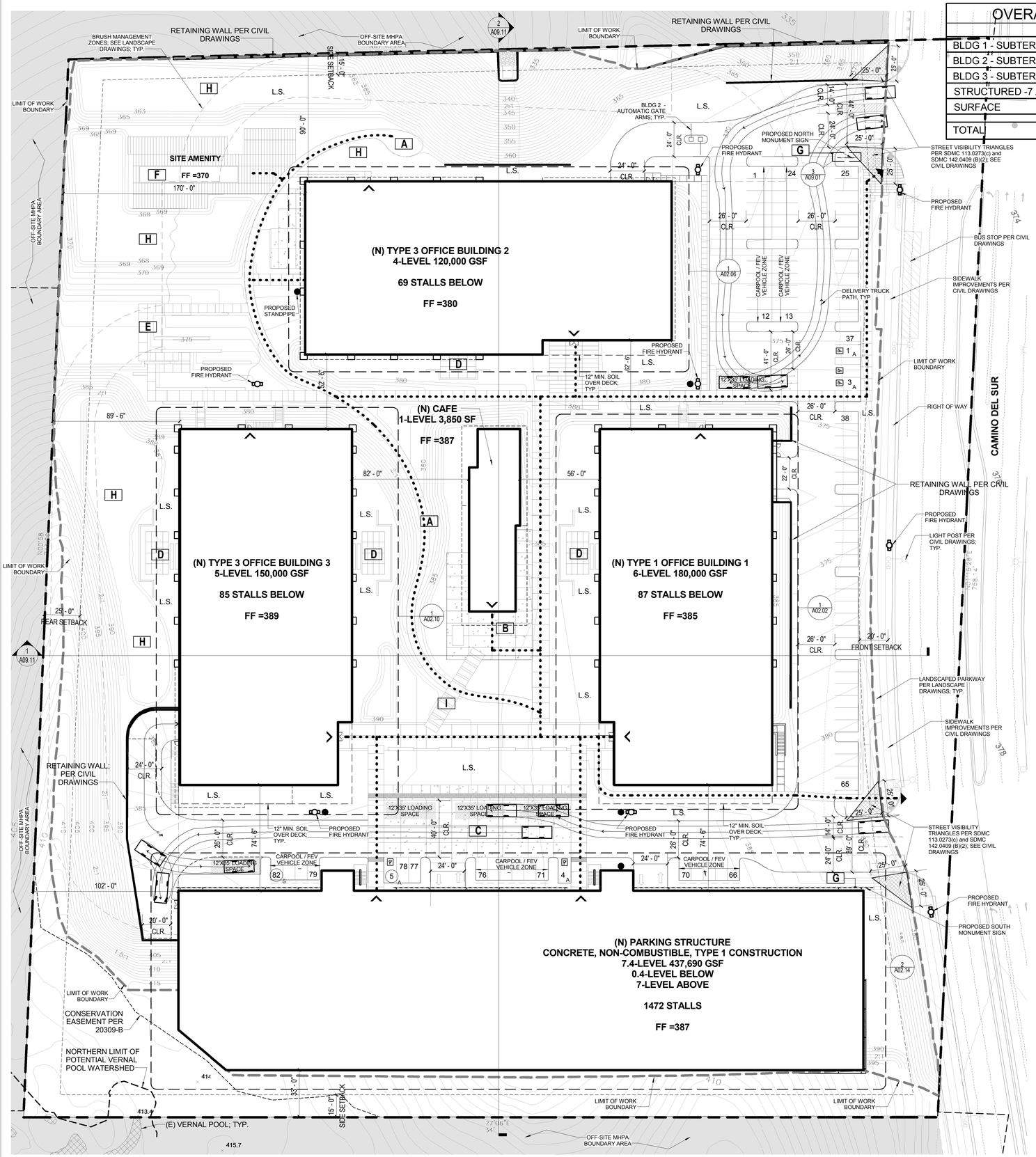


Site Plan
SCALE: 1" = 30'-0"

1

OVERALL PARCEL PARKING TABULATION

	STANDARD	ACCESSIBLE	TOTAL	SUBTERRANEAN / STRUCT. PARKING SF / CAR TABULATION: TOTAL SF	SF/ CAR
BLDG 1 - SUBTERRANEAN	83	4	87	30,000 SF	345
BLDG 2 - SUBTERRANEAN	66	3	69	25,000 SF	362
BLDG 3 - SUBTERRANEAN	81	4	85	30,000 SF	353
STRUCTURED -7 ABOVE, 1 BELOW	1,442	30	1,472	437,690 SF	297
SURFACE	82	5	87		
TOTAL	1,754	46	**1,800**	522,690 SF	305

REQUIRED PARKING RATIO 450,000 SF (3.3 / 1000 GSF) = 1,485 SPACES

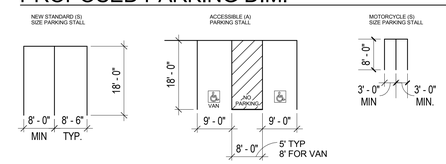
PROVIDED PARKING RATIO 450,000 SF (4.0 / 1000 GSF) = **1,800 SPACES**

OVERALL PARKING RATIOS

TOTAL PARKING - 1,800 SPACES	REQUIRED	PROVIDED
CARPOOL & F.E.V SPACES (8%)	144	151
MOTORCYCLE SPACES (2%)	36	40
BIKE LOCKERS - SHORT-TERM (5%)	90	110
BIKE LOCKERS - LONG-TERM (5%)	90	115
LOADING SPACES (0.1% / 1000 SF)	5	5

*__NOTE:__ SEE SHEET A02.01 FOR SHORT-TERM BIKE CIRCULATION

PROPOSED PARKING DIM.



LEGEND

- PROPERTY LINE
- SETBACK
- LIMIT OF WORK
- PATH OF TRAVEL / ACCESSIBLE PATH
- FIRELANE
- INTERNATIONAL SYMBOL OF ACCESSIBILITY
- ACCESSIBLE PARKING AND TOW AWAY SIGN
- L.S. LANDSCAPED AREA
- TOTAL NUMBER OF STALLS; TYPE DESIGNATOR (S=STANDARD, A=ACCESSIBLE, M=MOTORCYCLE, E=EXISTING)
- BUILDING EXIT

KEYNOTES

- A ARROYO PATH
- B CAFE PATIO W/ OUTDOOR DINING
- C PEDESTRIAN DROP-OFF ZONE
- D OUTDOOR COLLABORATION SPACE
- E AMPHITEATHER SPACE WITH STAGGERED SEAT WALLS
- F OUTDOOR GATHERING SPACE W/ BOCCE BALL COURT
- G PROJECT PROPOSED SIGNAGE
- H WATER QUALITY ZONES
- I PEDESTRIAN WALKWAY
- J WATER FEATURES

SITE PLAN NOTES

1. ARROYO PEDESTRIAN TRAIL WILL DEAD END AND NOT BE CONNECTING TO CAMINO DEL SUR CONNECTION TRAILS UNTIL FURTHER DEVELOPMENT HAS BEEN IDENTIFIED AND CONFIRMED.
2. ALL DOORS SHALL BE WELL MAINTAINED AND HAVE STRONG SPRINGS THAT CLOSE PROPERLY AT ALL TIMES. ALL BUILDING ENTRY AND EXITS SHALL BE ACCOMPANIED WITH PROPER EMERGENCY SIGNAGE, CAMERA, AND ALARM SYSTEM.
3. ALL BUILDING STAIRWELL ENTRY AND EXITS SHALL BE KEPT UNLOCKED DURING NORMAL OPERATING HOURS IN CASE OF AN EMERGENCY.
4. CAFE IS ACCESSORY TO THE PRIMARY OFFICE USES ON SITE ONLY AND WILL NOT BE OPEN TO THE GENERAL PUBLIC.
5. BUILDING ADDRESS NUMBER SHALL BE VISABLE AND LEGIBLE FROM THE STREET OR ROAD FRONTING THE PROPERTY.
6. IF A 3" OR LARGER METER IS REQUIRED FOR THIS PROJECT, THE
7. OWNER/PERMITTEE SHALL CONSTRUCT THE NEW METER AND PRIVATE BACKFLOW DEVICE ON SITE, ABOVE GROUND, WITHIN AN ADEQUATELY SIZED WATER EASEMENT, IN A MANNER SATISFACTORY TO THE DIRECTOR OF THE PUBLIC UTILITIES DEPARTMENT AND THE CITY ENGINEER.
8. LIGHTING SHALL BE DIRECTED AWAY FROM ALL NATURAL HABITAT, RUNOFF FROM PARKING AREAS SHALL NOT BE DISCHARGED DIRECTLY INTO THE MHPA, AND INVASIVE SPECIES SHALL NOT BE PLANTED ADJACENT TO THE MHPA.
9. NO OBJECT HIGHER THAN 36 INCHES ARE PROPOSED IN VISIBILITY AREAS.
10. IF VISIBILITY AREAS LIES WITHIN THE PUBLIC RIGH-OF-WAY; NO VEGETATION OTHER THAN TREES IN THESE AREAS WILL EXCEED 24 INCHES IN HEIGHT.
11. TRASH & DELIVERY TRUCKS WILL USE THE SAME CIRCULATION AS THE FIRE TRUCKS ALONG THE FIRE LANE. TRASH BINS WITHIN THE STRUCTURES WILL BE WHEELED OUT INDIVIDUALLY BEFORE BEING PICKED UP.
12. PARKING STRUCTURE HAS BEEN DESIGNATED AS TYPE 1 CONSTRUCTION. THE ENTIRE STRUCTURE WILL BE CONCRETE AND METAL, AND WILL NOT BE COMBUSTIBLE.
13. ALL EXISTING WETLANDS AND VERNAL POOLS SHALL BE AVOIDED IN ITS ENTIRETY.
14. PARKING STRUCTURE HAS BEEN DESIGNATED AS TYPE 1 CONSTRUCTION. THE ENTIRE STRUCTURE WILL BE CONCRETE AND METAL, AND WILL NOT BE COMBUSTIBLE.
15. THE 3,850 SF CAFE WILL BE AN ACCESSORY TO THE PRIMARY OFFICE USES ON SITE ONLY. THE CAFE WILL NOT BE OPEN TO THE GENERAL PUBLIC AT ANY TIME.

THE PRESERVE AT TORREY HIGHLANDS

SEQ STATE ROUTE 56 & CAMINO DEL SUR
SAN DIEGO, CA 92129

APN# 306-050-16, 306-050-18, 306-050-19, 306-050-28

Gensler

225 Broadway
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San Diego CA 92101
Tel: 619.557.2500
Fax: 619.557.2520

Issue	Date & Issue Description	By	Check
2015-08-31	SDP SUBMITTAL		
2015-11-18	SDP SUBMITTAL #2		
2016-02-29	SDP SUBMITTAL #3		

Seal/Signature

LICENSED ARCHITECT
JAMES K HENLY
C 26830
REN 9/30/17
STATE OF CALIFORNIA

Project Name
THE PRESERVE AT TORREY HIGHLANDS

Project Number
55.7511.000

Description
SITE PLAN

Scale
As indicated

A00.50

Ref. North

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Exhibit “D” - Waste Management Form

Waste Management Form - Part I

Construction & Demolition (C&D) Debris Deposit Program

Required for projects described in Municipal Code §66.0601-66.0610.

Deposit will be fully refunded if at least 50%* of ALL debris generated from the project is recycled. If the minimum required recycling rate is not met, the deposit refund will be prorated. **Deposit refund requests must be accompanied by weigh tickets for ALL debris generated, including all trash, salvage, reuse and recycling, and be submitted within 180 days from final inspection.** Refer to **Information Bulletin 119** for details on acceptable documentation.

Complete Part I before obtaining a building, combination or demolition permit.
Submit this form and your deposit to the Development Services Department staff at permit issuance.

Refundable Party Contact Information:

Name _____ Title _____ Company _____

Address _____ City _____ State ____ Zip _____

Phone _____ Email _____

Project Information:

Approval/Permit No. _____ Project Title _____

Project Address _____ Zip _____

Project Type: ❑ *New Construction* ❑ *Addition/Alteration* ❑ *Demolition*

Building Type: ❑ *Commercial* ❑ *Residential*

Estimated Square Feet _____

Estimated Start Date _____/_____/_____

Estimated Completion Date _____/_____/_____

TO BE FILLED OUT BY DSD STAFF
"C&D Deposit" Paid $_____
Invoice # _____ Date Paid _____

Fill out the table with *estimated* quantities in tons for each material that will be generated by your project. Note: A + B = C
Please use the ***City Construction and Demolition Debris Conversion Table*** if converting from volume to tonnage.

Material Type	A Estimated Salvage, Reuse or Recycle	B Estimated Disposal (Trash)	C Estimated Total Debris Quantity	Hauler	Certified Recycling Facility or Disposal Destination
Asphalt & Concrete					
Brick / Masonry / Tile					
Cabinets, Doors, Fixtures, Windows (circle all that apply)					
Cardboard					
Carpet, Padding / Foam					
Ceiling Tile (acoustic)					
Dirt					
Drywall					
Landscape Debris					
Mixed C&D Debris					
Mixed Inerts					
Roofing Materials					
Scrap Metal					
Stucco					
Unpainted Wood & Pallets					
Garbage / Trash					
Other:					
TOTAL					

To estimate Recycling Rate: (Total A/Total C) x 100 = Recycling %
MINIMUM RECYCLING RATE FOR ALL DEBRIS FROM YOUR PROJECT IS CURRENTLY 50%*
** Recycling rate is subject to change; check **Information Bulletin 119** for current rate.*

C&D debris may contain paint, asbestos, mercury switches, light bulbs, ballasts or other hazardous wastes that require removal prior to disposal. The Miramar Landfill cannot accept hazardous waste. For information on waste acceptance at the Miramar Landfill, call (858) 694-7000.

Waste Management Form - Part II

Construction & Demolition (C&D) Debris Deposit Program

Required for projects described in Municipal Code §66.0601-66.0610.

Complete Part II after final inspection.
Submit with ALL trash, salvage, reuse and recycling weigh tickets.
Please refer to **Information Bulletin 119** for details on acceptable documentation.

Send this completed form and all documentation:

By Mail
City of San Diego
Environmental Services Department
Attn: C&D Diversion Coordinator
9601 Ridgehaven Court, Suite 320
San Diego, CA 92123-1636

By Fax
Attn: C&D Diversion Coordinator
(858) 492-5089

By Email
ESD_CD@sandiego.gov

Applicants must submit refund requests within 180 days from project final inspection. Requests submitted after 180 days will not be eligible for a refund. Refunds will not be issued if all requested information and documentation is not provided. Refunds will be mailed within 45 business days following receipt of all proper forms and documentations. If the minimum required recycling rate specified in Information Bulletin 119 is not met, the deposit refund will be prorated.

Project Information

Approval/Permit No. _____ Project No. _____ Project Title _____

Final Inspection Date _____/_____/_____ Project Address _____

Affirmation

Applicant is advised of San Diego Municipal Code section 11.0401(b) which states: "No person willfully shall make a false statement or fail to report any material fact in any application for City license, permit, certificate, employment or other City action under the provisions of the San Diego Municipal Code."

I certify under penalty of perjury under the laws of the State of California that the information provided in and with this form pertains to construction and demolition debris generated only from the project listed in Part I, that I have reviewed the accuracy of the information, and that the information is true and correct to the best of my knowledge and belief.

Name _____ Title _____ Company _____

Signature _____ Date _____

Payment Information

Check will be made payable to the Refundable Party identified on the Development Services Department's paid invoice on which the "C&D Deposit" was assessed. Please provide complete mailing address below.

If payment is to be made to a different party, the Refundable Party must sign in the box below, designate to whom the check will be payable, and provide complete mailing address.

By signing my name, I _____, _____, _____,
Refundable Party on invoice (print name) Company Signature

authorize the refund check to be made payable to: _____.

Refund Mailing Address _____ City _____ State ____ Zip+4 _____

For more information, please contact the City of San Diego Environmental Services Department:
(858) 694-7000 or visit www.recyclingworks.com

Appendix I - San Diego Municipal Code: Construction and Demolition Debris Diversion Deposit Program

Article 6: Collection, Transportation and Disposal of Refuse and Solid Waste

Division 6:

Construction and Demolition Debris Diversion Deposit Program

(*"Construction and Demolition Debris Diversion Deposit Program" added 10-10-2005 by O–19420 N.S.; effective until a certified recycling facility which accepts mixed construction and demolition debris is operating in the City at a 50% diversion rate.)*

(Amended 12-18-2007 by O-19694 N.S; effective 1-17-2008.)

§66.0601 Findings

The Council of the City of San Diego finds and declares that:

(a) The City operates the Miramar Landfill, which is currently the only municipal landfill in the City. The Miramar Landfill currently is expected to close between 2011 and 2013. Preserving landfill capacity at the Miramar Landfill in order to extend the useful life of the Miramar Landfill for the citizens of the City is a paramount concern.

(b) The City has made and continues to make progress in meeting the waste *diversion* requirements imposed by *AB 939*, but additional efforts, particularly in the *diversion* of *construction and demolition debris*, will assist the City in continuing to meet the goal of *diverting* 50% of its waste from landfill *disposal*.

(c) Studies show that approximately 35% of the waste generated in the City of San Diego delivered for *disposal* is *construction and demolition debris*, which could be *diverted* from landfill *disposal*.

(d) Efforts by the City and the private sector to encourage voluntary *construction and demolition debris diversion* have not been as successful as the City had hoped and additional efforts are necessary to ensure continued compliance with *AB 939* requirements.

(e) *Construction and demolition debris diversion* deposit programs in other jurisdictions in the State, similar to the one implemented by this Division, have proven successful in increasing *diversion* of *construction and demolition debris* and have been favorably received by the California Integrated Waste Management Board.

(Added 10-10-2005 by O–19420 N.S; effective 1-17-2008.)
(Amended 12-18-2007 by O-19694 N.S; effective 1-17-2008.)

§66.0602 Purpose of Construction and Demolition Debris Diversion Deposit Program

The purpose of this Division is to establish the Construction and Demolition Debris Diversion Deposit Program. This program is intended to increase the *diversion* of *construction and demolition debris* from landfill *disposal*, conserve the capacity and extend the useful life of the Miramar Landfill, and avoid the potential financial and other consequences to the City of failing to remain in compliance with *AB 939* requirements.

(Added 10-10-2005 by O–19420 N.S; effective 1-17-2008.)
(Amended 12-18-2007 by O-19694 N.S; effective 1-17-2008.)

§66.0603 Definitions

All defined terms in this Division appear in *italics* and are found in sections 11.0210, 66.0102, and 113.0103 of this Code, except for the terms Building Permit and Demolition/Removal Permit which refer to those terms respectively as used in the Land Development Code and which, consistent with the Land Development Code, are not italicized in this Division. In addition, whenever the following words or phrases are used in this Division, they mean:

AB 939 means the California Integrated Waste Management Act, codified at California Public Resources Code sections 40000 et seq.

Certified recycling facility means a recycling, composting, materials recovery or reuse facility which accepts *construction and demolition debris* and which has been certified by the *Director* pursuant to rules promulgated by the *Director*.

Construction and demolition debris means the waste building materials, packaging, and rubble resulting from construction, remodeling, repair, alteration, and/or demolition operations on pavements, houses, commercial buildings, and other *structures* and may include, but is not limited to, concrete, asphalt, wood, metals, bricks, dirt, rocks, and other inert waste.

Director means the Director of the Environmental Services Department (and its successor) or the designee of the Director of the Environmental Services Department (and its successor).

Disposal means the final deposition of *solid waste* at a permitted landfill.

Diversion or *Divert* means the reduction or elimination of *solid waste* from landfill *disposal.*

Hazardous waste has the same meaning as set forth in section 66.0102 of this Code.

Solid Waste means all putrescible and nonputrescible solid, semisolid, and liquid wastes, including, but not limited to, garbage, trash, refuse, paper, rubbish, ashes, industrial wastes, c*onstruction and demolition debris,* abandoned vehicles and parts thereof, discarded home and industrial appliances, dewatered, treated, or chemically fixed sewage sludge which is not hazardous waste, manure, vegetable or animal solid and semisolid wastes, and other discarded solid and semisolid wastes.
Solid Waste does not include hazardous waste, hazardous substances or medical wastes, as those terms are defined in this Chapter 6 or in State or Federal law.

Waste Management Form Part I means the form prepared by the City Manager on which an *applicant* for a Building Permit or Demolition/Removal Permit shall provide information including, but not limited to, the types and amounts of c*onstruction and demolition debris* the *applicant* anticipates the *development* will generate and the expected c*onstruction and demolition debris diversion* the *applicant* expects to achieve for that *development.*

Waste Management Form Part II means the form prepared by the City Manager on which the *applicant* for a Building Permit or Demolition/Removal Permit shall provide information including, but not limited to, the name and address of the *person* to whom a deposit refund, if any, shall be issued, as well as documentary evidence in a form satisfactory to the *Director* demonstrating the c*onstruction and demolition debris diversion* the *applicant* achieved for the *development.*

(Added 10-10-2005 by O–19420 N.S; effective 1-17-2008.)

§66.0604 Submittal of Waste Management Form and Diversion Deposit

Beginning on the 45th day after the City has notified the public, in the manner described in section 66.0606(e), that a *certified recycling facility* which accepts mixed *construction and demolition debris* is operating at a 50% *diversion* rate, within 25 miles of the City Administration Building located at 202 "C" Street, San Diego, or beginning on July 1, 2008, whichever is later:

(a) All *applicants* for a Building Permit or a Demolition/Removal Permit, including the City of San Diego, shall submit a properly completed *Waste Management Form Part I* with the Building Permit or Demolition/Removal Permit application, in accordance with the requirements set forth in the Land Development Manual; and

(b) All *applicants*, including the City of San Diego, shall pay a refundable deposit at the time the Building Permit or Demolition/Removal Permit is issued; and

(c) No Building Permit or Demolition/Removal Permit shall be issued unless the *applicant* has submitted a properly completed W*aste Management Form Part I* and paid the required deposit.

(Added 10-10-2005 by O–19420 N.S; effective 1-17-2008.)
(Amended 12-18-2007 by O-19694 N.S; effective 1-17-2008.)

§66.0605 Establishment of Construction and Demolition Debris Diversion Deposits

The City Council shall establish by resolution a schedule of c*onstruction and demolition debris diversion* deposits applicable to Building Permits and to Demolition/Removal Permits. The schedule shall be reviewed and adjusted periodically to ensure the purposes of this Division are met.

(Added 10-10-2005 by O–19420 N.S; effective 1-17-2008.)

§66.0606 Entitlement to Refund of Diversion Deposit

(a) An *applicant* is eligible for a refund of the deposit paid pursuant to Section 66.0604(b) provided the *applicant* submits the following directly to the *Director* within 180 days of the final inspection date for the *development* for which the deposit was paid*:*

(1) A properly completed W*aste Management Form Part II*, in accordance with the requirements set forth in the Land Development Manual, which demonstrates the *construction and demolition debris diversion* the *applicant* achieved for the *development.*

(2) Evidence satisfactory to the *Director* that the *construction and demolition debris* generated by the *development* was *diverted*, at the applicable *diversion* rate set forth in Section 66.0606(d) below, by one or more of the following methods:

(a) on-site reuse of the *construction and demolition debris*;

(b) acceptance of the *construction and demolition debris* by a *certified recycling facility*; or

(c) other donation or reuse of the *construction and demolition debris* acceptable to the *Director.*

For a commercial *development*, such as a shopping center, with a master developer which manages solid waste generated by the *development* as a whole and which has multiple commercial or retail tenants who may construct their own tenant improvements, the evidence satisfactory to the *Director* described in section 66.0606(a)(2) may include receipts from a *certified recycling facility(ies)* showing the cumulative weight or volume of *construction and demolition debris diverted* from the *development* within the 30 calendar days prior to the final inspection date referred to in section 66.0606(a).

(b) *Construction and demolition debris* shall be measured by weight or by volume, whichever is most accurate and practicable. To the extent practicable, all *construction and demolition debris* shall be weighed on a scale.

(1) For *construction and demolition debris* which is weighed, the *applicant* shall use a scale which is in compliance with all federal, state, and local regulatory requirements for accuracy and maintenance of such scale.

(2) For *construction and demolition debris* for which measurement by weight is not practicable, the *applicant* shall measure by volume and convert the volumetric measurements to weight using the standardized rates established in the City Construction and Demolition Debris Conversion Rate Tables.

(3) The *Director* reserves the right, when appropriate, to establish standard weights for various types of *construction and demolition debris* items based upon accepted average weights for such items. These standard weights shall be listed in the City Construction and Demolition Debris Conversion Rate Tables.

(c) Refunds will be based on proof, satisfactory to the *Director*, of the *construction and demolition debris diversion* the *applicant* achieved for the *development* for which the deposit was paid.

(d) If the *Director* determines the applicant is entitled to a refund, the amount of the refund shall be in the same proportion to the deposit paid by the *applicant* as the *diversion* rate achieved for the *development* is to the applicable *diversion* rate set forth below:

(1) For Building Permits or Demolition/Removal Permits issued on or after the actual effective date of Section 66.0604 through and including 180 calendar days from the actual effective date of Section 66.0604, the *diversion* rate shall be 50% by weight of the total *construction and demolition debris* generated by the *development*; and

(2) For Building Permits or Demolition/Removal Permits issued after 180 calendar days from the actual effective date of Section 66.0604, the *diversion* rate shall be 75% by weight of the total *construction and demolition debris* generated by the *development*, provided that a *certified recycling facility* which accepts mixed *construction and demolition debris* is operating within 25 miles of the City Administration Building located at 202 “C” Street, San Diego, at a 75% *diversion* rate as of 181 calendar days from the actual effective date of Section 66.0604. If such a facility is not in operation as of 181 calendar days from the actual effective date of Section 66.0604, the *diversion* rate shall remain as set forth in Section 66.0606(d)(1) until 30 days after the City has notified the public that such a facility is available, at which time the *diversion* rate shall increase to 75% by weight of the total *construction and demolition debris* generated by the *development*

(e) Notice under this Division may be given by placing a display advertisement of at least one-eighth page in a newspaper of general daily circulation within the City.

(f) The *Director* shall determine whether a *certified recycling facility* has reached a certain *diversion* rate.

(g) The *Director* shall refund a deposit paid or collected in error.

(h) If a Building Permit or Demolition/Removal Permit, for which a deposit has been paid, is subsequently cancelled, abandoned or expires before work on the *development* has commenced, the *Director* shall refund the deposit paid by the *applicant* upon the *applicant's* submittal to the *Director* of satisfactory proof of the cancellation, abandonment or expiration of the permit.

(i) The *Director* shall issue the refund to the *applicant* within the time established by City Council resolution.

(j) In no event shall the refund be in an amount greater than the deposit paid by the *applicant*.

(Added 10-10-2005 by O–19420 N.S; effective 1-17-2008.)
(Amended 12-18-2007 by O-19694 N.S; effective 1-17-2008.)

§66.0607 Certified Recycling Facilities

(a) After at least one public hearing, the *Director* shall establish rules and regulations for certifying facilities inside or outside the City for purposes of this Division including, but not limited to, criteria for determining the *diversion* rate achieved by the facility and for verifying that the facility has obtained all applicable permits and licenses. The *Director* shall publish in the official City newspaper a notice of the adoption or amendment of these rules and regulations. The *Director* shall certify facilities in accordance with those rules and regulations.

(b) Within ten working days after publication of the notice adopting the proposed rules and regulations pursuant to Section 66.0607(a), any person in disagreement with the proposed rules and regulations may request in writing to the *Director* that proposed rules and regulations be considered by the City Manager or designee. The proposed rules and regulations shall be considered by the City Manager or designee, who shall issue a written decision respecting the proposed rules and regulations within thirty days of the *Director's* receipt of the written request. The decision of the City Manager or designee with respect to the rules and regulations shall be final.

(Added 10-10-2005 by O–19420 N.S; effective 1-17-2008.)
(Amended 12-18-2007 by O-19694 N.S; effective 1-17-2008.)

§ 66.0608 Diversion Deposit Program Exemptions

(a) The following activities, alone or in combination with one another, are exempt from this Division, except if the activity or activities is/are undertaken in conjunction with *development* which otherwise is subject to this Division:

(1) Roofing projects that do not include the tear-off of the existing roof.

(2) Installation, replacement, or repair of a *retaining wall.*

(3) Installation, replacement, or repair of a carport, patio cover, balcony, trellis, or fireplace.

(4) Installation, replacement, or repair of a deck.

(5) Installation, replacement, or repair of a *fence.*

(6) Installation, replacement, or repair of a swimming pool or a spa.

(7) Installation, replacement, or repair of a pre-fabricated *sign* which does not require modification to the *structure* to which the *sign* is attached.

(8) Installation, replacement, or repair of storage racks.

(9) *Development* which requires only an electrical permit, only a plumbing permit, or only a mechanical permit.

(b) The following activities are exempt from this Division:

(1) *Development* which is expected to generate only *hazardous waste* and/or *hazardous substances*.

(2) *Development* for which the *construction and demolition debris* deposit is less than $200 as calculated by the Development Services Department or its successor.

(Added 10-10-2005 by O–19420 N.S; effective 1-17-2008.)
(Amended 12-18-2007 by O-19694 N.S; effective 1-17-2008.)

§66.0609 Unrefunded Diversion Deposits and Accrued Interest

A deposit which is not refunded or claimed in accordance with this Division is the property of the City. For purposes of each and every deposit and all interest accrued thereon, the relationship between the *applicant* and the City is that of debtor-creditor, respectively. All interest accruing on each deposit is the property of the City, and the *applicant* shall have no claim upon the interest.

(Added 10-10-2005 by O–19420 N.S; effective 1-17-2008.)

§66.0610 Use of Diversion Deposits and Accrued Interest

All deposits and accrued interest thereon shall be deposited into the Recycling Fund created pursuant to section 66.0135 of this Code. All deposits and accrued interest thereon shall be used solely and exclusively for the following purposes:

(a) payment of deposit refunds, as determined by the *Director*;

(b) payment of administrative costs of the Construction and Demolition Debris Diversion Program established by this Division;

(c) payment of costs of programs designed to encourage *diversion* of *solid waste* from landfill *disposal*;

(d) payment of costs of programs designed to develop or improve the infrastructure to *divert solid waste* from landfill *disposal*; or

(e) payment of costs to develop or improve infrastructure to *divert solid waste* from landfill *disposal*.

(Added 10-10-2005 by O–19420 N.S; effective 1-17-2008.)

Appendix II - Information Bulletin 119: Construction and Demolition Debris

THE CITY OF SAN DIEGO

REQUIREMENTS FOR RECYCLING AND DISPOSAL OF

Construction and Demolition Debris

CITY OF SAN DIEGO DEVELOPMENT SERVICES
1222 FIRST AVENUE, MS 301 SAN DIEGO, CA 92101-4101
CALL (619) 446-5300 FOR APPOINTMENTS AND (619) 446-5000 FOR INFORMATION

INFORMATION BULLETIN
119
AUGUST 2008

This Information Bulletin describes the Construction and Demolition (C&D) debris recycling requirements and refundable recycling deposit amounts for qualifying new construction, addition/alteration and demolition projects requiring permits in the City of San Diego.

I. QUALIFYING PROJECTS

Effective July 1, 2008, new construction, addition/alteration and demolition projects requiring building, combination and demolition permits are required to complete a Waste Management Form and pay a refundable recycling deposit at the time the permit is issued. Projects that do not meet the minimum square footage are not required to pay the recycling deposit. See C&D Debris Recycling Deposit Table for square footage thresholds. For other exempt project types, refer to Section IV.

II. COMPLETING WASTE MANAGEMENT FORM, PART I (WMF I)

A WMF I must be filled out for every qualifying permit. It includes the front side and the top portion of the back side. All the fields must be completely filled out at the planning stages of the project, before any work is done.

Forms are located in lobby of Development Services Department or on the web at www.sandiego.gov/environmental-services/recycling/cdrecycling.shtml

Contact's name, signature and information refer to the Refundable Party, the applicant who will pay for the invoice and whose name will be listed on the paid invoice.

C&D debris estimates shall be provided in tons. For C&D debris for which measurement by weight is not practicable, the applicant shall measure to weight using the standardized rates established in the *City's Construction and Demolition Debris Conversion Rate Table*. If any of the materials generated do not have a conversion factor listed, determine the quantity of the particular material and provide an estimate of the weight of the material.

Specify the Certified Recycling Facilities where the C&D debris will be taken for recycling. Certified Recycling Facilities must be used in order to be eligible for a deposit refund. Donating reusable goods is also acceptable with appropriate documentation, such as receipts and photos.

The completed WMF I is required at permit issuance. Be sure to keep a copy of the completed WMF I before it is turned in. It will be required as part of the documentation for your refund request.

Documents referenced in this Information Bulletin

- Waste Management Form

III. RECYCLING REQUIREMENT

The recycling rate is currently 50% by weight of the total C&D debris generated by the project. After 180 calendar days, the diversion rate shall be 75%, provided that a certified recycling facility is operating within 25 miles of the City Administration Building, which is located at 202 "C" Street, San Diego, at a 75% diversion rate as of 181 calendar days from the actual effective date.

The recycling requirement could be met by one or more of the following methods:

1. On-site or off-site reuse of the C&D debris;
2. Recycling of C&D debris at Certified Recycling Facilities; or
3. Other donation or reuse of the C&D debris acceptable to the Environmental Services Director (Director).

Save all recycling, reuse and disposal receipts from project related debris for requesting a refund. Photos proving donation and reuse of materials may be accepted, subject to the Director' approval, in certain cases as proof of evidence of reuse of the project debris. Photos must be accompanied by written volume estimates.

IV. EXEMPTIONS

The following projects, alone or in combination with one another, are exempt from the requirements, except if the project(s) is/are undertaken in conjunction with a project which otherwise is subject to the requirements:

A. Roofing projects that do not include the tear-off of the existing roof;
B. Installation, replacement or repair of: retaining wall; carport, patio cover, balcony, trellis or fireplace; deck; fence; swimming pool or spa; pre-fabricated sign which does not require modification to the structure to which

the sign is attached; storage racks;

C. Projects which require only an electrical, only a plumbing or only a mechanical permit;

D. Projects which are expected to generate only hazardous waste and/or hazardous substances; and

E. Projects for which the C&D debris deposit is less than $200.

V. REQUESTING C&D DEPOSIT REFUND

The applicant (Refundable Party) may be eligible for a refund of the deposit paid provided that the debris from the project was recycled at the applicable rate and that the applicant submits the following directly to the Director within 180 days from the passing final inspection date of the permit for which the deposit was paid:

A. A properly completed Waste Management Form II (WMF II) filled out on the back side of the copy of the completed WMF I, which was submitted when the permit was issued.

B. A copy of the completed WMF I, if not already submitted with WMF II.

C. Evidence, including all recycling, reuse and disposal receipts, photographs and other documentation, which clearly demonstrates that the C&D debris generated by the project was recycled at the applicable recycling rate.

Mailing address for the completed WMF II and all documentation:

City of San Diego
Environmental Services Department
Attn.: C&D Diversion Coordinator
9601 Ridgehaven Court, Suite 320
San Diego, CA 92123

Refunds will be based on proof, satisfactory to the Director, of the C&D debris recycling rate the applicant achieved for the permit for which the deposit was paid.

Refunds for projects recycling less than the required amount will be pro-rated according to the recycling rate achieved by the specific project.

Requests submitted after 180 days from the passing final inspection date will not be eligible for a refund. Incomplete requests, for which additional documentation or proof has not been submitted by the 180 days, will not be eligible for a refund.

If a permit, for which a deposit has been paid, is subsequently cancelled, abandoned or expires *before* any work on the project has commenced, the deposit paid by the applicant will be returned upon the applicant's submittal to the Director satisfactory proof of the cancellation, abandonment or expiration of the permit.

If a permit, for which a deposit has been paid, is subsequently cancelled, abandoned or expires *after* work on the project has commenced, the recycling requirement will apply to any and all work performed on the project.

VI. RECYCLING RESOURCES

Different projects generate different wastestreams. For example, debris from a demolition phase of a project is very different from debris from the construction phase. There is also a variety of hazardous waste found at any construction and demolition site. Knowing the type of debris your project will generate will help you better manage the proper recycling of each material, saving you time and money.

For additional information, a listing of certified recycling facilities, and/or technical assistance, contact the City of San Diego Environmental Services Department at (858) 694-7000 or visit the web site at: http://www.sandiego.gov/environmental-services/recycling/cdrecycling.shtml

C&D DEBRIS RECYCLING DEPOSIT TABLE

	Deposit/ Sq. Ft.	Minimum Sq. Ft. Subject to Deposit	Maximum Sq. Ft. Subject to Deposit	Range of Deposits
Residential New Construction -Detached	$0.40	500	125,000	$200 - $50,000
Residential New Construction - Attached	$0.40	500	100,000	$200 - $40,000
Non-Residential New Construction - Commercial	$0.20	1,000	25,000	$200 - $5,000
Non-Residential New Construction - Industrial	$0.20	1,000	75,000	$200 - $15,000
Non-Residential Alterations	$0.70	286	no maximum	$200 and up
Residential Demolition	$0.70	286	no maximum	$200 and up
Non-Residential Demolition	$0.20	1,000	no maximum	$200 and up
Flat Rate				
Roof Project with Tear-Off	--	all projects	--	$200
Residential Alterations	--	500 & above	--	$1,000

NEW Construction & Demolition (C&D) Deposit Schedule

Effective January 1, 2014

New Deposit Schedule - Effective January 1, 2014				
Deposit Types	Deposit/ Sq Ft	Minimum Sq Ft Subject to Ordinance	Maximum Sq Ft Subject to Deposit	Range of Deposits
Residential New Construction, Non-residential Alterations, Demolition	$0.40	1,000	100,000	$400 - $40,000
Non-residential New Construction	$0.20	1,000	50,000	$200 - $10,000
Flat Rate				
Residential Alterations*	$1,000	1,000	6,999	$1,000

* Residential Alterations 7,000 square feet and greater in size, and hotels are considered Non-Residential Alterations.

DEPOSIT AMOUNTS

Deposit amounts are applied to the entire area(s) where the work will be performed, and are calculated based on the square footage. Deposits are applied to each qualifying permit. Phased projects with multiple permits/approvals are subject to multiple deposits. Deposit type for mixed use buildings will be determined according to the largest use square footage, which will be applied to the entire square footage of the project. Deposits must be paid at the time of permit issuance and appear in the project invoice as "C&D Deposits." In order to be eligible for a full refund of the deposit, at least 50% by weight of the total C&D debris generated by the project must be recycled.

EXEMPTIONS:

The following projects, alone or in combination with one another, are exempt from the requirements, except if the project(s) is/are undertaken in conjunction with a project which otherwise is subject to the requirements:

A. Roofing projects;
B. Installation, replacement or repair of: retaining wall; fence; shade structure, awning or canopy; carport, patio cover, balcony, trellis or fireplace; deck; skylights, windows, doors, stair flights or poles; siding, stucco or veneer; swimming pool or spa; pre-fabricated sign or antenna which does not require modification to the structure to which the sign is attached; storage racks; partitions only; seismic tie-downs;
C. Modification, alteration or repair of facades;
D. Re-pipe repairs;
E. Foundation repairs;
F. Installation or replacement of a pre-fabricated modular building or mobile home;
G. Projects which require only an electrical permit, only a plumbing permit or only a mechanical permit;
H. Projects which do not require plans for a Building Permit;
I. Projects which are expected to generate only hazardous waste and/or hazardous substances; and
J. Projects for which the C&D debris deposit is less than $200.

Appendix III - City of San Diego 2016 Certified Construction & Demolition Recycling Facility Directory

THE CITY OF SAN DIEGO

2016 Certified Construction & Demolition Recycling Facility Directory

These facilities are certified by the City of San Diego to accept materials listed in each category. Hazardous materials are not accepted. The diversion rate for these materials shall be considered 100%, except mixed C&D debris which updates quarterly. The City is not responsible for changes in facility information. Please call ahead to confirm details such as accepted materials, days and hours of operation, limitations on vehicle types, and cost. For more information visit: www.recyclingworks.com.

Please note: In order to receive recycling credit, Mixed C&D Facility and transfer station receipts must: *-be coded as construction & demolition (C&D) debris* *-have project address or permit number on receipt* **Make sure to notify weighmaster that your load is subject to the City of San Diego C&D Ordinance.* ***Note about landfills: Miramar Landfill and other landfills do not recycle mixed C&D debris.***	**Mixed C&D Debris**	**Asphalt/Concrete**	**Brick/Block/Rock**	**Building Materials for Reuse**	**Cardboard**	**Carpet**	**Carpet Padding**	**Ceiling Tile**	**Ceramic Tile/Porcelain**	**Clean Fill Dirt**	**Clean Wood/Green Waste**	**Drywall**	**Industrial Plastics**	**Lamps/Light Fixtures**	**Metal**	**Mixed Inerts**	**Styrofoam Blocks**
EDCO Recovery & Transfer 3660 Dalbergia St, San Diego, CA 92113 619-234-7774 | www.edcodisposal.com/public-disposal	60%											●					
EDCO Station Transfer Station & Buy Back Center 8184 Commercial St, La Mesa, CA 91942 619-466-3355 | www.edcodisposal.com/public-disposal	60%				●							●			●		
EDCO CDI Recycling & Buy Back Center 224 S. Las Posas Rd, San Marcos, CA 92078 760-744-2700 | www.edcodisposal.com/public-disposal	84%				●										●		
Escondido Resource Recovery 1044 W. Washington Ave, Escondido 760-745-3203 | www.edcodisposal.com/public-disposal	60%																
Fallbrook Transfer Station & Buy Back Center 550 W. Aviation Rd, Fallbrook, CA 92028 760-728-6114 | www.edcodisposal.com/public-disposal	60%				●										●		
Otay C&D/Inert Debris Processing Facility 1700 Maxwell Rd, Chula Vista, CA 91913 619-421-3773 | www.sd.disposal.com	73%																
Ramona Transfer Station & Buy Back Center 324 Maple St, Ramona, CA 92065 760-789-0516 | www.edcodisposal.com/public-disposal	60%				●										●		
SANCO Resource Recovery & Buy Back Center 6750 Federal Blvd, Lemon Grove, CA 91945 619-287-5696 | www.edcodisposal.com/public-disposal	60%				●										●		
All American Recycling 10805 Kenney St, Santee, CA 92071 619-508-1155 (Must call for appointment)						●											
Allan Company 6733 Consolidated Wy, San Diego, CA 92121 858-578-9300 | www.allancompany.com/facilities.htm					●										●		
Allan Company Miramar Recycling 5165 Convoy St, San Diego, CA 92111 858-268-8971 | www.allancompany.com/facilities.htm					●										●		
AMS 4674 Cardin St, San Diego, CA 92111 858-541-1977 | www.a-m-s.com								●									
Armstrong World Industries, Inc. 300 S. Myrida St, Pensacola, FL 32505 877-276-7876 (Press 1, Then 8) www.armstrong.com/commceilingsna								●									
Cactus Recycling 8710 Avenida De La Fuente, San Diego, CA 92154 619-661-1283 | www.cactusrecycling.com					●								●		●		●
DFS Flooring 10178 Willow Creek Road, San Diego, CA 92131 858-630-5200 | www.dfsflooring.com						●	●										
Enniss Incorporated 12421 Vigilante Rd, Lakeside, CA 92040 619-443-9024 | www.ennissinc.com		●	●						●	●							

	Mixed C&D Debris	Asphalt/Concrete	Brick/Block/Rock	Building Materials for Reuse	Cardboard	Carpet	Carpet Padding	Ceiling Tile	Ceramic Tile/Porcelain	Clean Fill Dirt	Clean Wood/Green Waste	Drywall	Industrial Plastics	Lamps/Light Fixtures	Metal	Mixed Inerts	Styrofoam Blocks
Escondido Sand and Gravel 500 N. Tulip St, Escondido, CA 92025 760-432-4690 | www.weirasphalt.com/esg		●															
Habitat for Humanity ReStore 10222 San Diego Mission Rd, San Diego, CA 92108 619-516-5267 | www.sdhfh.org/restore.php				●													
Hanson Aggregates West – Lakeside Plant 12560 Highway 67, Lakeside, CA 92040 858-547-2141		●															
Hanson Aggregates West – Miramar 9229 Harris Plant Rd, San Diego, CA 92126 858-974-3849		●								●							
Hidden Valley Steel & Scrap, Inc. 1342 Simpson Wy, Escondido, CA 92029 760-747-6330															●		
HVAC Exchange 2675 Faivre St, Chula Vista, CA 91911 619-423-1855 | www.thehvacexchange.com															●		
IMS Recycling Services 2740 Boston Ave, San Diego, CA 92113 619-423-1564 | www.imsrecyclingservices.com					●								●				
IMS Recycling Services 2697 Main St, San Diego, CA 92113 619-231-2521 | www.imsrecyclingservices.com													●		●		
Inland Pacific Resource Recovery 12650 Slaughterhouse Canyon Rd, Lakeside, CA 92040 619-390-1418											●						
Lamp Disposal Solutions 1405 30th Street, San Diego, CA 92154 858-569-1807 | www.lampdisposalsolutions.com														●			
Universal Waste Disposal 8051 Wing Avenue, El Cajon, CA 92020 619-438-1093 | www.universalwastedisposal.com														●			
Los Angeles Fiber Company 4920 S. Boyle Ave, Vernon, CA 90058 323-589-5637 | www.lafiber.com						●	●										
Miramar Greenery, City of San Diego 5180 Convoy St, San Diego, CA 92111 858-694-7000 | www.sandiego.gov/environmental-services/miramar/greenery.shtml											●						
Moody's 3210 Oceanside Blvd., Oceanside, CA 92056 760-433-3316		●								●						●	
Otay Valley Rock, LLC 2041 Heritage Rd, Chula Vista, CA 91913 619-591-4717 | www.otayrock.com		●															
Pacific Steel, Inc. 1700 Cleveland Ave, National City, CA 91950 619-474-7081															●		
Reclaimed Aggregates Chula Vista 855 Energy Wy, Chula Vista, CA 91913 619-656-1836		●														●	
Reconstruction Warehouse 3650 Hancock St., San Diego, CA 92110 619-795-7326 | www.recowarehouse.com				●													
Robertson's Ready Mix 2094 Willow Glen Dr, El Cajon, CA 92019 619-593-1856		●								●						●	

	Mixed C&D Debris	Asphalt/Concrete	Brick/Block/Rock	Building Materials for Reuse	Cardboard	Carpet	Carpet Padding	Ceiling Tile	Ceramic Tile/Porcelain	Clean Fill Dirt	Clean Wood/Green Waste	Drywall	Industrial Plastics	Lamps/Light Fixtures	Metal	Mixed Inerts	Styrofoam Blocks
Romero General Construction Corp. 8354 Nelson Wy, Escondido, CA 92026 760-749-9312 | www.romerogc.com/crushing/nelsonway.htm		●															
SA Recycling 3055 Commercial St., San Diego, CA 92113 619-238-6740 | www.sarecycling.com															●		
SA Recycling 1211 S. 32nd St., San Diego, CA 92113 619-234-6691 | www.sarecycling.com															●		
Vulcan Carol Canyon Landfill and Recycle Site 10051 Black Mountain Rd, San Diego, CA 92126 858-530-9465 | www.vulcanmaterials.com/carrollcanyon		●	●							●						●	

Appendix IV - San Diego Municipal Code: Refuse and Recyclable Materials Storage Regulations

Article 2: General Development Regulations

Division 8: Refuse and Recyclable Materials Storage Regulations

(Added 12-9-1997 by O-18451 N.S.; effective 1-1-2000.)

§142.0801 Purpose of Refuse and Recyclable Materials Storage Regulations

The purpose of these regulations is to provide permanent, adequate, and convenient space for the storage and collection of refuse and *recyclable material*. The intent of these regulations is to encourage recycling of solid waste to reduce the amount of waste material entering landfills and to meet the recycling goals established by the City Council and mandated by the state of California.
(Added 12-9-1997 by O-18451 N.S.; effective 1-1-2000.)

§142.0805 When Refuse and Recyclable Materials Storage Regulations Apply

Refuse and recyclable materials storage shall be provided for the following types of *development* as indicated in Table 142-08A:

(a) New residential *development* projects involving two or more *dwelling units*,

(b) New nonresidential *development*, or

(c) Additions to existing *multiple dwelling unit* residential, commercial or industrial *development* where the *gross floor area* would be increased by 30 percent or more.

Table 142-08A
Refuse and Recyclable Material Storage Regulations
Applicability

Type of *Development* Proposal	**Applicable Regulations**	**Required Permit Type/Decision Process**
Development- of a *single dwelling unit*	Exempt from this division	Exempt from this division
New residential *development* involving two or more *dwelling units*	Sections 142.0810 and 142.0820	No permit required by this division
New nonresidential development	Sections 142.0810 and 142.0830	No permit required by this division
Additions to existing *multiple dwelling unit* residential, commercial, or industrial *development* where the *gross floor area* would be increased by 30 percent or more	Sections 142.0810, 142.0820 and 142.0830	No permit required by this division

(Added 12-9-1997 by O-18451 N.S.; effective 1-1-2000.)
(Amended 11-13-08 by O-19799 N.S; effective 12-13-2008.)

§142.0810 General Regulations for Refuse and Recyclable Material Storage

New residential *development* as indicated in Section 142.0805 shall provide on-site areas for the storage of refuse and *recyclable material* that meet the following standards:

(a) Size of Material Storage Areas. The size of required material storage areas shall meet or exceed the minimum requirements in Tables 142-08B and 142-08C.

(b) Location of Material Storage Areas

(1) Material storage areas may be located in a designated interior area that is not in a *dwelling unit*.

(2) Material storage areas may be located outside a *structure* in required rear *yards* or in required side *yards*. Exterior material storage areas shall not be located in any front *yard*, street side yard, *street yard* area, parking area, landscaped area, or any other area required by the Municipal Code to be constructed or maintained unencumbered according to fire or other applicable building or public safety laws.

(3) Material storage areas shall be accessible to occupants and haulers.

(4) *Premises* served by an *alley* shall provide material storage areas that are directly accessible from the *alley*.

(5) One *sign* identifying the material storage area is required for each area and shall be posted on the exterior of the material storage area near the point of access. The maximum *sign copy area* permitted for each *sign* shall be one square foot.

(6) For commercial *development* on *premises* not served by an *alley*, material storage areas shall be located at least 25 feet from any *street* or sidewalk.

(c) *Screening* of Material Storage Areas. Material storage areas located outside any *structure* shall be *screened* with a minimum 6-foot-high solid *screening* enclosure that is designed to be architecturally consistent with the primary *structure*. Refuse, *recyclable material*, and material storage containers shall not exceed the height of the solid *screening* enclosure.

(Added 12-9-1997 by O-18451 N.S.; effective 1-1-2000.)
(Amended 11-28-2005 by O-19444 N.S.; effective 2-9-2006.)
(Amended 11-13-08 by O-19799 N.S; effective 12-13-2008.)

§142.0820 Refuse and Recyclable Materials Storage Regulations for Residential Development

Applicable residential *development* in accordance with Section 142.0805, shall provide interior and exterior refuse and recycling storage areas as specified below:

(a) Interior Refuse and *Recyclable Material* Storage. Each *dwelling unit* shall be equipped with an interior refuse and *recyclable material* storage area.

(b) Exterior Refuse and *Recyclable Material* Storage. Each *structure* that contains *dwelling units* shall provide at least one exterior storage area. The total storage area~~s~~ requirement is based on the number of *dwelling units* in the *development* as shown in Table 142-08B and includes the sum of all residential material storage areas located outside of individual *dwelling units*.

Table 142-08B
Minimum Exterior Refuse and Recyclable Material Storage Areas for Residential Development

Number of Dwelling Units Per Development	**Minimum Refuse Storage Area Per Development** (Square Feet)	**Minimum *Recyclable Material* Storage Area Per Development** (Square Feet)	**Total Minimum Storage Area Per Development** (Square Feet)
2-6	12	12	24
7-15	24	24	48
16-25	48	48	96
26-50	96	96	192
51-75	144	144	288
76-100	192	192	384
101-125	240	240	480
126-150	288	288	576
151-175	336	336	672
176-200	384	384	768
201+	384 plus 48 square feet for every 25 dwelling units above 201	384 plus 48 square feet for every 25 dwelling units above 201	768 plus 96 square feet for every 25 dwelling units above 201

(Added 12-9-1997 by O-18451 N.S.; effective 1-1-2000.)
(Amended 3-1-2006 by O-19468 N.S.; effective 4-1-2006.)
(Amended 11-13-08 by O-19799 N.S; effective 12-13-2008.)

§142.0830 Refuse and Recyclable Material Storage Regulations for Nonresidential Development

(a) All new nonresidential *development*, or additions to existing commercial or industrial *development* where the *gross floor area* would be increased by 30 percent or more, shall provide at least one exterior refuse and *recyclable material* storage area for each building. The total storage area requirement is based on the *gross floor area* of the nonresidential buildings on the *premises*, as shown in Table 142-08C and includes the sum of all nonresidential refuse and recyclable material storage areas.

(b) Where a *development* includes residential as part of a mixed use project, the *development* shall provide refuse and *recyclable material* storage for the residential portion of the project in accordance with Table 142-08B, in addition to the storage areas required by Table 142-08C for the nonresidential *development*.

Table 142-08C
Minimum Exterior Refuse and Recyclable Material Storage Areas for Nonresidential Development

Gross Floor Area Per Development (Square Feet)	**Minimum Refuse Storage Area Per Development** (Square Feet)	**Minimum *Recyclable Material* Storage Area Per Development** (Square Feet)	**Total Minimum Area Per Development** (Square Feet)
0-5,000	12	12	24
5,000-10,000	24	24	48
10,001-25,000	48	48	96
25,001-50,000	96	96	192
50,001-75,000	144	144	244
75,001-100,000	192	192	384
100,001+	192 plus 48 square feet for every 25,000 square feet of building area above 100,001	192 plus 48 square feet for every 25,000 square feet of building area above 100,001	384 plus 96 square feet for every 25,000 square feet of building area above 100,001

(Added 12-9-1997 by O-18451 N.S.; effective 1-1-2000.)
(Amended 11-13-08 by O-19799 N.S; effective 12-13-2008.)

Appendix V - San Diego Municipal Code: Recycling Ordinance

Article 6: Collection, Transportation and Disposal of Refuse and Solid Waste

Division 7: Recycling Ordinance

("Recycling Ordinance"
Added 11-20-2007 by O–19678 N.S.; effective 12-20-2007.)

§66.0701 Findings

The Council of the City of San Diego finds and declares that:

(a) The City operates the Miramar Landfill, which is currently the only municipal landfill in the City. The Miramar Landfill currently is expected to close between 2011 and 2013. Preserving landfill capacity at the Miramar Landfill in order to extend the useful life of the Miramar Landfill for the citizens of the City is a paramount concern.

(b) The City has met (for 2004 and 2005) and continues to make progress in maintaining the waste *diversion* requirements imposed by *AB 939*, but additional efforts, particularly in the *recycling* of paper, cardboard, and other *recyclable materials*, will assist the City in maintaining and exceeding the goal of *diverting* 50% of its waste from landfill *disposal*.

(c) Studies show that approximately 21% of the waste generated in the City of San Diego and delivered for landfill *disposal* is paper and 16% is compostable organics, all of which could be *diverted* from landfill *disposal*.

(d) Efforts by the City and the private sector to encourage voluntary *diversion* of residential, commercial, and special event waste have not been as successful as the City had hoped and additional efforts are necessary to ensure continued compliance with *AB 939* requirements.

(e) *Recycling* programs in other jurisdictions in the State, similar to the one implemented by this Division, have proven successful in increasing *diversion* of *recyclable materials* and have been favorably received by the California Integrated Waste Management Board.

(Added 11-20-2007 by O–19678 N.S.; effective 12-20-2007.)

§66.0702 Purpose

The purpose of this Division is to establish requirements for *recycling* of *recyclable materials* generated from residential facilities (both single family and multi-family), commercial facilities (including City buildings), and special events. These requirements are intended to increase the *diversion* of *recyclable materials* from landfill *disposal*, conserve the capacity and extend the useful life of the Miramar Landfill, reduce greenhouse gas emissions, and avoid the potential financial and other consequences to the City of failing to meet *AB 939* requirements.

(Added 11-20-2007 by O–19678 N.S.; effective 12-20-2007.)

§66.0703 Definitions

All defined terms in this Division appear in *italics*. For purposes of this Division, the following definitions apply:

AB 939 has the same meaning as set forth in Section 66.0102 of this Article.

Certified Recyclable Materials Collector means a *Recyclable Materials Collector* which has been issued a certificate by the City pursuant to this Division.

Collect or *Collection* shall mean to take physical possession of and remove *solid waste* or *recyclable materials* at the place of generation.

Commercial facilities means any facilities that are not *residential facilities* or *mixed use facilities*. *Commercial facilities* includes City buildings for which the *responsible person* is a City of San Diego employee.

Department means the City of San Diego Environmental Services Department or its successor.

Director has the same meaning as set forth in Section 66.0102 of this Article.

Disposal means the final deposition of waste at a permitted landfill or other permitted waste facility.

Diversion or *Divert* means the reduction or elimination of *solid waste* from landfill *disposal*.

Franchisee has the same meaning as set forth in Section 66.0102 of this Article.

Mixed use facilities means facilities which include both residential and commercial uses.

Person has the same meaning as set forth in Section 66.0102 of this Article.

Recyclable has the same meaning as set forth in Section 66.0102 of this Article.

Recyclable Materials has the same meaning as set forth in Section 66.0102 of this Article.

Recyclable Materials Collector has the same meaning as set forth in Section 66.0102 of this Article.

Recycling or *Recycle* has the same meaning as set forth in Section 66.0102 of this Article.

Recycling facility means a *recycling*, composting, or materials recovery or reuse facility.

Refuse has the same meaning as set forth in Section 66.0102 of this Article.

Residential facility has the same meaning as set forth in Section 66.0127(a)(4) of this Article.

Responsible person has the same meaning as set forth in Section 11.0210 of the San Diego Municipal Code including, but not limited to, the individual or entity responsible for the management of *solid waste* at the *residential*, *commercial* or *mixed use facility* or special event for *disposal* or *recycling*.

Self-haul means the process of personally, or through one's own full-time employees, *collecting*, transporting, and delivering one's own *solid waste* or *recyclable materials.*

Solid waste has the same meaning as set forth in Section 66.0102 of this Article.

(Added 11-20-2007 by O–19678 N.S.; effective 12-20-2007.)

§66.0704 Unlawful Acts

It is unlawful for any *person* to fail to comply with any provision or requirement set forth in this Division which is applicable to such *person.*

(Added 11-20-2007 by O–19678 N.S.; effective 12-20-2007.)

§66.0705 Recycling Requirement for Persons Serviced by City of San Diego

Effective January 1, 2008, *persons* who are provided with curbside *recycling collection* services by the City of San Diego shall participate in the City curbside *recycling* program by separating *recyclable materials* from other *solid waste* and depositing the *recyclable materials* in the approved *recycling* container.

(Added 11-20-2007 by O–19678 N.S.; effective 12-20-2007.)

§66.0706 Recycling Requirement for Residential Facilities Serviced by Franchisee

(a) Occupants of Single Family *Residential Facilities*. Effective on the 90th day after the date of final passage of the ordinance adopting this Division, occupants of single-family *residential facilities* which receive *solid waste collection* service from a *Franchisee* shall participate in a curbside *recycling* program, offered by the *Franchisee* or a *Recyclable Materials Collector*, by separating *recyclable materials* from other *solid waste* and depositing the *recyclable materials* in the *recycling* container provided by the *Franchisee* or *Recyclable Materials Collector*.

(b) Single Family *Residential Facilities* Managed by Association. For single family *residential facilities*, whose *solid waste collection* services are managed by an association or other organization responsible for providing for *solid waste collection* services to multiple single family *residential facilities* within a housing development, the *responsible person* for the association or other organization shall provide curbside *recycling* services to each single family *residential facility* in compliance with the requirements in sections 66.0706(e) and 66.0706(f), beginning on the 90th day after the date of final passage of the ordinance adopting this Division.

(c) Multi-Family *Residential Facilities*. For multi-family *residential facilities* which receive *solid waste collection* service from a *Franchisee*, the responsible *person* shall provide on-site *recycling* services to occupants as required by this Division, by the following dates:

(1) The 90th day after the date of final passage of the ordinance adopting this Division, for multi-family *residential facilities* with 100 *residential* units or more;

(2) January 1, 2009, for multi-family *residential facilities* with at least 50 but not more than 99 *residential* units; and

(3) January 1, 2010, for multi-family *residential facilities* with up to 49 *residential* units.

(d) Occupants of Multi-Family *Residential Facilities*. Occupants of multi-family *residential facilities* which receive *solid waste collection* service from a *Franchisee* shall participate in a *recycling* program by separating *recyclable materials* from other *solid waste* and depositing the *recyclable materials* in the *recycling* container provided by the *Franchisee* or *Recyclable Materials Collector*, beginning on the applicable dates specified in Section 66.0706(c).

(e) *Recycling* Services. The *recycling* services required by this Section 66.0706 shall include, at a minimum, all of the following:

(1) *collection* of *recyclable materials* at least two times per month;

(2) *collection* of plastic bottles and jars, paper, newspaper, metal containers, cardboard, and glass containers;

(3) utilization of *recycling* receptacles which comply with the standards in the Container and Signage Guidelines established by the *Department*;

(4) designated *recycling collection* and storage areas; and

(5) signage on all *recycling* receptacles, containers, chutes, and/or enclosures which complies with the standards described in the Container and Signage Guidelines established by the *Department.*

(f) Occupant Education. For multi-family *residential facilities,* the *responsible person* shall ensure that occupants are educated about the *recycling* services as follows:

(1) Information, including the types of *recyclable materials* accepted, the location of *recycling* containers, and the occupants responsibility to *recycle* pursuant to this Division, shall be distributed to all occupants annually;

(2) All new occupants shall be given information and instructions upon occupancy; and

(3) All occupants shall be given information and instructions upon any change in *recycling* service to the facility.

(Added 11-20-2007 by O–19678 N.S.; effective 12-20-2007.)

§66.0707 Recycling Requirements for Commercial Facilities Serviced by Franchisee

(a) *Commercial facilities*. For *commercial facilities* which receive *solid waste collection* services from a *Franchisee,* the *responsible person* shall provide on-site *recycling* services to occupants as required by this Division, by the following dates:

(1) The 90th day after the date of final passage of the ordinance adopting this Division, for *commercial facilities* of 20,000 square feet or more;

(2) January 1, 2009, for *commercial facilities* of 10,000 square feet or more, but less than 20,000 square feet; and

(3) January 1, 2010, for *commercial facilities* under 10,000 square feet.

(b) Occupants of *Commercial Facilities*. Occupants of *commercial facilities* which receive *solid waste collection* service from a *Franchisee,* shall participate in a *recycling* program by separating *recyclable materials* from other *solid waste* and depositing the *recyclable materials* in the *recycling* container provided by the *Franchisee* or *Recyclable Materials Collector*, beginning on the applicable dates specified in Section 66.0707(a).

(c) *Recycling* Services. The *recycling* services required by this Section 66.0707 shall include, at a minimum, all of the following:

(1) *collection* of *recyclable materials* as frequently as necessary to meet demand;

(2) *collection* of plastic bottles and jars, paper, newspaper, metal containers, cardboard, and glass containers;

(3) *collection* of other *recyclable materials* for which markets exist, such as scrap metal, wood pallets, and food waste, as determined by the *Director,* with *collection* of such *recyclable materials* required beginning on the 181st day after the City gives public notice thereof by placing a display advertisement of at least one-eighth page in a newspaper of general daily circulation within the City and posting a notice including such *recyclable materials* on a list maintained on the *Department's* website;

(4) utilization of *recycling* receptacles or containers which comply with the standards in the Container and Signage Guidelines established by the *Department*;

(5) designated *recycling collection* and storage areas; and

(6) signage on all *recycling* receptacles, containers, chutes, and/or enclosures which complies with the standards described in the Container and Signage Guidelines established by the *Department*

(d) Occupant Education. For *commercial facilities*, the *responsible person* shall ensure that occupants are educated about the *recycling* services as follows:

(1) Information, including the types of *recyclable materials* accepted, the location of *recycling* containers, and the occupants responsibility to *recycle* pursuant to this Division, shall be distributed to all occupants annually;

(2) All new occupants shall be given information and instructions upon occupancy; and

(3) All occupants shall be given information and instructions upon any change in *recycling* service to the *commercial facility*.

(Added 11-20-2007 by O–19678 N.S.; effective 12-20-2007.)

§66.0708 Recycling Requirements for Mixed Use Facilities

(a) Majority Residential. For a *mixed use facility* which has the majority of its square footage devoted to residential uses, the *responsible person* shall comply with the *recycling* requirements set forth in Section 66.0706 of this Division.

(b) Majority Commercial. For a *mixed use facility* which has the majority of its square footage devoted to commercial uses, the *responsible person* shall comply with the *recycling* requirements set forth in Section 66.0707 of this Division.

(c) Occupants of Majority Residential *Mixed Use Facility*. Occupants of a *mixed use facility* which has the majority of its square footage devoted to residential uses, shall comply with the *recycling* requirements applicable to occupants set forth in Section 66.0706 of this Division.

(d) Occupants of Majority Commercial *Mixed Use Facility*. Occupants of a *mixed use facility* which has the majority of its square footage devoted to commercial uses, shall comply with the *recycling* requirements applicable to occupants set forth in Section 66.0707 of this Division.

(Added 11-20-2007 by O–19678 N.S.; effective 12-20-2007.)

§66.0709 Delivery of Recyclable Materials to Recycling Facility

Franchisees and *Recyclable Materials Collectors* who *collect recyclable materials* generated within the City shall deliver those *recyclable materials* to a *recycling facility*. *Persons* who *self-haul recyclable materials* must deliver those *recyclable materials* to a *recycling facility*. The *recycling facility* may be located at a landfill, but *recyclable materials* generated within the City shall not be delivered to a landfill or other site for *disposal*.

(Added 11-20-2007 by O–19678 N.S.; effective 12-20-2007.)

§66.0710 Recycling Containers

(a) Container Signage. Automatic lift containers, bins, roll-offs, and other containers provided by *Franchisees* and *Recyclable Materials Collectors* to *collect* and store *recyclable materials* pending *collection* shall be clearly identified as a *recyclable materials* container, shall display the name and phone number of the *Franchisee or Recyclable Materials Collector* to whom the container belongs, and shall display a list of the *recyclable materials* which may be deposited into the container.

(b) Container Features. Automatic lift containers, bins, roll-offs, and other containers used to *collect* and store *recyclable materials* pending *collection* shall be equipped with close-fitting lids and be leak-proof and rodent-proof.

(Added 11-20-2007 by O–19678 N.S.; effective 12-20-2007.)

§66.0711 Annual Reports from Franchisees and Recyclable Materials Collectors

(a) *Franchisees* and *Certified Recyclable Materials Collectors* shall submit an annual report by August 15 of each year, beginning August 15, 2008, to the *Department*, on a form or using a format prescribed by the *Director*. Annual reports shall include the following information for each facility serviced within the City for the period June 30 through July 1 of the immediately preceding twelve month period:

(1) The name of the *person(s*) responsible for *solid waste* and/or *recyclable materials* management at the facility serviced;

(2) The name and address of the facility serviced;

(3) The volume in cubic yards or gallons, measured by the size of the applicable containers in use at the facility, of *solid waste* and *recyclable materials collected* per week from the facility;

(4) The frequency of *solid waste* and *recyclable materials collection* service provided to the facility; and

(5) Additional information as required by the *Director*.

(b) *Franchisees* and *Recyclable Materials Collectors* also shall include in the annual reports for the time period specified in section 66.0711(a) the following information:

(1) The total amount of *recyclable materials*, measured in tons, *collected* by the *Franchisee* or *Recyclable Materials Collector* within the City; and

(2) The names and addresses of the *recycling facilities* to which the *recyclable materials collected* within the City were delivered for *recycling.*

(Added 11-20-2007 by O–19678 N.S.; effective 12-20-2007.)

§66.0712 Special Events Recycling

(a) For a community special event requiring an event permit from the City of San Diego, the *responsible person* shall provide *recycling* receptacles throughout the event venue, effective beginning on the 90th day after the date of final passage of the ordinance adopting this Division.

(b) The number of *recycling* receptacles shall equal the number of *solid waste* receptacles.

(c) The *solid waste* and *recycling* receptacles shall be placed next to one another throughout the event venue.

(d) The types of *recyclable materials* suitable for deposit into each *recycling* receptacle shall include, at a minimum, aluminum and metal cans, and glass and plastic bottles and jars.

(e) Each *recycling* receptacle shall be clearly identified as a *recycling* receptacle and shall display a list of the types of *recyclable materials* which may be deposited into the *recycling* receptacle.

(f) The *responsible person* shall ensure that the *recyclable materials* deposited into the *recycling* receptacles are delivered to a *recycling facility.* The *recycling facility* may be located at a landfill, but *recyclable materials* shall not be delivered to a landfill for *disposal*.

(Added 11-20-2007 by O–19678 N.S.; effective 12-20-2007.)

§66.0713 Exemptions

(a) Six cubic yard exemption. *Multi-family residential facilities, commercial facilities,* and *mixed use facilities* which generate 6 cubic yards or less per week of *solid waste,* including *recyclable materials* mixed with *solid waste,* are exempt from the requirements of this Division. The 6 cubic yard threshold may be decreased at the discretion of the City Manager effective 90 days after the City has notified the public thereof by placing a display advertisement of at least one-eighth page in a newspaper of general daily circulation within the City and posting a notice on the *Department's* website.

(b) Other Exemptions. Other exemptions to some or all of the requirements of this Division may be granted at the discretion of the *Director's* designee. Applications for exemptions may be granted upon consideration of the following factors: available markets for *recyclable materials,* available space for *recycling* containers, alternative *recycling* efforts, and the amount and type of *solid waste* or *recyclable materials* generated. To be effective, an exemption must be in writing and signed by the *Director's* designee. An exemption may be revoked at any time at the discretion of the *Director's* designee if one or more of the factors justifying the exemption no longer exist, or other change in circumstances warrant revocation. Unless earlier revoked, an exemption shall be effective for a period of one year from the date it was granted. Subsequent applications for exemptions may be granted at the discretion of the *Director's* designee upon consideration of the factors listed in this section 66.0713(b).

(c) Application for Exemption. Applications for an exemption shall be submitted to the *Department* in writing, on a form approved by the *Director,* together with a cost-recovery processing fee. The processing fee shall be reviewed annually by the City Manager and adjusted accordingly to ensure full cost-recovery for processing the application for exemption.

(d) If the *Director's* designee denies an application for an exemption, the *Director's* designee shall notify the applicant in writing of the reasons for the denial. The denial of an application for an exemption or the revocation of an exemption may be appealed to the *Director,* whose decision shall be final.

(Added 11-20-2007 by O–19678 N.S.; effective 12-20-2007.)

§66.0714 Certified Recyclable Materials Collector

(a) *Certified Recyclables Materials Collector*. A *Recyclable Materials Collector* may apply to the *Director* to become a *Certified Recyclable Materials Collector.* The certification will be valid for no more than two years after the date it is issued by the *Director.* The *Director* shall maintain a current list of *Certified Recyclable Materials Collectors* on the *Department's* website and in other educational materials published by the *Department.*

(b) Application Form and Fee. Applicants for a *recyclable materials collector* certificate shall complete and submit to the *Director* a written application, on a form approved by the *Director,* together with a cost-recovery processing fee. The processing fee shall be reviewed annually by the City Manager and adjusted accordingly to ensure full cost-recovery for processing the application for certification. The application shall include, at a minimum, all of the following:

(1) name, address, and telephone number of the applicant;

(2) name, address, and telephone number of an individual contact for the applicant;

(3) description of each vehicle the applicant will use to provide *recyclable materials collection* services within the City including, but not limited to make, model, serial or vehicle identification number, and license number;

(4) address where all vehicles and operating equipment used to provide *recyclable materials collection* services within the City will be stored and maintained;

(5) the applicant's agreement to defend, with counsel to be agreed upon by both parties, indemnify, and hold harmless, City and its agents, officers, servants, and employees from and against any and all claims asserted or liability established for damages or injuries to any person or property, including injury to City's employees, agents, or officers which arise from, or are connected with, or are caused or claimed to be caused by acts or omissions of the applicant, or its agents, officers or employees, in the performance of the *recyclable materials collection* services, and all costs and expenses of investigating and defending against same; provided, however, that the applicant's duty to indemnify and hold harmless shall not include any claims or liability arising from the established active negligence, sole negligence, or sole willful misconduct of the City, its agents, officers, or employees;

(6) without limiting the indemnification obligation above, the applicant's agreement to obtain and maintain in full force and effect throughout the term of the *recyclable materials collector* certificate, and any extensions or modifications thereof, insurance coverage which meets or exceeds the requirements established by the *Director;* and

(7) A written statement certifying that the applicant has reviewed and will comply with the requirements of this Division and in the certificate.

(c) Insurance. The *Director*, in consultation with the City's Risk Management Department, shall establish minimum reasonable insurance requirements for *Certified Recyclable Materials Collectors*. Simultaneously with the submittal of its application, the applicant shall furnish proof satisfactory to the *Director* that the applicant has obtained the required insurance coverage. Annually on each anniversary of the issuance of the certificate, the applicant shall furnish proof satisfactory to the Director that the applicant maintains at least the minimum required insurance coverage.

(d) Vehicles and Equipment. All vehicles, containers, and other equipment used to provide the *recyclable materials collection* services shall be kept in a clean and well-maintained condition.

(e) Container Signage. Automatic lift containers, bins, roll-offs, and other containers used to *collect* and store *recyclable materials* pending *collection* shall be clearly identified as a *recyclable materials* container, shall display the name and phone number of the *Certified Recyclable Materials Collector* to whom the container belongs, and shall display a list of the *recyclable materials* which may be deposited into the container.

(f) Container Features. Automatic lift containers, bins, roll-offs, and other containers used to *collect* and store *recyclable materials* pending *collection* shall be equipped with close-fitting lids and be leak-proof and rodent-proof.

(g) Compliance with Law. *Certified Recyclable Materials Collectors* shall conduct all of their activities in compliance with all applicable federal, state, and local laws, regulations, ordinances, and requirements and shall be responsible for obtaining all applicable permits, licenses, certifications, and registrations.

(h) Application Verification. The *Director* may independently verify any and all statements made or implied in the application or any accompanying documents. The *Director* may also request clarification from the applicant of any such statements or information.

(i) Application Review. In reviewing each application, the *Director* shall take into consideration all components of the application including, but not limited to:

(1) the ability of the applicant to meet the requirements of this Division and the certificate;

(2) any history of criminal or civil violations that may compromise the public's interest; and

(3) the completeness, accuracy, and validity of the application.

(j) Application Determination. After a reasonable review period, the *Director* shall grant or deny the application. If the *Director* fails to grant an application after thirty days from the receipt of a complete application, including accompanying documentation, the applicant may at the applicant's option deem the application denied. If the *Director* denies an application, the *Director* shall notify the applicant in writing of the reasons for the denial.

(k) Certificate Revocation. The *Director* may revoke a certificate if the *Director* determines, after providing notice and an opportunity for a hearing, that a C*ertified Recyclable Materials Collector* has violated the provisions in the certificate or any applicable law. If the *Director* revokes a certificate, the *Director* shall notify the applicant in writing of the reasons for the revocation.

(l) Appeal Upon Denial of Application or Revocation of Certificate. Within thirty days after the issuance of a written notice of the denial of an application or the revocation of a certificate, the applicant or C*ertified Recyclable Materials Collector* may request in writing to the *Director* that the City Manager review the *Director's* decision. Within thirty days of the Department's receipt of such a request, a meeting with the City Manager or designee shall be scheduled to review the items cited in the written notice. At that meeting, the applicant or C*ertified Recyclable Materials Collector* may provide any additional information in support of their position. Within thirty days of such a meeting, the City Manager will issue a written decision on the application or revocation, which shall include the reasons for the decision. The City Manager's decision shall be final. A copy of the City Manager's written decision shall be provided to the applicant or *Certified Recyclable Materials Collector* and the *Director*.

(Added 11-20-2007 by O–19678 N.S.; effective 12-20-2007.)

§66.0715 Self-Haul and Use of Non-Certified Recyclable Materials Collector

(a) Nothing in this Division shall preclude any *person* from *self-hauling recyclable materials* generated by that *person* to a *recycling* facility.

(b) The *responsible person* for a multi-family *residential facility, commercial facility, mixed use facility,* or association or organization described in section 66.0706(b), which *self-hauls solid waste* to a *disposal* facility shall comply with the *recycling* requirements in this Division applicable to that multi-family *residential facility, commercial facility, mixed use facility,* or association or organization described in section 66.0706(b).

(c) Except for occupants of single family *residential facilities,* a *person* who *self-hauls solid waste* to a *disposal* facility and/or *self-hauls recyclable materials* to a *recycling* facility shall comply with the reporting requirements set forth in section 66.0711(a).

(d) Except for occupants of single family *residential facilities,* a *person* who uses the services of a *recyclable materials collector,* which is neither a *Franchisee* nor a *Certified Recyclable Materials Collector,* to collect, transport, and deliver *recyclable materials* generated by that *person* to a *recycling* facility, shall comply with the reporting requirements set forth in section 66.0711(a).

(Added 11-20-2007 by O–19678 N.S.; effective 12-20-2007.)

§66.0716 Selling or Donating Recyclable Materials

Nothing in this Division shall preclude any *person* from selling or exchanging at fair market value, for reuse or *recycling,* source-separated *recyclable materials* generated by that *person* or from donating to another entity, for reuse or *recycling,* source-separated *recyclable materials* generated by that *person.*

(Added 11-20-2007 by O–19678 N.S.; effective 12-20-2007.)

§66.0717 Scavenging of Recyclable Materials Prohibited

(a) No *person* other than the *person* under contract with the generator of the *recyclable materials* to *collect* the *recyclable materials,* shall remove or otherwise interfere with *recyclable materials* which have been placed at a designated *recycling* or *recyclable materials collection* location.

(b) No *person* shall be guilty of a violation of this section 66.0717 unless the *person* knew or reasonably should have known that the *recyclable materials* were set out for purposes of *collection* by another *person* authorized to *collect* the *recyclable materials.*

(Added 11-20-2007 by O–19678 N.S.; effective 12-20-2007.)

§66.0718 Enforcement

(a) Authority. The *Director* is authorized to administer and enforce the provisions of Chapter 6, Article 6, Division 7 of this Code. The *Director* or anyone designated by the *Director* to be an *enforcement official* may exercise any enforcement powers as provided in Chapter 1 of this Code.

(b) Remedies. It is unlawful to violate any provision or requirement of Division 7. The failure to comply with any requirement of Division 7 constitutes a violation of Division 7. Each instance of a violation of Division 7 is a separate offense. Violations of the provisions or requirements of Division 7 may be prosecuted as misdemeanors subject to the penalties provided in section 12.0201 of this Code. The *Director* or designee may seek injunctive relief or civil penalties in the Superior Court pursuant to section 12.0202 of this Code or may pursue any administrative remedy provided in Chapter 1, Article 2, Divisions 3 through 10 inclusive, of this Code.

(c) Remedies Cumulative. Remedies under section 66.0718 are in addition to and do not supersede or limit any and all other remedies, civil or criminal. The remedies provided for herein shall be cumulative and not exclusive.

(d) Strict liability. Except as otherwise set forth in section 66.0717, violations of Division 7 shall be treated as strict liability offenses regardless of intent.

(Added 11-20-2007 by O–19678 N.S.; effective 12-20-2007.)