I:\PROJECTS\W1\WDG\WDG-01_TheJunipers\Map\EIR\Figs.3-5h_LandscapePlan.indd LEN-84 1/6/2020 - SAB

Source: Schmidt Design Group 2019

MATCHLINE - SEE SHEET L9

MATCHLINE - SEE SHEET L10

MATCHLINE - SEE SHEET L7

GAS EASEMENT

PROPERTY LINE

PVT. DRWY. "O"

PVT. DRWY. "N"

PVT. DRWY. "B"

42" TALL LOW WALL, TYP.

8' SOUND WALL

6' WIDE D.G. SOCIAL LOOP TRAIL, TYP.

10' WIDE D.G. PEDESTRIAN WAY

ENHANCED PAVING AT CROSSWALKS, TYP.

6' TALL PRIMARY COMMUNITY WALL, TYP.

ENHANCED PAVING AT CLUSTER UNITS, TYP.

6' TALL PRIVACY FENCE TYP.

4' WIDE CONCRETE SIDEWALK, TYP.

TRAIL NODE: INTERPRETIVE SIGNAGE AND OVERLOOK

TRAIL NODE: SEATING AREA

18' WIDE CONCRETE BASIN MAINTENANCE ACCESS ROAD

BIORETENTION BASIN, SEE CIVIL PLANS

18' WIDE D.G. BASIN MAINTENANCE ACCESS ROAD

SEWER EASEMENT

MSE WALL. SEE CIVIL PLANS FOR ADDITIONAL INFORMATION, TYP.

CONCEPTUAL MITIGATION AREA BOUNDARY, SEE BIOLOGICAL REPORT FOR ADDITIONAL INFORMATION.

42" TALL HABITAT MITIGATION FENCE

MOW CURB AT SITE PERIMETER

WALL / FENCING LEGEND:

- MSE WALL PER CIVIL PLANS
- RETAINING WALL PER CIVIL PLANS
- 6' TALL PRIMARY COMMUNITY WALL
- SOUND WALL (HEIGHT VARIES)
- 6' TALL SECONDARY COMMUNITY WALL
- 6' TALL VIEW FENCE
- 6' TALL PRIVACY FENCE
- 42" TALL LOW WALL
- ACCENT WALL
- 42" HABITAT MITIGATION FENCE

PLANTING ZONES:

- CONCEPTUAL MITIGATION AREA
- BIORETENTION AREA
- LOOP TRAIL / OPEN SPACE
- STREETSCAPE
- ENHANCED AREA
- TURF AREA
- AGRICULTURAL USE AREA

KEYMAP NTS

L12 L11 L10 L9 L8 L7 L4 L6 L3 L5 L2

0 15 30 60

NORTH

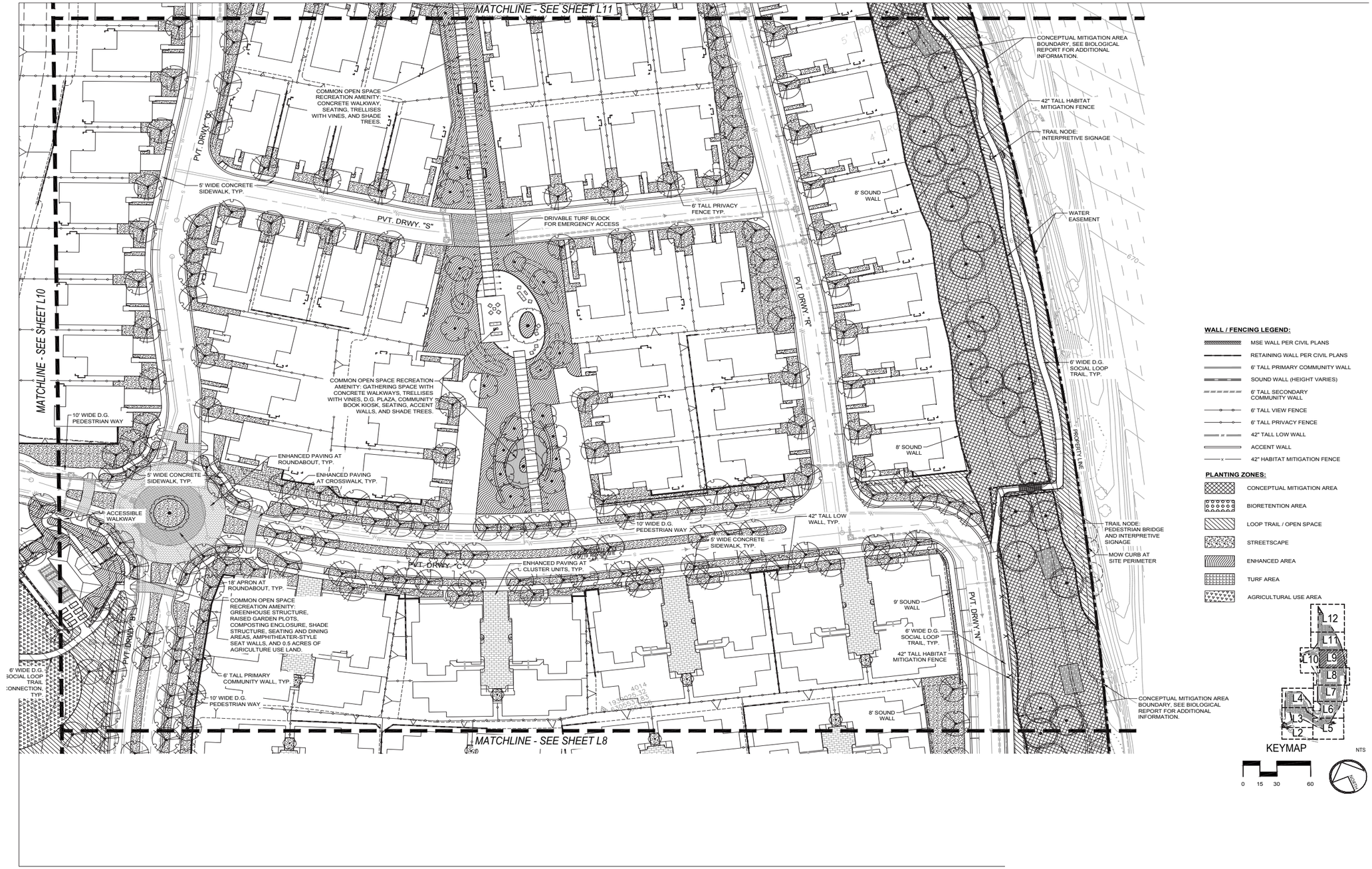
I:\PROJECTS\W\NDG\NDG-01_TheJunipers\Map\EIR\Figs.3-5_LandscapePlan.indd LEN-84 1/6/2020 - SAB

Source: Schmidt Design Group 2019

HELIX Environmental Planning

Landscape Plan (Sheet L8)

Figure 5.3-5i



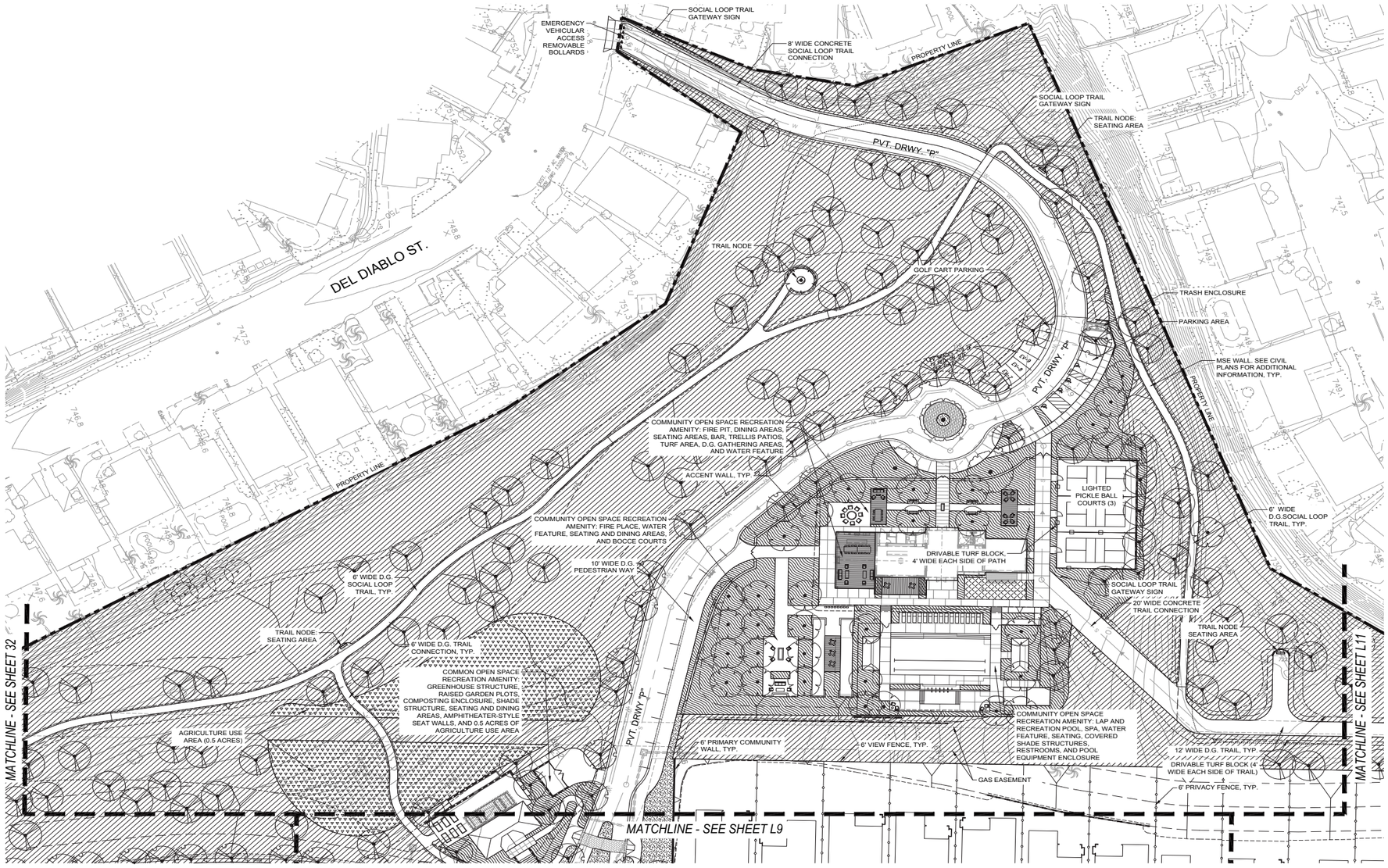
I:\PROJECTS\W\WDG\WDG-01_TheJunipers\Map\EIR\Fig5.3-5j_LandscapePlan.indd LEN-84 1/6/2020 - SAB

Source: Schmidt Design Group 2019

HELIX Environmental Planning

Landscape Plan (Sheet L9)

Figure 5.3-5j

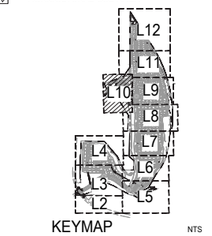


WALL / FENCING LEGEND:

- MSE WALL PER CIVIL PLANS
- RETAINING WALL PER CIVIL PLANS
- 6' TALL PRIMARY COMMUNITY WALL
- SOUND WALL (HEIGHT VARIES)
- 6' TALL SECONDARY COMMUNITY WALL
- 6' TALL VIEW FENCE
- 6' TALL PRIVACY FENCE
- 42" TALL LOW WALL
- ACCENT WALL
- 42" HABITAT MITIGATION FENCE

PLANTING ZONES:

- CONCEPTUAL MITIGATION AREA
- BIORETENTION AREA
- LOOP TRAIL / OPEN SPACE
- STREETSCAPE
- ENHANCED AREA
- TURF AREA
- AGRICULTURAL USE AREA



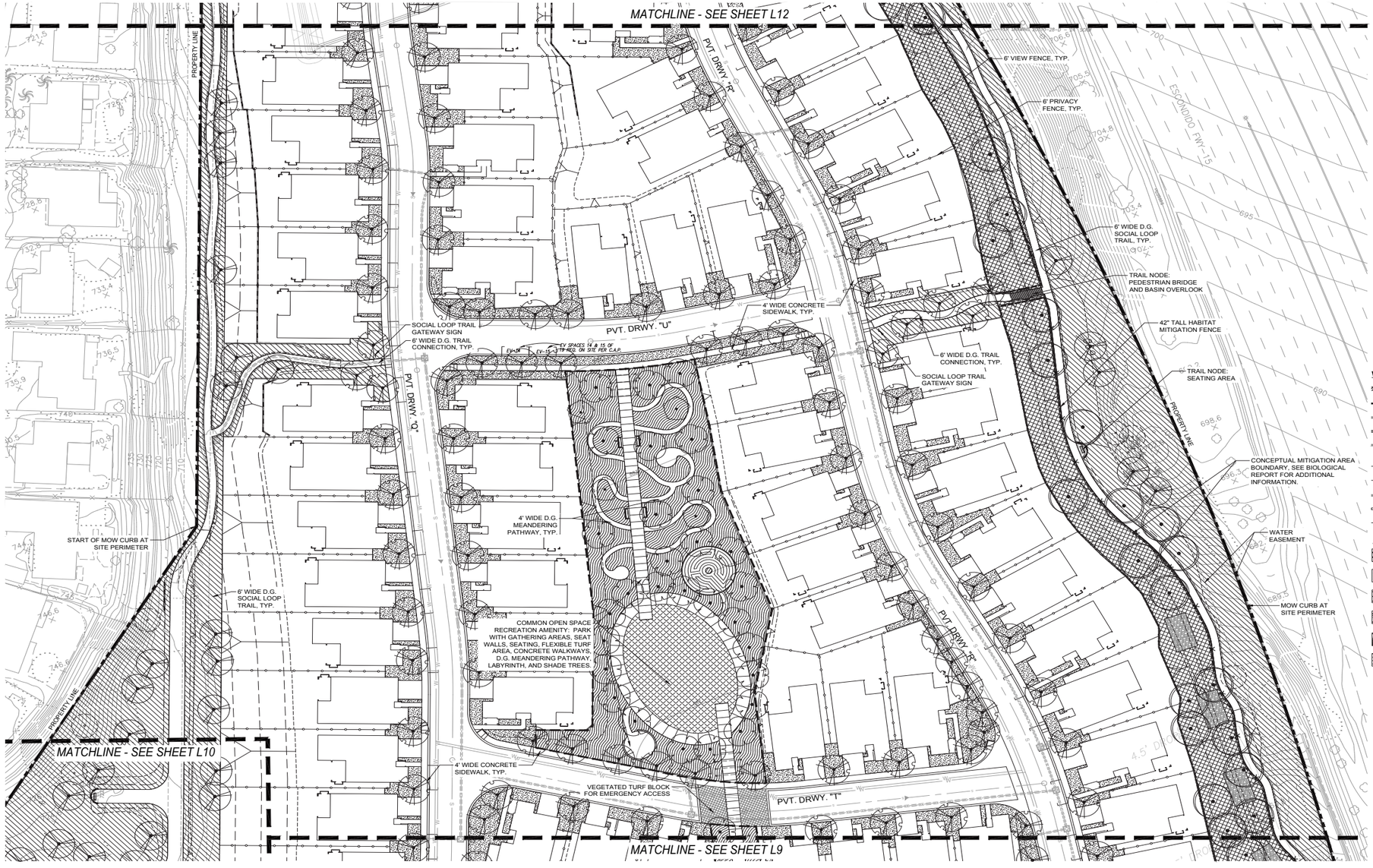
KEYMAP NTS

0 15 30 60

NORTH

I:\PROJECTS\W1\WDG\WDG-01_TheJunipers\Map\EIR\Figs.3-5k_LandscapePlan.indd LEN-84 1/6/2020 - SAB

Source: Schmidt Design Group 2019



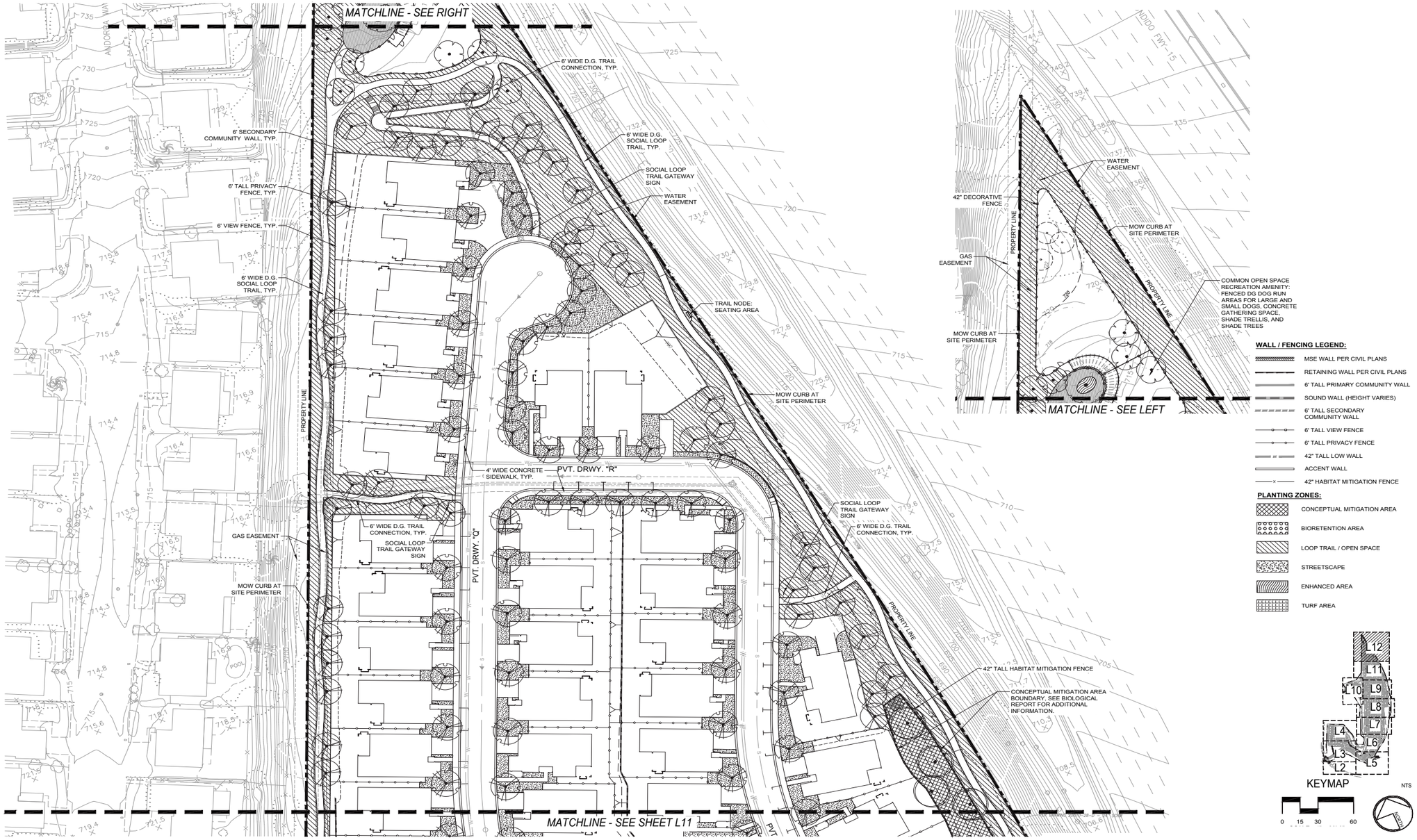
I:\PROJECTS\W\WDG\WDG-01_TheJunipers\Map\EIR\Fig5.3-5l_LandscapePlan.indd LEN-84 1/6/2020 - SAB

Source: Schmidt Design Group 2019

HELIX Environmental Planning

Landscape Plan (Sheet L11)

Figure 5.3-5l



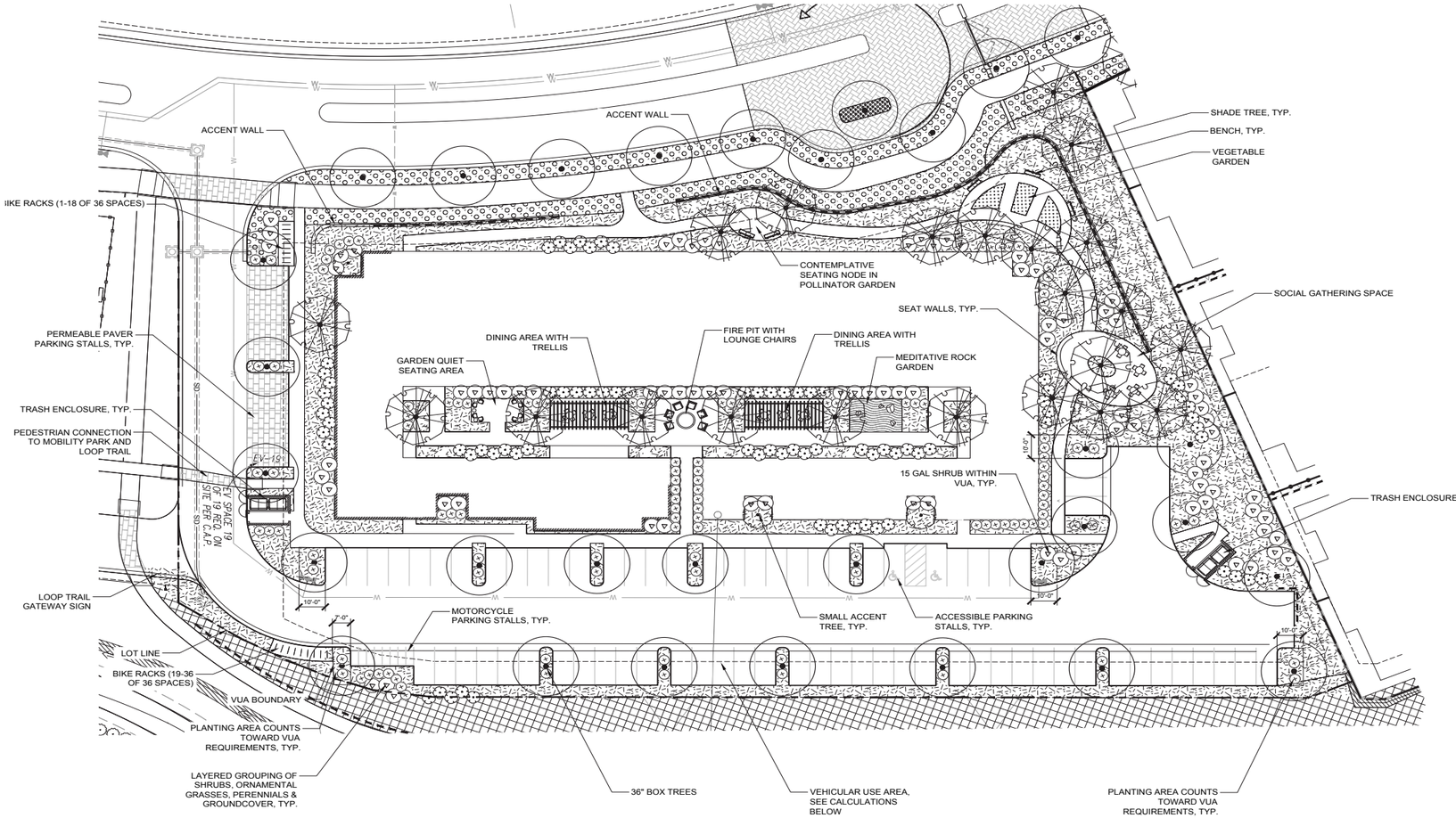
I:\PROJECTS\N\NDG\NDG-01_TheJunipers\Map\EIR\Fig5.3-5m_LandscapePlan.indd LEN-84 1/6/2020 - SAB

Source: Schmidt Design Group 2019

HELIX Environmental Planning

Landscape Plan (Sheet L12)

Figure 5.3-5m



PRELIMINARY PLANT PALETTE

STREET TREES	SIZE
ARBUTUS X `MARINA` / MARINA STRAWBERRY TREE	24" BOX
CASSIA LEPTOPHYLLA / GOLD MEDALLION TREE	24" BOX
CINNAMOMUM CAMPHORA / CAMPHOR TREE	24" BOX
PLATANUS RACEMOSA / CALIFORNIA SYCAMORE	24" BOX
PROSOPIS CHILENSIS / THORNLESS CHILEAN MESQUITE	24" BOX
QUERCUS AGRIFOLIA / COAST LIVE OAK	24" BOX
QUERCUS SUBER / CORK OAK	24" BOX
TABEBUIA IMPETIGINOSA / PINK TRUMPET TREE	24" BOX

SHADE TREES	SIZE
ARBUTUS X `MARINA` / MARINA STRAWBERRY TREE	24" BOX
JACARANDA MIMOSIFOLIA / JACARANDA	24" BOX
OLEA EUROPAEA / EUROPEAN OLIVE	24" BOX
TIPUANA TIPU / TIPU TREE	24" BOX

SMALL ACCENT TREES	SIZE
CERCIS OCCIDENTALIS / WESTERN REDBUD	24" BOX
LAGERSTROEMIA INDICA / CREPE MYRTLE	24" BOX
OLEA EUROPAEA / EUROPEAN OLIVE	24" BOX
RHUS LANCEA / AFRICAN SUMAC	24" BOX

ENHANCED GARDENESQUE - LARGE SHRUBS & GRASSES	SIZE
CISTUS X PURPUREUS / ORCHID ROCKROSE	5 GAL
GREVILLEA SPP. / GREVILLEA	5 GAL
PHORMIUM SPP. / NEW ZEALAND FLAX	5 GAL
PITTOSPORUM SPP. / PITTOSPORUM	15 GAL
RHAMNUS CALIFORNICA / CALIFORNIA COFFEEBERRY	5 GAL
WESTRINGIA FRUTICOSA / COAST ROSEMARY	5 GAL

ENHANCED GARDENESQUE - MED. SHRUBS & GRASSES & GROUNDCOVERS	SIZE
AGAVE SPP. / AGAVE	5 GAL
ALOE SPP. / ALOE	1 GAL
CARISSA MACROCARPA / NATAL PLUM	5 GAL
DESCHAMPSIA CESPITOSA / TUFTED HAIR GRASS	1 GAL
DIETES SPP. / FLAX LILY	5 GAL
LAVANDULA SPP. / LAVENDER	1 GAL
LOMANDRA LONGIFOLIA / DWARF MAT RUSH	1 GAL
MELAMPODIUM LEUCANTHUM / BLACKFOOT DAISY	1 GAL
PENSTEMON SPP. / PENSTEMON	1 GAL
SALVIA SPP. / SALVIA	1 GAL
SENECIO MANDRALISCAE / BLUE FINGER	1 GAL
SESLERIA AUTUMNALIS / AUTUMN MOOR GRASS	1 GAL

STREETSCAPE AND INTERIOR GROUNDCOVERS	SIZE
BACCHARIS PILULARIS `PIGEON POINT` / COYOTE BRUSH	1 GAL
FESTUCA CALIFORNIA / CALIFORNIA FESCUS	1 GAL
IVA HAYESIANA / SAN DIEGO MARSH ELDER	1 GAL
LANTANA SPP. / LANTANA	1 GAL
SENECIO MANDRALISCAE / BLUE FINGER	1 GAL
MAHONIA REPENS / CREEPING MAHONIA	1 GAL

SITE PERIMETER SHRUBS, GRASSES & GROUNDCOVERS	SIZE
ACHILLEA MILLEFOLIUM / COMMON YARROW	1 GAL
ARTEMISIA CALIFORNICA / CALIFORNIA SAGEBRUSH	1 GAL
ENCELIA CALIFORNICA / CALIFORNIA BRITTLEBUSH	1 GAL
ERIOGONUM FASCICULATUM / CALIFORNIA BUCKWHEAT	1 GAL
GALVEZIA SPECIOSA / ISLAND BUSH SNAPDRAGON	1 GAL
HESPEROYUCCA SPP. / YUCCA	5 GAL
HETEROMELES ARBUTIFOLIA / TOYON	1 GAL
LUPINUS SPP. / LUPINE	1 GAL
MAHONIA REPENS / CREEPING MAHONIA	1 GAL
MUHLENBERGIA RIGENS / DEER GRASS	5 GAL
RHUS INTEGRIFOLIA / LEMONADE BERRY	5 GAL
SALVIA SPP. / SALVIA	1 GAL
SPOROBOLUS AIROIDES / ALKALI DROPSEED	1 GAL

TYPICAL VEHICULAR USE AREA AT AFFORDABLE HOUSING COMPLEX

TOTAL VUA = 27,062 SF

PLANTING POINTS REQUIRED = 27,062 SF X 5% = 1,353 POINTS

PLANTING POINTS PROVIDED = 1,580 POINTS

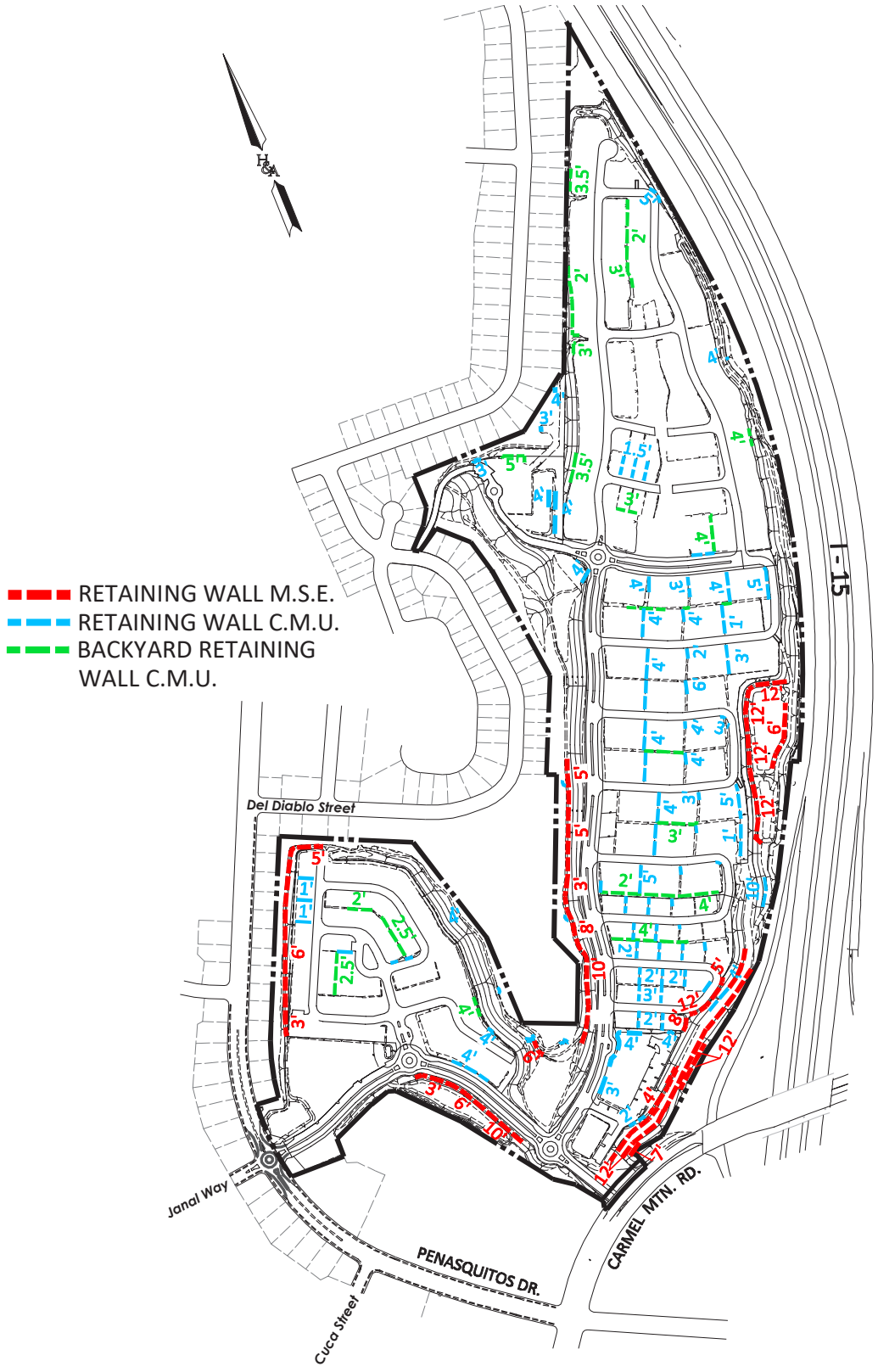
(20) 36" BOX TREE @ 50 PTS = 1,000 PTS
(5) 15" GAL SHRUBS @ 10 PTS = 50 PTS
(100) 5 GAL SHRUB @ 2 PTS = 200 PTS
(330) 1 GAL SHRUB @ 1 PT = 330 PTS

EXCESS POINTS = 227 POINTS

POINTS ACHIEVED THROUGH TREES (AT LEAST HALF) = 1,000 POINTS

I:\PROJECTS\W\NDG\NDG-01_TheJunipers\Map\EIR\Fig5.3-5n_LandscapePlan.indd LEN-84 1/6/2020 -SAB

Source: Schmidt Design Group 7/2019



Source: Hunsaker and Associates, 8/2019

I:\PROJECTS\N\NDG\NDG-01_TheJunipers\Map\EIR\Fig5.3-6_ProjectProposedRetainingWalls.indd LEN-84 1/6/2020 - SAB

HELIX Environmental Planning

Project Proposed Retaining Walls

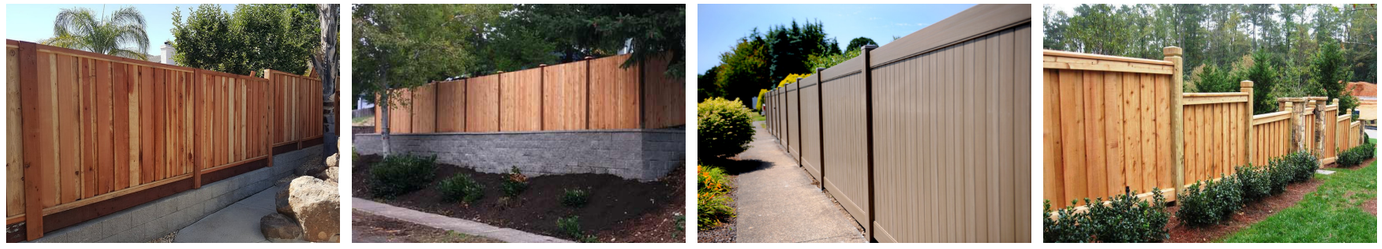
Figure 5.3-6

6' SECONDARY COMMUNITY WALL

6' PRIMARY COMMUNITY WALL

6' VIEW FENCE

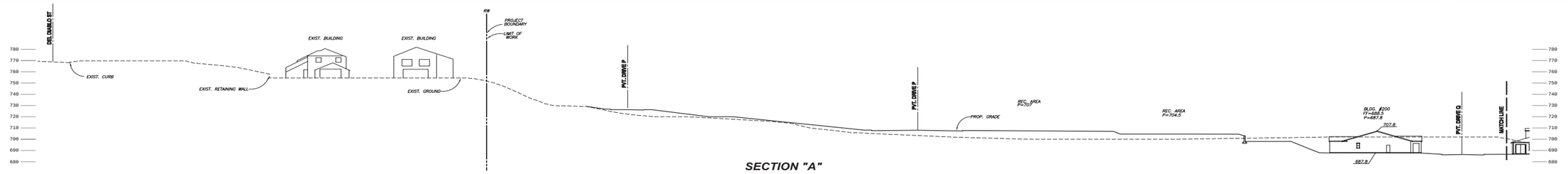
ACCENT WALL (HEIGHT VARIES)



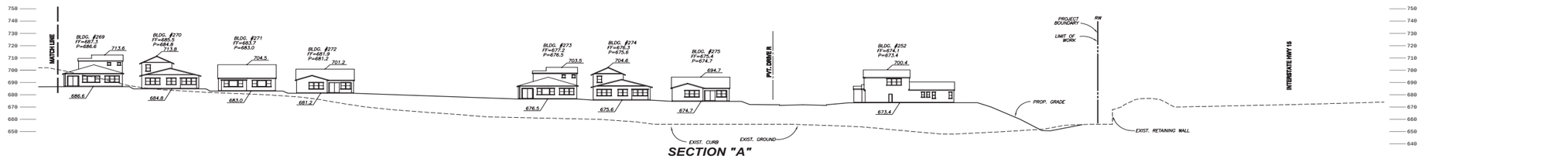
6' PRIVACY FENCE

42" LOW WALL

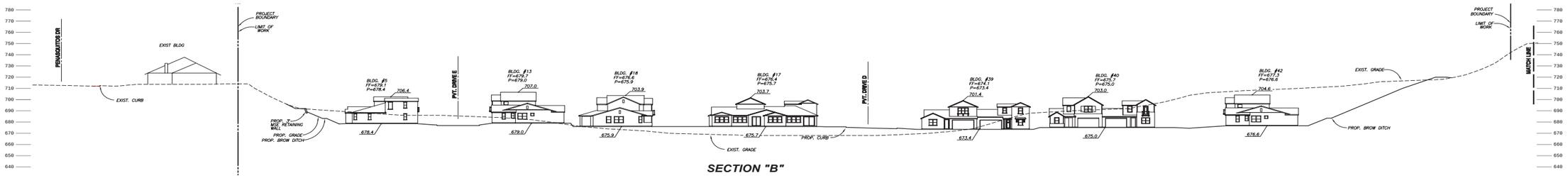
Source: Bassenian, 2019



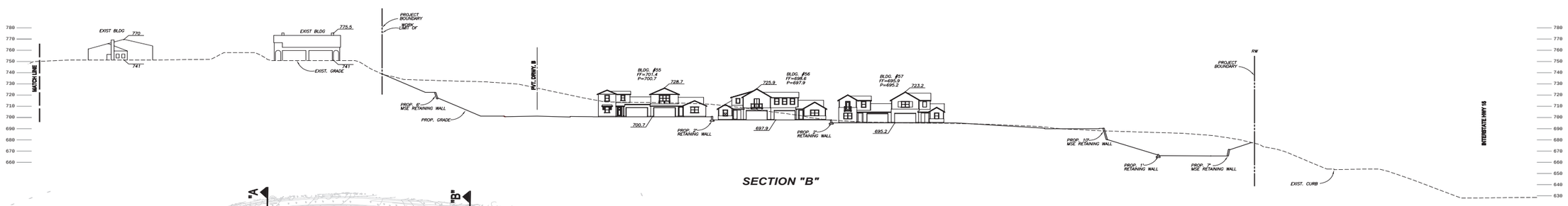
SECTION "A"



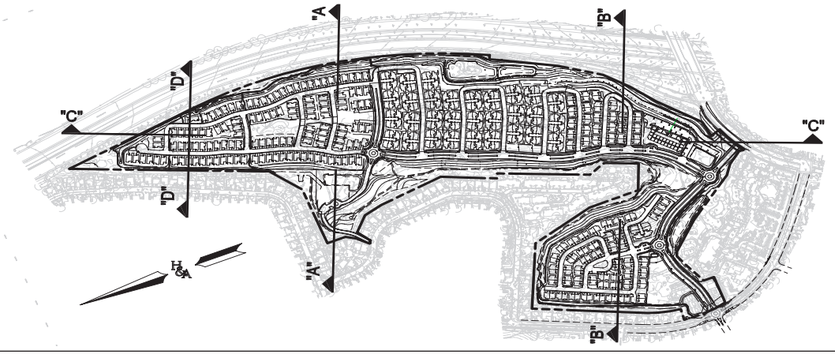
SECTION "A"

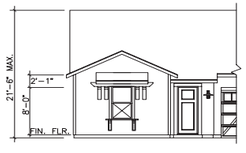


SECTION "B"

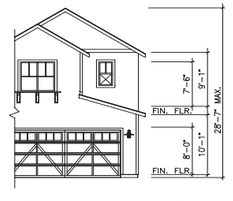


SECTION "B"

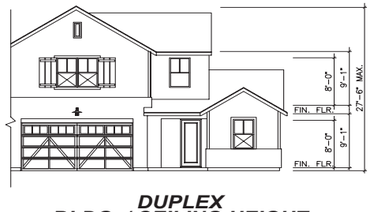




SINGLE FAMILY - PLAN 2
BLDG. / CEILING HEIGHT
NOT TO SCALE



SINGLE FAMILY - PLAN 4
BLDG. / CEILING HEIGHT
NOT TO SCALE



DUPLEX
BLDG. / CEILING HEIGHT
NOT TO SCALE

REVISED 7/15/2019

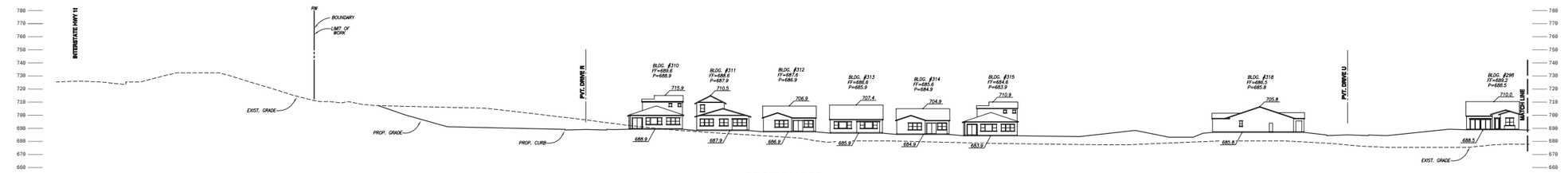
Source: Hunsacker & Associates, 7/2019

I:\PROJECTS\N\NDG\NDG-01_TheJunipers\Map\EIR\Fig5.3-8a_CrossSection.indd LEN-84 1/6/2020 - SAB

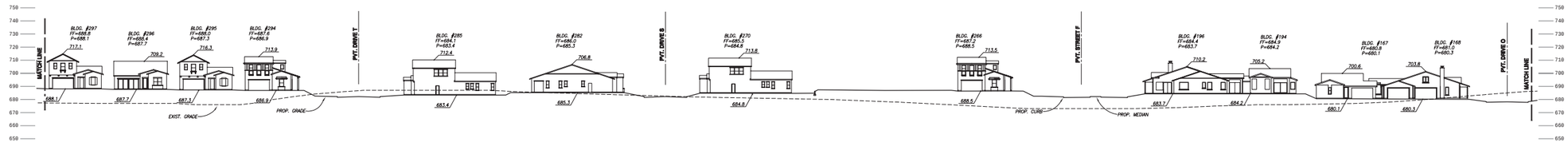
HELIX Environmental Planning

Cross Section

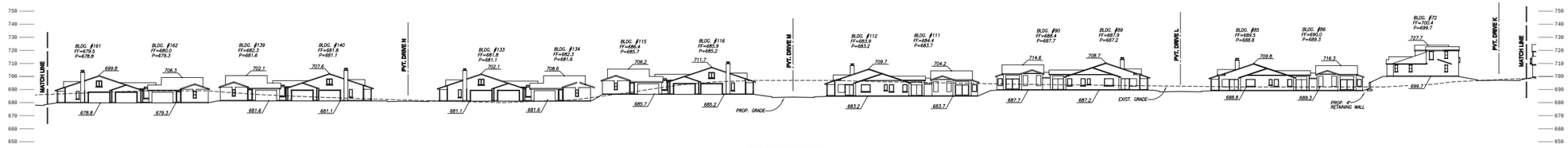
Figure 5.3-8a



SECTION "C"

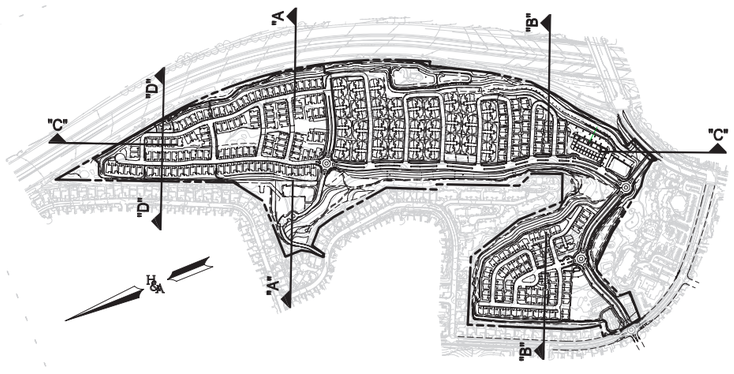


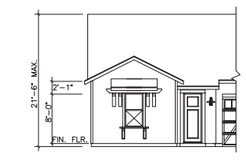
SECTION "C"



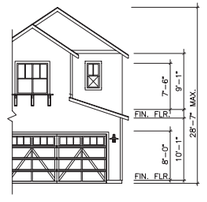
SECTION "C"

SECTION "C"

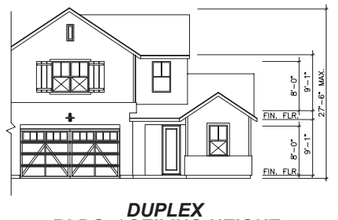




SINGLE FAMILY - PLAN 2
BLDG. / CEILING HEIGHT
NOT TO SCALE



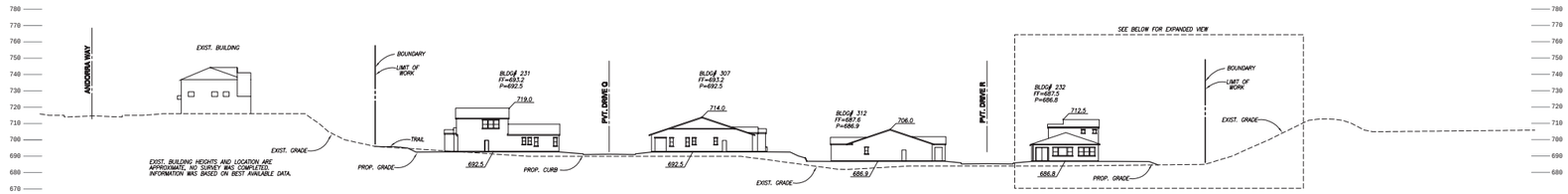
SINGLE FAMILY - PLAN 4
BLDG. / CEILING HEIGHT
NOT TO SCALE



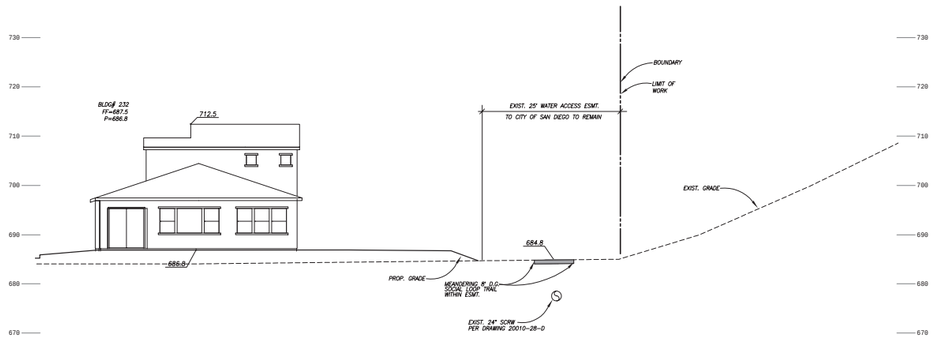
DUPLEX
BLDG. / CEILING HEIGHT
NOT TO SCALE

6 PLEX
BLDG. / CEILING HEIGHT
NOT TO SCALE

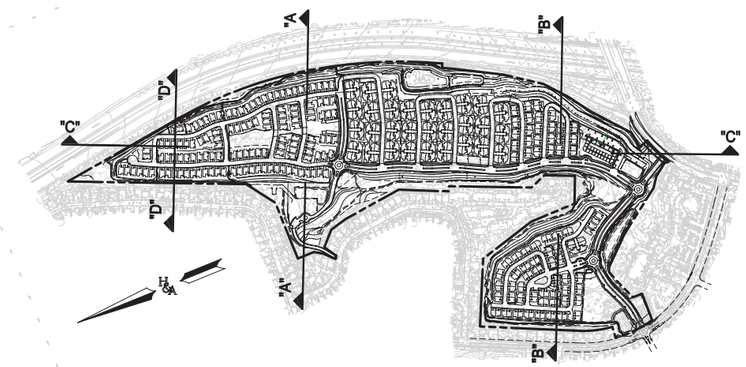
Source: Hunsacker & Associates, 7/2019

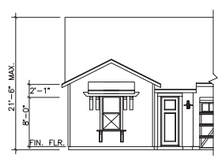


SECTION "D"

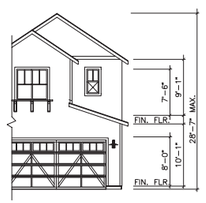


PORTION OF SECTION "D"





SINGLE FAMILY - PLAN 2
BLDG. / CEILING HEIGHT
NOT TO SCALE



SINGLE FAMILY - PLAN 4
BLDG. / CEILING HEIGHT
NOT TO SCALE

DUPLEX
BLDG. / CEILING HEIGHT
NOT TO SCALE

I:\PROJECTS\W\NDG\NDG-01_TheJunipers\Map\EIR\Fig5.3-8c_CrossSection.indd LEN:84 1/6/2020 - SAB

Source: Hunsacker & Associates, 7/2019

HELIX
Environmental Planning

Cross Section

Figure 5.3-8c

5.4 Noise

The following discussion summarizes the impacts of project-generated noise to off-site uses (i.e., the impacts of the project to the environment), based on information contained in the Acoustical Analysis Report for the project, which was prepared by HELIX (2020). The report is contained in its entirety in Appendix C. Noise impacts from the environment to proposed on-site land uses are addressed in Section 5.1, *Land Use*, and noise impacts to biological resources are addressed in Section 5.8, *Biological Resources*.

5.4.1 Existing Conditions

5.4.1.1 Environmental Setting

Noise and Sound Level Descriptors

Sound can be described as the mechanical energy of a vibrating object transmitted by pressure waves through a liquid or gaseous medium (e.g., air) to a hearing organ, such as a human ear. Noise is defined as loud, unexpected, or annoying sound, which interferes with normal activities, causes physical harm, or has adverse health effects.

All noise level or sound level values presented herein are expressed in terms of dBA to approximate the hearing sensitivity of humans. Time-averaged noise levels are expressed by the symbol L_{EQ}, with a specified duration. The CNEL is a 24-hour dBA average, where noise levels during the evening hours of 7:00 p.m. to 10:00 p.m. have an added 5 dBA weighting, and sound levels during the nighttime hours of 10:00 p.m. to 7:00 a.m. have an added 10 dBA weighting. These metrics are used to express noise levels for both measurement and municipal regulations, as well as for land use guidelines and enforcement of noise ordinances.

In the science of acoustics, the fundamental model consists of a sound (or noise) source, a receiver, and the propagation path between the two. The loudness of the noise source and obstructions or atmospheric factors affecting the propagation path to the receiver contribute to the sound level and characteristics of the noise perceived by the receiver. The field of acoustics deals primarily with the propagation and control of sound.

Continuous sound can be described by frequency (pitch) and amplitude (loudness). A low frequency sound is perceived as low in pitch. Frequency is expressed in terms of cycles per second, or Hertz (Hz) (e.g., a frequency of 250 cycles per second is referred to as 250 Hz). High frequencies are sometimes more conveniently expressed in kilohertz (kHz), or thousands of Hertz. The audible frequency range for humans is generally between 20 Hz and 20,000 Hz.

The amplitude of pressure waves generated by a sound source determines the loudness of that source. A logarithmic scale is used to describe sound pressure level (SPL) in terms of dBA units. The threshold of hearing for the human ear is about 0 dBA.

Because decibels are logarithmic units, SPL cannot be added or subtracted through simple addition. Under the decibel scale, a doubling of sound energy corresponds to a 3 dBA increase. In other

words, when two identical sources are each producing sound of the same loudness, the resulting sound level at a given distance would be 3 dBA higher than one source under the same conditions.

Existing Noise

Existing noise is dominated by the project's proximity to I-15. The project is approximately 7.5 miles north of the MCAS Miramar runway and is within the AICUZ AIA Review Area 2 for that federal air base. The noise contours for MCAS Miramar tend to extend east and west consistent with the east-west orientation of the runways. Although some noise from MCAS Miramar aircraft may be noticeable to future project residents, noise from this facility would not measurably influence noise levels at the project site. This is because the project is over 3.0 miles north of the mapped MCAS Miramar AICUZ noise contours, which extend to as low as 60 dBA. Thus, the contribution to project noise impacts from MCAS Miramar would be less than 60 dBA, and would be overshadowed by the noise generated by the adjacent I-15 freeway. Noise levels from MCAS Miramar aircraft are therefore not further addressed here. The project is not located within two miles of a public airport or within the vicinity of a private airstrip, and noise effects from these types of facilities are also not further addressed. The remainder of this discussion is focused on transportation-related noise.

Eight short-term ambient noise measurements were conducted at the project site on March 8, 2018. The measurements were taken at locations generally near the edges of the project site, and were heavily influenced by traffic noise from I-15. The measured noise levels ranged from 47.2 dBA L_{EQ} in the southwestern portion of the project site, (approximately 1,800 feet from the I-15 centerline, and 500 feet from Peñasquitos Drive) to 70.1 dBA L_{EQ} at the southeastern edge of project site (approximately 330 feet from the I-15 centerline).

The existing ambient noise measurements are summarized in Table 5.4-1, *Short-Term Noise Measurement Results*, below. Locations of each measurement site are shown in Figure 5.4-1, *Noise Measurement Locations*.

Table 5.4-1
SHORT-TERM NOISE MEASUREMENT RESULTS

Measurement	Location	dBA L_{EQ}
M1	Southeastern edge of project site, approximately 330 feet from the I-15 centerline.	70.1
M2	Eastern edge of the central portion of the project site, approximately 250 feet from the I-15 centerline.	69.3
M3a	Northeastern edge of the project site, approximately 300 feet from the I-15 centerline.	60.0
M3b	Northeastern edge of the project site, approximately 300 feet from the I-15 centerline.	61.4
M4a	Northernmost corner of the project site, approximately 280 feet from the I-15 centerline.	61.5
M4b	Northernmost corner of the project site, approximately 280 feet from the I-15 centerline.	63.5
M5	Western edge of the central portion of the project site, approximately 1,100 feet from the I-15 centerline.	56.9
M6	Southwestern portion of the project site, approximately 1,800 feet from the I-15 centerline, and 500 feet from Peñasquitos Drive.	47.2

Noise and Vibration Sensitive Land Uses

Noise sensitive land uses (NSLUs) are land uses that may be subject to stress and/or interference from excessive noise, such as residential dwellings, schools, transient lodging (hotels), hospitals, educational facilities, and libraries. Industrial and commercial land uses are generally not considered sensitive to noise. The nearest NSLUs in the project area include residences to the north.

Land uses in which ground-borne vibration could potentially interfere with operations or equipment, such as research, manufacturing, hospitals, and university research operations, are considered "vibration-sensitive" (Federal Transit Administration [FTA] 2006). The degree of sensitivity depends on the specific equipment that would be affected by the ground-borne vibration. In addition, excessive levels of ground-borne vibration of either a regular or an intermittent nature can result in annoyance to residential uses or schools. Vibration-sensitive land uses in the project area include the same noise-sensitive residences to the north as noted above.

5.4.1.2 Regulatory Framework

Noise Ordinance

The City's Noise Ordinance (SDMC, Chapter 5, Article 9.5, Noise Abatement and Control) regulates noise generated by on-site sources associated with project operation, such as HVAC units. The noise limits of the City's Noise Ordinance for various land uses by time of day are shown in Table 5.4-2, *Property Line Noise Limits*.

Table 5.4-2
PROPERTY LINE NOISE LIMITS

Land Use Zone	Time of Day	One-hour Average Sound Level (dBA)[1]
Single Family Residential	7:00 a.m. to 7:00 p.m.	50
	7:00 p.m. to 10:00 p.m.	45
	10:00 p.m. to 7:00 a.m.	40
Multi-Family Residential (up to a maximum density of 1/2000)	7:00 a.m. to 7:00 p.m.	55
	7:00 p.m. to 10:00 p.m.	50
	10:00 p.m. to 7:00 a.m.	45
All other Residential	7:00 a.m. to 7:00 p.m.	60
	7:00 p.m. to 10:00 p.m.	55
	10:00 p.m. to 7:00 a.m.	50
Commercial	7:00 a.m. to 7:00 p.m.	65
	7:00 p.m. to 10:00 p.m.	60
	10:00 p.m. to 7:00 a.m.	60
Industrial or Agricultural	Anytime	75

Source: SDMC, Chapter 5, Article 9.5, Division 4, §59.5.0401, Sound Level Limits

[1] The sound level limit at a location on a boundary between two zoning districts is the arithmetic mean of the respective limits for the two districts.

dBA = A-weighted decibel

The City's Noise Ordinance also regulates noise produced by construction activities. Construction activities are prohibited between the hours of 7:00 p.m. and 7:00 a.m. and on Sundays and legal

holidays, except in the case of emergency. Section 59.5.0404 of the Noise Ordinance limits construction noise to an average sound level of 75 dBA at the affected property line during the 12-hour period from 7:00 a.m. to 7:00 p.m.

General Plan Noise Element

The City's General Plan Noise Element (City 2008a) establishes noise compatibility guidelines for uses affected by traffic noise, as shown in Table 5.1-2, *City of San Diego Land Use Noise Compatibility Guidelines*. Noise levels of 70 CNEL are considered conditionally compatible with the project's multi-family residential uses. Noise levels of 70 CNEL are considered compatible with the project's active and passive recreation (neighborhood and community parks). For outdoor uses at a conditionally compatible land use, feasible noise mitigation techniques should be analyzed and incorporated to reduce noise levels to make the outdoor activities acceptable.

Exterior noise sources must be attenuated to approximately 60 CNEL in order to attain interior noise levels of 45 CNEL for residential uses.

5.4.2 Impact 1: Exposure to Operational and Construction Noise

Issue 1: Would the project result in the exposure of people to noise levels created by the project which exceed the City's adopted noise ordinance and/or the City's Significance Determination Thresholds?

5.4.2.1 Impact Thresholds

A significant noise impact would occur from construction of a project if it would result in temporary construction noise that exceeds 75 dBA L_{EQ} (12 hour) at the property line of a residentially zoned property from 7:00 a.m. to 7:00 p.m. (as identified in SDMC Section 59.0404) or if non-emergency construction occurs during the 12-hour period from 7:00 p.m. to 7:00 a.m. Monday through Saturday. Additionally, where temporary construction noise would substantially interfere with normal business communication, or affect sensitive receptors such as day care facilities, a significant noise impact may be identified.

A significant noise impact would occur from operation of a project if it would result in the generation of noise levels at a common property line that exceed the SDMC limits shown in Table 5.4-2. If a non-residential use, such as a commercial, industrial, or school use, is proposed to abut an existing residential use, the decibel level at the property line should be the arithmetic mean of the decibel levels allowed for each use as set forth in SDMC Section 59.5.0401(b). Impacts related to noise levels at future on-site land uses are addressed in Section 5.1.5.

For all proposed new uses, a significant impact would occur if a project would expose new development to noise levels at exterior use areas or interior areas in excess of the noise compatibility guidelines established in the City General Plan Noise Element. Compliance with the noise compatibility guidelines is required as a condition of approval for all proposed new uses. Thus, a significant impact would occur if a project would expose new residents of multi-family residential units or exposes people at active and passive recreation facilities to noise that exceeds 70 CNEL. For outdoor uses at a conditionally compatible land use, feasible noise mitigation techniques should be analyzed and incorporated to make the outdoor activities acceptable. For indoor uses at a

conditionally compatible land use, a significant impact would occur if exterior noise cannot be attenuated to 45 CNEL within residences.

5.4.2.2 Impact Analysis

Temporary Construction Noise Impacts to Off-site Uses

The most substantial noise increases from project construction activities that may affect off-site uses would occur during over-excavation and mass excavation activities. Scrapers would be the primary equipment type used during these activities. Over-excavation would occur as close as 100 feet from off-site residences adjacent to the western boundary of the project site. Over-excavation activities would involve between two and six passes of a scraper per day in front of any one residence, over a course of one to two days. As such, a scraper was modeled to be in operation for 40 percent of a construction hour, for one hour per day. At a distance of 100 feet, a scraper would generate a noise level of 64.2 dBA L_{EQ} (12 hour).

Mass excavation would involve significant earth movement in the northeastern portion of the project site adjacent to I-15 to reconfigure the existing on-site drainage, and as well as in the southern portion of the site to recontour an existing hill. Mass grading activities at these locations would occur between approximately 500 and 900 feet from the nearest off-site residences. Based on conservative modeling, at 500 feet, the three scrapers used for mass excavation would generate a noise level of 64.0 dBA L_{EQ} (12 hour). The use of construction equipment during over-excavation and mass excavation activities would therefore be well below the City Noise Ordinance construction threshold of 75 dBA L_{EQ} (12 hour). As other project construction activities would be expected to use less intensive equipment, they would not noticeably add to the calculated maximum of 64.0 dBA L_{EQ} (12 hour). Project construction noise would therefore not exceed the City Noise Ordinance standard of 75 dBA L_{EQ} (12 hour) and temporary increases in ambient noise levels from construction activity would be less than significant.

Construction would also generate vehicular traffic in the form of worker vehicles and material import and export trucks. Vehicles associated with project construction would likely utilize Peñasquitos Drive and Carmel Mountain Road to access the site. Peñasquitos Drive has an existing volume of 14,504 ADT and Carmel Mountain Road has an existing volume of 25,463 ADT. As addressed in Section 5.2, *Transportation/Circulation*, the project is expected to generate less than 500 truck and worker trips per day. Since it would take a doubling of traffic on Peñasquitos Drive to cause a noticeable increase in traffic noise (i.e., approximately 3 CNEL) from this roadway, the addition of 500 trips per day during project construction would not be noticeable and impacts from construction traffic would be less than significant.

Stationary Operational Noise Impacts to Off-site Uses

The anticipated primary project operational noise sources would be from HVAC units, noise generated by recreational activity in the proposed public and private parks, private open space areas, and vehicular traffic. On-site operational noise is analyzed here, while potential off-site noise impacts due to project-generated traffic are addressed in Section 5.4.3.

Heating, Ventilation, and Air Conditioning Unit Noise

As described in the project Acoustical Analysis Report (HELIX 2020), noise modeling assumed that the project's residential HVAC units would generate noise levels equivalent to a Carrier 38HDR060 split system. This unit typically generates a noise level of 56 dBA at a distance of 7 feet. Based on the site plan, project residences nearest to an off-site residential property line would be located along the northwestern edge of the site. These residences are located approximately 80 feet from the backyards of existing off-site residences on Andorra Way. At 80 feet, the HVAC unit would generate a noise level of 34 dBA, which would be well below the City's nighttime allowable hourly limit of 40 dBA. Therefore, noise impacts from project HVAC units to off-site uses would be less than significant.

Recreation Activity Noise

The proposed public park would be located adjacent to approximately four off-site single-family residences along Peñasquitos Drive. Although the park would be subject to the General Design Plan process as defined by Council Policy 600-33 (wherein public input and design ideas for community facilities are sought rather than designed independently by private applicants), a number of potential uses at a neighborhood park have been proactively considered. To present a conservative analysis, it is assumed that a large playground at this park would support 35 playing children. At a distance of 100 feet, the combined 35 individual noise sources would generate noise levels of 50 dBA L_{EQ}, assuming no noise attenuation from intervening structures or fencing. At this distance, noise generated by children's use of the playground would not exceed the evening hour limits for a multi-family land use as specified in the Noise Ordinance, and operational impacts from children playing would be less than significant.

Dog parks are proposed at both the public park and at a privately maintained area at the northern tip of the project site. Dogs would be able to move freely within the enclosed play areas. For modeling purposes, the dog barks are assumed to be centered in their respective enclosures. The center of the privately maintained northern dog run would be approximately 80 feet east of the nearest off-site residences to the west. The center of the public park's enclosure would be approximately 120 feet east of the nearest off-site residences. The exact number of dogs and their barking patterns would vary during the day of week and hour of the day. A conservative assumption for the dog park on a given hour during a busy day would be 30 dogs in the park, each with 10 barking events per hour, for a total of 300 barking events per hour. At the northern privately maintained dog run, the noise generated would be 49.9 dBA L_{EQ} at 80 feet. At the public park dog enclosure, noise levels would be 46.5 dBA L_{EQ} at 120 feet. This would not cause an exceedance of City thresholds and impacts would be less than significant.

Other recreational areas in the project, which is an age-restricted community, would include pickleball courts, a basketball court, and a small outdoor amphitheater. As noted in the project's acoustical analysis report, due to the distance from sensitive receptors and low levels of noise associated with these uses, the project's basketball and pickleball courts are not expected to generate significant noise levels at nearby on-site or off-site receptors. The amphitheater would be used as an outdoor classroom space, and no loudspeakers or amplified sound would be used. Noise from the residents' use of these areas also would be less than the City's noise threshold. In addition, use of these private park/open space areas would be subject to any noise restrictions within the community, enforceable by the HOA.

Exposure of New On-site Uses to Traffic Noise

Traffic from I-15 serves as the largest contributor of noise at the project site. SANDAG Series 13 2050 forecasts were used to estimate exposure of future on-site residents to noise levels from I-15 (SANDAG 2018). Noise levels are estimated at a height of approximately 5 feet above ground level.

Figure 5.4-2, *2050 I-15 Traffic Noise Levels – Existing Site*, displays the modeled noise contours from future (2050) traffic on I-15 across the site in its currently undeveloped state. Under future traffic conditions and existing site topography, noise levels in 2050 would range from 65 CNEL to 80 CNEL for the majority of the site that is adjacent to the freeway, where the residences are proposed. Upon completion of the project, the noise levels on the site would be altered compared to existing conditions due to the change in topography, elevation heights, and future structures. Noise levels across the western portions of the site would generally be reduced due to the shielding of the freeway noise by the proposed homes.

The Acoustical Analysis Report in Appendix C provides documentation of the project noise levels for the project site, including the public and private open space/recreational areas, the private exterior open space for the proposed residences, and the interiors of the proposed homes. The results are compared to the City's General Plan Noise Element compatibility standards and required measures to attenuate noise levels to meet City standards are provided. Those measures have been incorporated into the project plans. The potential impacts of the existing noise environment on the project do not constitute an impact under CEQA. Consistency with the General Plan Noise Element is evaluated in Section 5.1, and the proposed noise attenuation measures that have been incorporated into the project are described in Section 3.0.

Significance of Impact

Based on the SDMC construction noise limits, project construction noise (including noise generated by construction-related traffic) would be less than significant.

Project-generated operational noise (HVAC units and noise generated by dog parks and playground equipment) would not exceed the SDMC standards at off-site NSLUs, and impacts would be less than significant.

5.4.2.3 Mitigation, Monitoring and Reporting

As impacts from project construction and operational noise to off-site NSLUs would be less than significant, no mitigation measures would be required.

To comply with City standards, noise control measures proposed in the project Acoustical Analysis Report to address both exterior private space and interior space have been incorporated into project design, as described in Section 3.0. The reader is referred to analysis in Section 5.1.

5.4.3 Impact 2: Ambient Noise

Issue 2: Would the project result in or create a significant permanent increase in the existing ambient noise levels?

5.4.3.1 Impact Thresholds

A potentially significant noise impact would occur if a project would result in or create a significant permanent increase in the existing ambient noise levels. A direct significant impact to off-site NSLUs would occur if off-site exterior useable spaces are exposed to noise levels that exceed the "Conditionally Compatible" limits listed in the City Noise Element, which establishes noise compatibility guidelines for uses affected by traffic noise, if those uses were not exposed to noise levels above the limits before the project.

If the ambient noise level already exceeds the noted limit, then a project contribution of 3 CNEL or greater would constitute a direct significant impact because sound that results in a 3 CNEL increase is generally perceptible to the average human ear. For the nearest NSLUs to the studied roadways below, single-family residential, multi-family residential, and visitor accommodations (hotels), the City Noise Element Conditionally Compatible limits are 65, 70 and 75+ CNEL, respectively.

For both single-family and multi-family residential land uses, the interior noise threshold is 45 CNEL. As typical architectural materials are expected to attenuate noise levels by 15 CNEL, if noise levels are above 60 CNEL at the existing building façades, a potentially significant interior impact would occur. If noise levels without the project already exceed the applicable significance thresholds, a potentially significant impact would occur if the project's contribution would be 3 CNEL or greater.

5.4.3.2 Impact Analysis

Traffic Noise Model (TNM) software was used to calculate the noise contour distances for off-site roadway segments in the project vicinity for the following traffic scenarios provided in the project's TIA: Existing; Existing + Project; Buildout No Project; Buildout + Project; Year 2050 No Project; and Year 2050 + Project. The off-site roadway modeling represents a conservative analysis that does not take into account topography or attenuation provided by existing structures. The results of this analysis for the CNEL at the nearest NSLUs to the roadway segments are provided in Table 5.4-3, *Off-site Traffic Noise Levels*.

Table 5.4-3
OFF-SITE TRAFFIC NOISE LEVELS

Roadway Segment	Distance to Nearest NSLU (feet)[1]	NSLU Type	CNEL at Nearest NSLU								
			Existing			Buildout			Year 2035		
			Existing	Existing + Project	Change in CNEL	Buildout No Project	Buildout + Project	Change in CNEL	Year 2035 No Project	Year 2035 + Project	Change in CNEL
Carmel Mountain Road											
Stoney Peak Drive to Rancho Carmel Drive	100	MF	63.5	63.6	+0.1	63.5	63.6	+0.1	64.9	64.9	+0.0
Rancho Carmel Drive to I-15 NB Ramps	220	Hotel	57.3	57.4	+0.1	57.3	57.4	+0.1	57.7	57.8	+0.1
Future Driveway to Peñasquitos Dr.	65	Hotel	66.7	66.8	+0.1	66.9	66.9	+0.0	67.9	68.0	+0.1
Peñasquitos Drive to Cuca Street	70	MF	61.3	61.5	+0.2	61.8	61.9	+0.1	62.2	62.3	+0.1
Cuca Street to Paseo Cardiel	65	MF	62.3	62.5	+0.2	62.6	62.7	+0.1	63.7	63.8	+0.1
Peñasquitos Drive											
Carmel Mountain Road to Cuca Street	90	SF	59.4	59.8	+0.4	59.5	59.8	+0.3	60.0	60.3	+0.3
Cuca Street to Jamal Way	60	SF	62.3	62.8	+0.5	62.3	62.8	+0.5	62.7	63.2	+0.5

[1] Distance measured from roadway centerline.

NSLU = Noise Sensitive Land Use; CNEL = Community Noise Equivalent Level; MF = Multi-family Residential; SF = Single-family Residential

Exterior Noise

As shown in Table 5.4-3, noise levels do not currently exceed the applicable limits without the project along the analyzed roadway segments. Furthermore, the project's contribution to traffic noise would not exceed 3 CNEL along any segment, nor would it cause an increase in traffic noise that would expose off-site exterior use areas to levels in excess of 65 or 70 CNEL. Therefore, direct exterior off-site transportation noise impacts would be less than significant.

Interior Noise

As shown in Table 5.4-3, noise levels for the project scenarios would exceed 60 CNEL for all segments except Peñasquitos Drive between Carmel Mountain Road and Cuca Street and, therefore, interior noise levels may exceed the 45 CNEL threshold. The increase in noise levels from project-added traffic along these roadways, however, would be less than the 3 CNEL threshold. Therefore, the project's off-site transportation noise would not cause significant direct impacts related to interior noise.

5.4.3.3 Significance of Impact

Project-generated traffic would result in impacts that would be less than significant.

5.4.3.4 Mitigation, Monitoring and Reporting

As impacts would be less than significant, no mitigation measures would be required.

5.4.4 Impact 3: Vibration

Issue 3: Would the project result in the exposure of persons to or generation of excessive ground-borne vibration levels?

5.4.4.1 Impact Thresholds

A significant vibration impact would occur if a project would subject vibration-sensitive land uses to construction-related ground-borne vibration that exceeds the severe vibration annoyance potential criteria for human receptors, as specified by Caltrans (2013), of 0.4 inches per second peak particle velocity (PPV), and 0.5 inches per second PPV for damage to structures for continuous/frequent intermittent construction sources (such as impact pile drivers, vibratory pile drivers, and vibratory compaction equipment).

5.4.4.2 Impact Analysis

Construction-related Vibration

The project would not involve construction activities known to generate excessive ground-borne vibration, such as pile driving. The most intensive possible source of vibration during general project construction activities would be a vibratory roller, which may be used within 100 feet of the nearest off-site residence. More than one vibratory roller would not be used in the same area of the site at the same time. Other construction equipment would not be expected to cause significant vibration.

A vibratory roller would create approximately 0.210 inch per second PPV at 25 feet (Caltrans 2013). A 0.210 inch per second PPV vibration level would equal 0.046 inch per second PPV at a distance of 100 feet.[1] This would be lower than what is considered a "strongly perceptible" impact for humans of 0.1 inch per second PPV, and lower than the structural damage impact threshold that would affect older residential structures of 0.5 inches per second PPV (Caltrans 2013). Therefore, although a vibratory roller may be perceptible to nearby human receptors, temporary impacts associated with the roller (and any other potential equipment that would create less vibration) would be less than significant.

Operational Vibration

Land uses that may generate substantial operational vibration include heavy industrial or mining operations that would require the use of vibratory equipment. The proposed residential and recreational land uses do not include equipment that would generate substantial vibration. Therefore, operational vibration impacts would be less than significant.

5.4.4.3 Significance of Impact

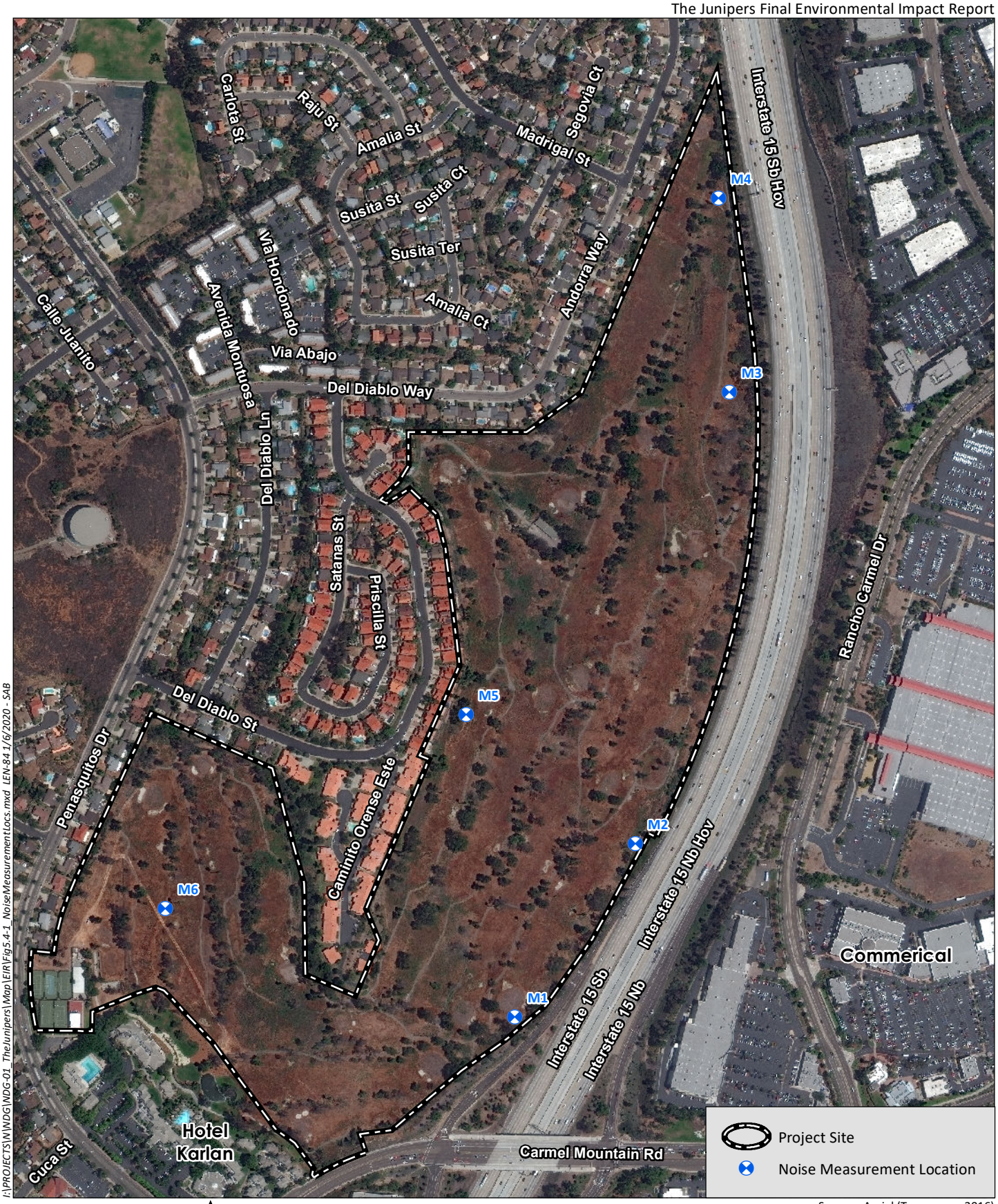
Project-generated vibration would not exceed applicable vibration standards, and impacts would be less than significant.

5.4.4.4 Mitigation, Monitoring and Reporting

As impacts would be less than significant, no mitigation measures would be required.

[1] Equipment PPV = Reference PPV * $(25/D)^n$ (in/sec), where Reference PPV is PPV at 25 feet, D is distance from equipment to the receiver in feet, and n = 1.1 (the value related to the attenuation rate through the ground); formula from Caltrans 2013.

This page intentionally left blank



I:\PROJECTS\N\NDG\NDG-01 TheJunipers\Map\EIR\Fig5.4-1 NoiseMeasurementLocs.mxd LEN-84 1/6/2020 - SAB

0 550 Feet

Source: Aerial (Terraserver 2016)

HELIX Environmental Planning

Noise Measurement Locations

Figure 5.4-1

Source: Aerial (Terraserver 2016)

HELIX Environmental Planning

2050 I-15 Traffic Noise Levels-Existing Site

Figure 5.4-2

5.5 Air Quality

This section presents the results of an assessment of potential air quality impacts associated with the project. This section is based on the analysis presented in the Air Quality Technical Report (AQTR) for The Junipers Project (HELIX 2019b). The technical report is included as Appendix D.

5.5.1 Existing Conditions

5.5.1.1 Environmental Setting

Climate and Meteorology

The climate in southern California, including the SDAB in which the project is located, is controlled largely by the strength and position of the subtropical high-pressure cell over the Pacific Ocean. Areas within 30 miles of the coast experience moderate temperatures and comfortable humidity.

The predominant wind direction in the vicinity of the project site is from the west-northwest, and the average wind speed is approximately 5 miles per hour (Iowa Environmental Mesonet [IEM] 2017). The annual average maximum temperature in the project area is approximately 75 F, and the annual average minimum temperature is approximately 50ºF. Total precipitation in the project area averages approximately 13 inches annually. Precipitation occurs mostly during the winter and relatively infrequently during the summer (Western Regional Climate Center [WRCC] 2018).

Due to its climate, the SDAB experiences frequent temperature inversions (temperature increases as altitude increases, which is the opposite of general patterns). Temperature inversions prevent air close to the ground from mixing with the air above it. As a result, air pollutants are trapped near the ground. During the summer, air quality problems are created due to the interaction between the ocean surface and the lower layer of the atmosphere, creating a moist marine layer. An upper layer of warm air mass forms over the cool marine layer, preventing air pollutants from dispersing upward. Additionally, hydrocarbons and nitrogen dioxide (NO_2) react under strong sunlight, creating smog. Light, daytime winds, predominantly from the west, further aggravate the condition by driving the air pollutants inland, toward the foothills. During the fall and winter, air quality problems are created due to carbon monoxide (CO) and NO_2 emissions. High NO_2 levels usually occur during autumn or winter, on days with summer-like conditions.

Criteria Pollutants

Criteria pollutants are defined by state and federal law as a risk to the health and welfare of the general public. In general, air pollutants include the following compounds:

- Ozone (O_3)
- Reactive organic gases (ROGs) or volatile organic compounds (VOCs)
- CO
- NO_2
- Respirable particulate matter (PM_{10}) and fine particulate matter ($PM_{2.5}$)
- Sulfur dioxide (SO_2)
- Lead (Pb)

Air pollutants are categorized into primary and secondary pollutants. Primary air pollutants are those that are emitted directly from sources. Primary criteria pollutants are: CO; SO_2; PM_{10}; $PM_{2.5}$; and lead. Secondary pollutants are formed in the atmosphere through chemical and photochemical reactions of pollutant precursors. Secondary criteria pollutants are ozone, NO_2, PM_{10}, and $PM_{2.5}$ formed by reactions of the principal pollutant precursors ROG, nitrogen oxides (NO_X), and sulfur oxides (SO_X). Note that PM_{10} and $PM_{2.5}$ can be both primary pollutants and secondary pollutants.

Adverse health effects to specific individuals or population groups induced by criteria pollutant emissions are highly dependent on a multitude of interconnected variables (e.g., cumulative concentrations, local meteorology and atmospheric conditions, and the number and character of exposed individuals [e.g., age, gender]). Criteria pollutant precursors (ROG and NO_X) affect air quality on a regional scale, typically after significant delay and distance from the pollutant source emissions. Health effects related to ozone, NO_2, and secondary PM are, therefore, the product of emissions generated by numerous sources throughout a region. As such, specific health effects from these criteria pollutant emissions cannot be directly correlated to the incremental contribution from a single project. The following specific descriptions of health effects for each of the air pollutants potentially associated with project construction and operation are based on information provided by the USEPA (2007) and CARB (2009).

Ozone. Ozone is considered a photochemical oxidant, which is a chemical that is formed when VOCs and NO_X, both by-products of fuel combustion, react in the presence of ultraviolet light. Sources of ROG and NO_X include gasoline- and diesel-powered vehicle tailpipe emissions; the evaporation of solvents, paints, and fuels; and biogenic sources. Ozone is considered a respiratory irritant. Ozone is a principal cause of lung and eye irritation in the urban environment. Individuals exercising outdoors, children, and people with preexisting lung diseases, such as asthma and chronic pulmonary lung disease, are considered the most susceptible subgroups for ozone effects. Short-term ozone exposure can reduce lung function in children, make persons susceptible to respiratory infection, and produce symptoms that cause people to seek medical treatment for respiratory distress. Long-term exposure can impair lung defense mechanisms and lead to emphysema and chronic bronchitis. Ozone can also damage plants and trees and materials such as rubber and fabrics. An increased risk for asthma has been found in children who participate in multiple sports and live in communities with high ozone levels.

Carbon Monoxide. CO is a product of fuel combustion. It is an odorless, colorless gas. Relatively high concentrations of CO are typically found near crowded intersections and along heavily used roadways carrying slow-moving traffic. Even under most severe meteorological and traffic conditions, high concentrations of CO are limited to locations within a relatively short distance (300 to 600 feet) of heavily traveled roadways. Vehicle traffic emissions can cause localized CO impacts, and severe vehicle congestion at major signalized intersections can generate elevated CO levels, called “hot spots,” which can be hazardous to human receptors adjacent to the intersections.

It affects red blood cells in the body by binding to hemoglobin and reducing the amount of oxygen that can be carried to the body’s organs and tissues. CO can cause health effects to those with cardiovascular disease and can also affect mental alertness and vision.

Nitrogen Dioxide. NO_2 is a reddish-brown gas. It is a by-product of fuel combustion and is formed both directly as a product of combustion and in the atmosphere through the reaction of nitric oxide (NO) with oxygen. NO_2 is a respiratory irritant and may affect those with existing respiratory illness,

including asthma. NO_2 can also increase the risk of respiratory illness. Population-based studies suggest that an increase in acute respiratory illness, including infections and respiratory symptoms in children, is associated with long-term exposure to NO_2 at levels found in homes with gas stoves, which are higher than ambient levels found in southern California. Increase in resistance to air flow and airway contraction is observed after short-term exposure to NO_2 in healthy subjects. Larger decreases in lung functions are observed in individuals with asthma or chronic obstructive pulmonary disease (e.g., chronic bronchitis, emphysema) than in healthy individuals, indicating a greater susceptibility of these subgroups.

Respirable Particulate Matter and Fine Particulate Matter. Particulate matter refers to a wide range of solid or liquid particles in the atmosphere, including smoke, dust, aerosols, and metallic oxides. Respirable particulate matter, or PM_{10}, refers to particulate matter with an aerodynamic diameter of 10 microns or less. Fine particulate matter, or $PM_{2.5}$, refers to particulate matter with an aerodynamic diameter of 2.5 microns or less. Particulate matter in these size ranges has been determined to have the potential to lodge in the lungs and contribute to respiratory problems. PM_{10} and $PM_{2.5}$ arise from a variety of sources, including road dust, diesel exhaust, fuel combustion, tire and brake wear, construction operations, and windblown dust. PM_{10} and $PM_{2.5}$ can increase susceptibility to respiratory infections and can aggravate existing respiratory diseases such as asthma and chronic bronchitis. $PM_{2.5}$ is considered to have the potential to lodge deeper in the lungs. Daily fluctuations in $PM_{2.5}$ concentration levels have also been related to hospital admissions for acute respiratory conditions in children, to school and kindergarten absences, to a decrease in respiratory lung volumes in normal children, and to increased medication use in children and adults with asthma. Recent studies show lung function growth in children is reduced with long-term exposure to particulate matter. The elderly, people with preexisting respiratory or cardiovascular disease, and children, appear to be more susceptible to the effects of high levels of PM_{10} and $PM_{2.5}$. Control of fugitive PM_{10} and $PM_{2.5}$ is primarily achieved through the control of dust at construction and industrial sites, the cleaning of paved roads, and the wetting or paving of frequently used unpaved roads.

Sulfur Dioxide. SO_2 is a colorless, reactive gas that is produced from the burning of sulfur-containing fuels such as coal and oil and by other industrial processes. Generally, the highest concentrations of SO_2 are found near large industrial sources. SO_2 is a respiratory irritant that can cause narrowing of the airways leading to wheezing and shortness of breath. Long-term exposure to SO_2 can cause respiratory illness and aggravate existing cardiovascular disease.

Lead. Pb in the atmosphere occurs as particulate matter. With the phase-out of leaded gasoline, large manufacturing facilities are the sources of the largest amounts of lead emissions. Lead has the potential to cause gastrointestinal, central nervous system, kidney, and blood diseases upon prolonged exposure. Lead is also classified as a probable human carcinogen (i.e., with potential to be cancer causing). Because emissions of lead are found only in projects that require permits from the SDAPCD and are generally large manufacturing facilities, lead is not an air pollutant of concern for the project.

5.5.1.2 Regulatory Framework

Federal

Clean Air Act

Air quality is defined by ambient air concentrations of specific pollutants identified by the USEPA to be of concern with respect to health and welfare of the general public. The USEPA is responsible for enforcing the Federal CAA of 1970 and its 1977 and 1990 Amendments. The CAA required the USEPA to establish National Ambient Air Quality Standards (NAAQS), which identify concentrations of pollutants in the ambient air below which no adverse effects on the public health and welfare are anticipated. In response, the USEPA established both primary and secondary standards for the criteria pollutants discussed above. Table 5.5-1, *Ambient Air Quality Standards*, shows the federal and state ambient air quality standards for these pollutants.

The USEPA has also established regulations for various types of nonroad engines, including small spark-ignition engines, heavy equipment with spark-ignition engines, and heavy equipment with compression-ignition (diesel) engines. In particular, the USEPA established four different tiers of emission standards for nonroad diesel engines that apply to manufacturers phased in over time with increasing stringency. To enable emission control technologies sensitive to sulfur for Tier 4 engines, the USEPA mandated reductions in the sulfur content of diesel fuels. The off-road engines that would be used to construct this project are subject to the USEPA regulatory scheme.

Table 5.5-1
AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	California Standards	Federal Standards	
			Primary[1]	Secondary[2]
O_3	1 Hour	0.09 ppm (180 µg/m^3)	–	–
	8 Hour	0.070 ppm (137 µg/m^3)	0.070 ppm (137 µg/m^3)	Same as Primary
PM_{10}	24 Hour	50 µg/m^3	150 µg/m^3	Same as Primary
	AAM	20 µg/m^3	–	Same as Primary
$PM_{2.5}$	24 Hour	–	35 µg/m^3	Same as Primary
	AAM	12 µg/m^3	12.0 µg/m^3	15.0 µg/m^3
CO	1 Hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	–
	8 Hour	9.0 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)	–
NO_2	1 Hour	0.18 ppm (339 µg/m^3)	0.100 ppm (188 µg/m^3)	–
	AAM	0.030 ppm (57 µg/m^3)	0.053 ppm (100 µg/m^3)	Same as Primary
SO_2	1 Hour	0.25 ppm (655 µg/m^3)	0.075 ppm (196 µg/m^3)	–
	3 Hour	–	–	0.5 ppm (1,300 µg/m^3)
	24 Hour	0.04 ppm (105 µg/m^3)	–	–

Table 5.5-1 (cont.)
AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	California Standards	Federal Standards	
			Primary[1]	Secondary[2]
Lead	30-day Avg.	1.5 µg/m^3	–	–
	Calendar Quarter	–	1.5 µg/m^3	Same as Primary
	Rolling 3-month Avg.	–	0.15 µg/m^3	
Visibility Reducing Particles	8 Hour	Extinction coefficient of 0.23 per km – visibility ≥ 10 miles (0.07 per km – ≥30 miles for Lake Tahoe)	**No Federal Standards**	
Sulfates	24 Hour	25 µg/m^3		
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)		
Vinyl Chloride	24 Hour	0.01 ppm (26 µg/m^3)		

Source: CARB 2016

[1] National Primary Standards: The levels of air quality necessary, within an adequate margin of safety, to protect the public health.

[2] National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

Note: More detailed information of the data presented in this table can be found at the CARB website (www.arb.ca.gov).

O_3=ozone; ppm=parts per million; µg/m^3=micrograms per cubic meter; PM_{10}=large particulate matter; AAM=Annual Arithmetic Mean; $PM_{2.5}$=fine particulate matter; CO=carbon monoxide; mg/m^3=milligrams per cubic meter; NO_2=nitrogen dioxide; SO_2=sulfur dioxide; km=kilometer; –=No Standard.

State

California Air Resources Board

The CAA allows states to adopt ambient air quality standards and other regulations provided they are at least as stringent as federal standards. CARB has established the more stringent California Ambient Air Quality Standards (CAAQS) for the six criteria pollutants through the California Clean Air Act of 1988 (CCAA), and also has established CAAQS for additional pollutants, including sulfates, hydrogen sulfide (H_2S), vinyl chloride, and visibility-reducing particles. CARB maintains a fuels program that regulates the formulation of different fuels such as gasoline, diesel, and alternative fuels to reduce emissions of criteria pollutants, toxic air contaminants (TACs), and GHGs from their use.

CARB sets vehicle tailpipe emission standards, under waiver from the federal CAA by the USEPA, through its Low Emission Vehicle (LEV) program. The LEV program sets vehicle emission standards that increase in stringency over time. CARB administers a program for reducing evaporative and refueling emissions from on-road motor vehicles. In addition to on-road motor vehicles, CARB also administers programs aimed at reducing air emissions from off-road and on-road heavy-duty

vehicles, cargo handling equipment, commercial harbor craft, ground support equipment, locomotives, commercial marine vessels, and recreational marine vessels.

In 1998, CARB identified particulate emissions from diesel-fueled engines (diesel particulate matter, or DPM) as a TAC and developed diesel risk reduction plans. This led to the creation of Airborne Toxic Control Measures (ATCMs) for stationary and portable diesel engines that apply statewide. CARB maintains a statewide Portable Equipment Registration Program that allows owners and operators to register their equipment (powered by diesel engines rated at 50 brake horse power ([bhp] or larger) to operate throughout California without having to obtain individual permits from local air districts.

CARB established the Large Spark-Ignition Engine Fleet Requirements Regulation in 2006 that applies to operators of forklifts, sweeper/scrubbers, industrial tow tractors, and airport ground support equipment to achieve fleet average emission level standards that become more stringent over time.

CARB adopted exhaust emissions standards in 1990 for small off-road engines (spark-ignition engine rated at or less than 19 kilowatts) such as those used in lawn and garden equipment, outdoor power equipment, and specialty vehicles. Over time, the small off-road engines program has been strengthened for exhaust emission standards and expanded to include evaporative emission requirements.

CARB also adopts regulatory requirements for chemically formulated consumer products, fuel containers, and indoor air cleaning products to reduce VOCs, TACs, and GHGs. The Consumer Products Regulatory Program establishes regulations for chemically formulated consumer products such as detergents, cleaning products, polishes, floor finishes, and aerosol paints.

Regional

San Diego Air Pollution Control District

The SDAPCD is the local agency responsible for the administration and enforcement of air quality regulations for San Diego County. The SDAPCD and SANDAG are responsible for developing and implementing the clean air plan for attainment and maintenance of the ambient air quality standards in the SDAB. The County's RAQS was initially adopted in 1991, and the most recent version was adopted by the SDAPCD in 2016. The local RAQS, in combination with those from all other California nonattainment areas with serious (or worse) air quality problems, is submitted to CARB, which develops the California SIP. The SIP relies on the same information from SANDAG to develop emission inventories and emission reduction strategies that are included in the attainment demonstration for the air basin.

The following SDAPCD rules and regulations would apply to the construction of the project:

- 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, or annoyance to people and/or the public, or damage to any business or property.

- 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.

- Regulation IV: Prohibitions; Rule 67.0: 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.

Attainment Status

Areas that do not meet the NAAQS or the CAAQS for a particular pollutant are considered to be "nonattainment areas" for that pollutant. On June 4, 2018, the SDAB was classified as a moderate nonattainment area for the 2015 8-hour NAAQS for ozone (USEPA 2018). The SDAB is an attainment area for the NAAQS for all other criteria pollutants including PM_{10} and $PM_{2.5}$. The SDAB is currently classified as a nonattainment area under the CAAQS for ozone, PM_{10}, and $PM_{2.5}$ (SDAPCD 2017). The current federal and state attainment status for San Diego County is presented in Table 5.5-2, *Federal and State Air Quality Designation for the San Diego Air Basin.*

Table 5.5-2
FEDERAL AND STATE AIR QUALITY DESIGNATION
FOR THE SAN DIEGO AIR BASIN

Criteria Pollutant	Federal Designation	State Designation
O_3 (1-hour)	(No federal standard)	Nonattainment
O_3 (8-hour)	Moderate nonattainment	Nonattainment
CO	Attainment	Attainment
PM_{10}	Unclassifiable	Nonattainment
$PM_{2.5}$	Attainment	Nonattainment
NO_2	Attainment	Attainment
SO_2	Attainment	Attainment
Lead	Attainment	Attainment
Sulfates	(No federal standard)	Attainment
Hydrogen Sulfide	(No federal standard)	Unclassifiable
Visibility	(No federal standard)	Unclassifiable

Source: SDAPCD 2017 and USEPA 2018

Toxic Air Contaminants

As noted above, TACs are a category of air pollutants that have been shown to have an impact on human health but are not classified as criteria pollutants. The CAA Amendments of 1990 expanded the regulation of hazardous air pollutants (HAPs), which is the federal government terminology for TACs, establishing a list of 172 individual compounds and 17 compound categories to be regulated as HAPs. USEPA established stringent, technology-based emissions standards for stationary sources of emissions of these listed substances.

At the state level, TACs in California are regulated primarily through the Tanner Air Toxics Act (AB 1807 [Chapter 1047, Statutes of 1983]) and the Air Toxics Hot Spots Information and Assessment

Act (AB 2588 [Chapter 1252, Statutes of 1987]). CARB continues to implement an ongoing program to identify TACs, assess their public health risks, and develop air toxics control measures to reduce toxic emissions from specific source categories statewide. Local air districts then must adopt and implement the state-approved emission reduction measures.

Examples of TACs include certain aromatic and chlorinated hydrocarbons, certain metals, and asbestos. Air toxics 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 farms, landfills, construction sites, and residential areas. Adverse health effects of TACs can be carcinogenic, short-term (acute) noncarcinogenic, and long-term (chronic) noncarcinogenic. Public exposure to TACs is a significant environmental health issue in California.

Particulate exhaust emissions from diesel-fueled engines were identified as a TAC by CARB in 1998. Federal and state efforts to reduce DPM emissions have focused on the use of improved fuels, adding particulate filters to engines, and requiring the production of new-technology engines that emit fewer exhaust particulates. Diesel engines tend to produce a much higher ratio of fine particulates than other types of internal combustion engines. The fine particles that make up DPM tend to penetrate deep into the lungs and the rough surfaces of these particles makes it easy for them to bind with other toxins within the exhaust, thus increasing the hazards of particle inhalation. Long-term exposure to DPM is known to lead to chronic, serious health problems including cardiovascular disease, cardiopulmonary disease, and lung cancer.

Existing Air Quality

Attainment Designations

Attainment designations are discussed in Section 5.5.1.2 and Table 5.5-2. The SDAB is classified as a marginal nonattainment area for the 8-hour NAAQS for ozone. The SDAB is currently classified as a nonattainment area under the CAAQS for ozone (serious nonattainment), PM_{10}, and $PM_{2.5}$. The SDAB is an attainment area for all other criteria pollutants.

Monitored Air Quality

The SDAPCD operates a network of ambient air monitoring stations throughout the county. The purpose of the monitoring stations is to measure ambient concentrations of the pollutants and determine whether the ambient air quality meets the CAAQS and the NAAQS. The nearest ambient monitoring station to the project site is the San Diego-Kearny Villa Road monitoring station located at 6125A Kearny Villa Road in San Diego, approximately 10 miles south of the project site. Air quality data for this monitoring station are shown in Table 5.5-3, *Air Quality Monitoring Data.*

Monitoring data at the San Diego-Kearny Villa Road station has shown acceptable levels of the criteria air pollutants CO (8-hour), NO_2, $PM_{2.5}$ and PM_{10}. The state 8-hour ozone standard was violated three times in 2016 and six times in 2017. The federal 8-hour ozone standard was violated four times in 2017. The 1-hour ozone standard was violated twice in 2017.

Table 5.5-3
AIR QUALITY MONITORING DATA

Pollutant	2015	2016	2017
Ozone (O_3)			
Maximum 1-hour concentration (ppm)	0.077	0.087	0.097
Days above 1-hour state standard (>0.09 ppm)	0	0	2
Maximum 8-hour concentration (ppm)	0.070	0.075	0.083
Days above 8-hour state standard (>0.070 ppm)	0	3	6
Days above 8-hour federal standard (>0.075 ppm)	0	0	4
Carbon Monoxide (CO)			
Maximum 8-hour concentration (ppm)	*	*	*
Days above state or federal standard (>9.0 ppm)	0	0	0
Respirable Particulate Matter (PM_{10})			
Maximum 24-hour concentration (µg/m^3)	39.0	36.0	46.0
Days above state standard (>50 µg/m^3)	0	0	0
Days above federal standard (>150 µg/m^3)	0	0	0
Fine Particulate Matter ($PM_{2.5}$)			
Maximum 24-hour concentration (µg/m^3)	25.7	19.4	27.5
Days above federal standard (>35 µg/m^3)	0	0	0
Nitrogen Dioxide (NO_2)			
Maximum 1-hour concentration (ppm)	0.051	0.053	0.054
Days above state 1-hour standard (0.18 ppm)	0	0	0

Source: CARB (2019)
ppm=parts per million, µg/m^3=micrograms per cubic meter
*Insufficient data available

Odors

The State of California Health and Safety Code Sections 41700 and 41705 and SDAPCD Rule 51 (commonly referred to as public nuisance law) prohibit emissions from any source whatsoever in such quantities of air contaminants or other material, which cause injury, detriment, nuisance, or annoyance to the public health or damage to property. The provisions of these regulations do not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals. It is generally accepted that the considerable number of persons requirement in Rule 51 is normally satisfied when 10 different individuals/households have made separate complaints within 90 days. Odor complaints from a "considerable" number of persons or businesses in the area will be considered to constitute a significant, adverse odor impact.

The SDMC also addresses odor impacts in Chapter 14, Article 2, Division 7 paragraph 142.0710, "Air Contaminant Regulations," which states:

> Air contaminants including smoke, charred paper, dust, soot, grime, carbon, noxious acids, toxic fumes, gases, odors, and particulate matter, or any emissions that endanger human health, cause damage to vegetation or property, or cause soiling shall not be permitted to emanate beyond the boundaries of the premises upon which the use emitting the contaminants is located.

Sensitive Receptors

Some members of the population are especially sensitive to air pollutant emissions and should be given special consideration when evaluating air quality impacts from projects. These include children, the elderly, people with preexisting respiratory or cardiovascular illness, and athletes and others who engage in frequent exercise. Air quality regulators typically define sensitive receptors as schools, hospitals, resident care facilities, daycare centers, or other facilities that may house individuals with health conditions that would be adversely impacted by changes in air quality. Residential areas are also considered sensitive to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to pollutants potentially present. Recreational land uses are considered moderately sensitive to air pollution. Exercise places a high demand on respiratory functions, which can be impaired by air pollution even though exposure periods during exercise are generally short. In addition, noticeable air pollution can detract from the enjoyment of recreation. Industrial and commercial areas are considered the least sensitive to air pollution. Exposure periods are relatively short and intermittent as the majority of the workers tend to stay indoors most of the time.

The project vicinity includes residential and commercial land uses. The closest sensitive receptors to the project site are residential uses to the west and north. The nearest school to the project site is Rolling Hills Elementary, located at 15255 Peñasquitos Drive (approximately 0.2 mile) to the northwest. Commercial lands proximate to the project site are located to the south and east across I-15. Commercial land uses including offices, stores, restaurants, etc. are considered the least sensitive to air pollution.

5.5.2 Impact 1: Air Quality Management Plan Consistency

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

5.5.2.1 Impact Thresholds

The SDAPCD is required, pursuant to the federal CAA, to reduce emissions of criteria pollutants for which the SDAB is in nonattainment. Strategies to achieve these emissions reductions are developed in the RAQS and SIP, prepared by the APCD for the region. Both the RAQS and SIP are based on SANDAG population projections, as well as land use designations and population projections included in general plans for those communities located within the County. Population growth is typically associated with the construction of residential units or large employment centers.

A project would be inconsistent with the RAQS/SIP if it would result in population and/or employment growth that would exceed growth estimates for the area anticipated in the General Plan and SANDAG's growth projections. If a project proposes development that is the same as or less dense than that anticipated within the General Plan, the project would be consistent with the RAQS. If a project proposes development that is greater than that anticipated in the City General Plan and SANDAG's growth projections upon which the RAQS is based, the project could conflict with the RAQS and SIP, and may have a potentially significant impact on air quality. This situation would warrant further analysis to determine if a project and the surrounding projects exceed the growth projections used in the RAQS for the specific subregional area.

5.5.2.2 Impact Analysis

The project would redevelop a former golf course site that is currently not in use or accessible to the public, as well as the maintenance yard in the southwest portion of the site. The existing private tennis courts previously associated with the Hotel Karlan are being closed. The project proposes a GPA to re-designate the site from the General Plan designations of Park, Open Space, and Recreation (with a small area of Commercial Employment, Retail, and Services on the southwestern edge of the site) to allow low density residential development. The project also proposes a CPA to re-designate the site from the RPCP designation of Preserve Golf Course Use (with small areas of Swimming and Tennis Club and Commercial Recreation on the southwestern edge of the site), to Low Density Residential. The proposed change of land use designations would be consistent with surrounding RPCP land uses. The project also would be consistent with the number of residences assumed under existing zoning (Residential-Single Unit; RS-1-14), which, assuming an 85 percent building efficiency to account for 15 percent of the approximately 112.3-acre site to be developed as internal roadways and landscaping, would allow for up to 831 single-family dwelling units; or 295 units more than the project proposes.

The project would be consistent with applicable environmental goals and objectives contained in the General Plan and RPCP. The project would consist of redevelopment in the vicinity of (i.e., immediately across I-15 from) an identified SANDAG Smart Growth Area (Potential Community Center). In addition, the southeastern portion of the project site would be within a SANDAG-identified Transit Oriented District. The City's map of Transit Priority Areas per SB 743 indicates that the project site is approximately 0.7 mile from a City-identified Transit Priority Area. The proposed increase in multi-family age-restricted market rate and affordable housing in this area would increase residents' access to nearby businesses while helping to reduce the number and distance of auto trips, which would in turn help reduce emissions. Additionally, the proposed residential uses would have access to transit via the Rancho Bernardo Transit Station and the Sabre Springs/Peñasquitos Transit Station and Parking Structure, both of which provide BRT access to commercial and employment centers throughout the region. The project also would include improvements to pedestrian and bicycle connections to transit for users of the site and residents of the surrounding area, including a mobility zone to support transit and rideshare services and a bicycle hub with bicycle information, personal daytime lockers, pressurized air pumps, and tethered bike repair tools. These connections would incorporate a series of public spaces, including a public park, a privately owned park and social loop trail covered by public recreation easements to ensure public access, and various common area open spaces for project residents only. Thus, the project would contribute to the goal of focusing growth into mixed-use activity centers that are pedestrian-friendly and linked to the regional transit system.

The project would implement the City's General Plan mobility and conservation policies through a combination of vehicular, bicycle, and pedestrian circulation improvements that would enhance movement within the project and encourage alternative methods of travel, furthering City policies for sustainable methods of transportation to reduce energy use, emissions, and traffic. New structures, hardscape, and landscape elements would be designed in accordance with the City's policies and guidelines, replacing a defunct golf course with new housing opportunities, including affordable housing units, as well as park and open space amenities available to the public. The enhanced design would contribute to a cohesive environment, with less focus on the automobile and more focus on provision of pedestrian-oriented features. Adequate public facilities and services

would be provided consistent with the General Plan policies. Sustainability practices would be expanded, and features would be integrated into the project to minimize its carbon dioxide footprint within the City and region.

The project would include a GPA/CPA to change the land use designation of the site, and add residential units (including affordable housing units), open space, a public park and a privately owned, but publicly accessible park, with mobility-oriented features. These proposed uses would be consistent with the intention of the Regional Plan and the General Plan to focus growth into sustainable, mixed-use activity centers linked to the regional transit system. Existing transit stops for the Route 20 bus are located adjacent to the project site at Carmel Mountain Road. The project would not result in an inconsistency or conflict with the environmental goals, objectives, or guidelines of the General Plan, RPCP, and other applicable plans. The project would conform to the most applicable policies and standards of the General Plan, RPCP (as amended) and SDMC. Furthermore, as detailed in Section 5.5.3, below, the project would not result in a significant air quality impact with respect to construction- and operational-related emissions of ozone precursors or criteria air pollutants. The project would also comply with all existing and new rules and regulations as they are implemented by the SDAPCD, CARB, and/or USEPA related to emissions generated during construction. Therefore, the project would not conflict with the applicable air quality attainment plan, and impacts to regional air quality would be less than significant.

5.5.2.3 Significance of Impact

The project would not conflict with regional air quality plans and impacts would be less than significant.

5.5.2.4 Mitigation, Monitoring and Reporting

As impacts would be less than significant, no mitigation measures would be required.

5.5.3 Impact 2: Criteria Pollutant Emissions

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 exceed 100 pounds per day of particulate matter (PM) (dust)?*

Issue 4: *Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard?*

5.5.3.1 Impact Thresholds

To determine whether a project would result in emissions that would violate an air quality standard or contribute substantially to an existing or projected air quality violation, a project's emissions are evaluated based on the quantitative emission thresholds established by the SDAPCD as presented in Table 5.5-4, *Screening-Level Thresholds for Air Quality Impact Analysis.*

Table 5.5-4
SCREENING-LEVEL THRESHOLDS FOR AIR QUALITY IMPACT ANALYSIS

Pollutant		Total Emissions	
Construction Emissions (pounds per day)			
Respirable Particulate Matter (PM_{10})		100	
Fine Particulate Matter ($PM_{2.5}$)		55	
Oxides of Nitrogen (NO_X)		250	
Oxides of Sulfur (SO_X)		250	
Carbon Monoxide (CO)		550	
Volatile Organic Compounds (VOCs)		75	
	Pounds per Hour	**Pounds per Day**	**Tons per Year**
Operational Emissions			
Respirable Particulate Matter (PM_{10})	---	100	15
Fine Particulate Matter ($PM_{2.5}$)	---	55	10
Oxides of Nitrogen (NO_X)	25	250	40
Oxides of Sulfur (SO_X)	25	250	40
Carbon Monoxide (CO)	100	550	100
Lead and Lead Compounds	---	3.2	0.6
Volatile Organic Compounds (VOC)	---	75	13.7
Toxic Air Contaminant Emissions			
Excess Cancer Risk	1 in 1 million 10 in 1 million with T-BACT		
Non-Cancer Hazard	1.0		

Source: SDACPD Rule 20.2 and Rule 1210.
T-BACT = Toxics-Best Available Control Technology

5.5.3.2 Impact Analysis

The project would generate criteria pollutants in the short term during construction and the long term during operation. Both scenarios were analyzed, as well as whether the project would result in 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.

Construction Scenario

As detailed in the AQTR prepared for the project (HELIX 2019b), the project's construction emissions were estimated using the California Emissions Estimator Model (CalEEMod) Version 2016.3.2 (California Air Pollution Control Officers Association [CAPCOA] 2017). CalEEMod is a computer model used to estimate criteria air pollutant and GHG emissions resulting from construction and operation of land development projects throughout the state of California.

Project-specific input was based on general information provided in Section 3.0 and default model settings to estimate reasonable worst-case conditions. The construction schedule was determined by using CalEEMod defaults, input from the project applicant, and standard assumptions for similarly sized projects, taking into consideration the size of the project in order to estimate necessary construction activities and length of days per construction activity. For modeling purposes, project development was assumed to start in November 2019 and to end February 2023.

The quantity, duration, and the intensity of construction activity have an effect on the amount of construction emissions and their related pollutant concentrations that occur at any one time. As such, the emission forecasts provided herein reflect a specific set of conservative assumptions based on the expected construction scenario wherein a relatively large amount of construction is occurring in a relatively intensive manner. Because of this conservative assumption, actual emissions could be less than those forecasted. If construction is delayed or occurs over a longer time period, emissions could be reduced because of: (1) a more modern and cleaner-burning construction equipment fleet mix than is incorporated in the CalEEMod; and/or (2) a less intensive buildout schedule (i.e., fewer daily emissions occurring over a longer time interval).

Modeling assumed the project would conform to VOC limits in SDAPCD rules and would apply standard dust control measures, including watering two times daily during grading, ensuring that all exposed surfaces maintain a minimum soil moisture of 12 percent, and limiting vehicle speeds on unpaved roads to 15 mph. Additional details regarding construction equipment and other input parameters, including CalEEMod data, are included in the AQTR (HELIX 2019b, Appendix D to this EIR).

The results of the calculations for project construction are shown in Table 5.5-5, *Maximum Daily Construction Emissions*. The data are presented as the maximum anticipated daily emissions for comparison with the SDAPCD thresholds.

Table 5.5-5
MAXIMUM DAILY CONSTRUCTION EMISSIONS

Phase	Pollutant Emissions (pounds per day)					
	VOC	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Demolition	4	52	26	<0.5	8	3
Site Preparation	5	51	24	<0.5	11	7
Grading	5	50	32	<0.5	6	4
Building Construction	4	27	29	<0.5	5	2
Paving	1	11	15	<0.5	1	1
Architectural Coatings	66	2	4	<0.5	1	<0.5
Maximum Daily Emissions	**66**	**52**	**32**	**<0.5**	**11**	**7**
SDAPCD Thresholds	*75*	*250*	*550*	*250*	*100*	*55*
Significant Impact?	***No***	***No***	***No***	***No***	***No***	***No***

Source: CalEEMod (output data is provided in Appendix A of the AQTR)
VOC=volatile organic compound; NO_X=nitrogen oxides; CO=carbon monoxide; SO_X=sulfur oxides; PM_{10}=particulate matter less than 10 microns in diameter; $PM_{2.5}$=particulate matter less than 2.5 microns in diameter

As shown in Table 5.5-5, emissions of all criteria pollutants related to project construction, including PM, would be below the SDAPCD's significance thresholds. Therefore, direct impacts from criteria pollutants generated during construction would not cause a violation of any air quality standard, contribute substantially to an existing or projected air quality violation, or exceed the particulate matter threshold and thus, the project would not result in any adverse human health effects and impacts would be less than significant.

Operation Scenario

Operational impacts were estimated using CalEEMod. Operational sources of emissions include area, energy, and mobile sources. Operational emissions from energy sources include the combustion of natural gas for heating and hot water. Area source emissions include engine emissions from landscape maintenance equipment, and VOC emissions from repainting of buildings. Consistent with the sustainability features described in Section 3.0, the project assumes no woodburning hearths in homes, and natural gas fireplaces only in 131 single detached residences and the community center.

Operational emissions from mobile sources are associated with project-related vehicle trip generation (LLG 2019). Annual VMT was estimated to be 3.4 million miles per year based on the location, type (age-restricted with an affordable component), and design (e.g., connectivity elements and electrical vehicle support through an EV-pre-wired program in every for-sale home) of the project. Model output data sheets are included in EIR Appendix D, in AQTR Appendix A.

Operational emission estimates with project design features take into account energy efficiency in accordance with 2016 California Green Building Standards Code (CALGreen) Title 24 standards. Table 5.5-6, *Maximum Daily Operational Emissions*, presents the summary of operational emissions for the project.

Table 5.5-6
MAXIMUM DAILY OPERATIONAL EMISSIONS

Category	Pollutant Emissions (pounds per day)					
	VOC	**NO_X**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Area	18	3	45	<0.5	<0.5	<0.5
Energy	<0.5	2	1	<0.5	<0.5	<0.5
Mobile	2	9	24	<0.5	7	2
Total Daily Emissions	20	13	70	<0.5	8	3
SDAPCD Thresholds	*75*	*250*	*550*	*250*	*100*	*55*
Significant Impact?	***No***	***No***	***No***	***No***	***No***	***No***

Source: CalEEMod (output data is provided in Appendix A of the AQTR)
Notes: Totals may not add due to rounding.
<0.5 values remain less than 0.5 even when combined
VOC=volatile organic compound; NO_X=nitrogen oxides; CO=carbon monoxide; SO_X=sulfur oxides; PM_{10}=particulate matter less than 10 microns in diameter; $PM_{2.5}$=particulate matter less than 2.5 microns in diameter

As shown in Table 5.5-6, project emissions of all criteria pollutants during operation would be below the daily thresholds. Therefore, direct impacts from criteria pollutants generated during operation would not cause a violation of any air quality standard, contribute substantially to an existing or projected air quality violation, or exceed the particulate matter threshold and thus, the project would not result in any adverse human health effects and impacts would be less than significant.

Cumulatively Considerable Increase in Nonattainment Pollutants

The cumulative analysis focuses on whether a specific project would result in a cumulatively considerable increase in emissions. By its very nature, air pollution is largely a cumulative impact. The nonattainment status of regional pollutants is a result of past and present development within

the SDAB, and this regional impact is cumulative rather than attributable to any one source. A project's emissions may be individually limited, but cumulatively considerable when taken in combination with past, present, and future development projects. The thresholds of significance are relevant to whether a project's individual emissions would result in a cumulatively considerable incremental contribution to the existing cumulative air quality conditions. If a project's emissions would be less than those threshold levels, the project would not be expected to result in a considerable incremental contribution to the significant cumulative impact.

The thresholds above are designed to identify those projects that would result in significant levels of air pollution and to assist the region in attaining the applicable state and federal ambient air quality standards. Projects that would exceed the thresholds of significance would contribute a considerable amount of criteria air pollutant emissions to the region's emissions profile and may impede attainment and maintenance of ambient air quality standards.

The region is a federal and/or state nonattainment area for PM_{10}, $PM_{2.5}$, and ozone. The project would contribute particulates and the ozone precursors VOC and NO_X to the area during project construction and operation. As described above and shown in Table 5.5-5, emissions during construction activities would not exceed the thresholds and so would not violate any air quality standard or contribute substantially to an existing or projected air quality violation. Therefore, construction emissions would not be cumulatively considerable, and the impact would be less than significant.

Long-term emissions, as shown in Table 5.5-6, would be well below applicable thresholds. Project operational emissions, therefore, would not be cumulatively considerable, and the impact would be less than significant.

5.5.3.3 Significance of Impact

The project would not result in a violation of any air quality standard, nor would it contribute substantially to an existing or projected air quality violation that would contribute to a direct or cumulative impact to air quality. In addition, as shown in Tables 5.5-5 and 5.5-6, none of the emission scenarios for the project would exceed 100 pounds per day of PM. Therefore, impacts associated with construction and operational emissions would be less than significant.

5.5.3.4 Mitigation, Monitoring and Reporting

As impacts would be less than significant, no mitigation measures would be required.

5.5.4 Impact 3: Sensitive Receptors

Issue 5: Would the project expose sensitive receptors to substantial pollutant concentrations?

5.5.4.1 Impact Thresholds

Impacts to sensitive receptors are typically analyzed for operational period CO hotspots and exposure to TACs, including DPM. CO hotspots are analyzed in accordance with the Caltrans

Transportation Project-Level Carbon Monoxide Protocol using the CAAQS presented in Table 5.5-1. TAC thresholds are presented in Table 5.5-4 above.

5.5.4.2 Impact Analysis

Carbon Monoxide Hotspots

A CO hot spot is an area of localized CO pollution caused by severe vehicle congestion on major roadways, typically near intersections. A quantitative screening is required in two instances: (1) if a project increases the average delay at signalized intersections operating at LOS E or F; or (2) if a project causes an intersection that would operate at LOS D or better without the project to operate at LOS E or F with the project. According to the Transportation Impact Analysis (LLG 2019; see EIR Appendix B), with the addition of project traffic and the installation of a traffic signal at the intersection of Peñasquitos Drive at Cuca Street and a roundabout at the intersection of Peñasquitos Drive at Janal Way, no intersections would operate at LOS E or F and experience an increase in delay from the project.

There would be no potential for a project-related CO hot spot or exceedance of state or federal CO ambient air quality standards because the maximum traffic volumes would be substantially less than the 3,000 vehicles per hour screening level. Therefore, air quality impacts related to the exposure of sensitive receptors to substantial pollutant concentrations from CO hotpots would be less than significant.

Exposure to TACs during Construction

Construction activities would result in short-term, project-generated emissions of DPM from the exhaust of off-road, heavy-duty diesel equipment. CARB identified DPM as a TAC in 1998. The dose to which receptors are exposed is the primary factor used to determine health risk. Dose is a function of the concentration of a substance or substances in the environment and the duration of exposure to the substance. Therefore, the risks estimated for a maximally exposed individual (MEI) are higher if a fixed exposure occurs over a longer time period. According to the Office of Environmental Health Hazard Assessment, Health Risk Assessments (HRAs), which determine the exposure of sensitive receptors to TAC emissions, should be based on a 30-year exposure period; however, such assessments should be limited to the period/duration of activities associated with a project.

There would be relatively few pieces of off-road, heavy-duty diesel equipment used during construction, and the construction period would be relatively short, especially when compared to 30 years. Combined with the highly dispersive properties of DPM and additional reductions in exhaust emissions from improved equipment, construction-related emissions would not expose sensitive receptors to substantial emissions of TACs. Impacts from construction emissions would be less than significant.

Exposure to TACs during Operation

Exposure to DPM generated by traffic on roadways is a concern identified in the CARB *Air Quality and Land Use Handbook* (CARB 2005). The CARB guidelines indicate that siting new sensitive land uses (such as housing) within 500 feet of a freeway or an urban road with 100,000 vehicles per day should

be avoided. The project is located adjacent the I-15 freeway. Because the project would site new residences within the 500-foot buffer, a health risk analysis is required.

Details regarding acute project-related emissions and carcinogenic and chronic project-related emissions are presented in the AQTR (HELIX 2019b) and summarized below.

Acute Project-Related Emission Impacts

Exposure to diesel exhaust can result in immediate health effects. Diesel exhaust can irritate the eyes, nose, throat, and lungs, and it can cause coughs, headaches, lightheadedness, and nausea. However, the available data from studies of humans exposed to diesel exhaust are not sufficient for deriving an acute non-cancer health risk guidance value. While the lung is a major target organ for diesel exhaust, studies of the gross respiratory effects of diesel exhaust in exposed workers have not provided sufficient exposure information to establish a short-term non-cancer health risk guidance value for respiratory effects. Since there are no significant emissions of toxic air pollutants that cause short-term acute health effects in the project vicinity, the potential for short-term acute exposure would be less than significant.

Carcinogenic and Chronic Project-Related Emission Impacts

The first step of the HRA is to characterize the project-related vehicle emissions. The daily truck activity along the portion of I-15 adjacent to the project site was obtained by examining Caltrans published traffic counts. For the assessment, emissions were modeled as line volume sources along I-15. Emission factors were derived from the CARB model EMFAC2017 to determine the total diesel exhaust emissions of PM_{10} along I-15.

The approach to estimating cancer risk from long-term inhalation exposure to carcinogens requires calculating a range of potential doses and multiplying by cancer potency factors in units of inverse dose to obtain a range of cancer risks. To accurately estimate the cancer risk associated with the age-restricted population, the age at which exposure begins was set to 55 years old. The exposure duration was set to the regulatory default of 30 years.

With the conservative modeling technique used (i.e., assuming that an individual stays outdoors at his or her residence 24 hours per day for 30 years, which is the State-required period of time that HRAs must use for analysis), the maximally exposed individual sensitive receptor would be exposed to an incremental inhalation cancer risk of no more than 7.75 in 1 million, which is lower than the threshold of 10 in 1 million as described in Table 5.5-4. The Chronic Hazard Index would be 0.016, which is lower than the threshold of 1.0.

The cancer burden is an estimate of the number of cancer cases expected from a 30-year exposure to project TAC emissions. The cancer burden is calculated by multiplying the number of people exposed by the cancer risk at the maximum individual exposed resident, which is 7.75×10^{-6}. In this case, the number of people exposed is the number of people living in the residences within the 1 per 1 million contour. The entire project falls within this contour. Assuming a standard occupancy rate of 1.7 persons per dwelling unit, the population of the project would be 911 persons, resulting in a cancer burden of 0.007, which is less than the threshold of 0.5. Thus, no significant health risk would occur from exposure to freeway DPM emissions, and no mitigation is necessary.

5.5.4.3 Significance of Impact

No exceedances of the CO standard are predicted as a result of CO hotspots, and the project would not cause or contribute to a violation of the air quality standard; therefore, the project would not result in a significant direct or cumulative impact for CO.

Construction and operational emissions would not expose sensitive receptors to substantial emissions of TACs or significant health risks from exposure to freeway DPM emissions. The impact would be less than significant.

5.5.4.4 Mitigation, Monitoring and Reporting

As no significant impacts would occur, no mitigation measures would be required.

5.5.5 Impact 4: Odors

Issue 6: Would the project create objectionable odors affecting a substantial number of people?

5.5.5.1 Impact Thresholds

The State of California Health and Safety Code Sections 41700 and 41705, and SDAPCD Rule 51, prohibit emissions from any source whatsoever in such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to the public health or damage to property. Any unreasonable odor discernible at the property line of the project site will be considered a significant odor impact.

5.5.5.2 Impact Analysis

The project could produce odors during proposed construction activities resulting from construction equipment exhaust, application of asphalt, and/or the application of architectural coatings; however, standard construction practices would minimize the odor emissions and their associated impacts. Furthermore, any odors emitted during construction would be temporary, short-term, and intermittent in nature, and would cease upon the completion of the respective phase of construction. Accordingly, the project would not create objectionable odors affecting a substantial number of people during construction, and short-term impacts would be less than significant.

During project operation, the temporary storage of refuse could be a potential source of odor; however, project-generated refuse is required to be stored in covered containers and removed at regular intervals in compliance with the City's Municipal Code solid waste regulations, thereby precluding significant odor impacts.

The project would provide a community composting area at a location approximately 150 feet from the nearest on-site residences, and approximately 300 feet from the nearest off-site residences. The approximately 400-square foot composting site would require collection of both food waste and some landscape trimmings from project households and HOA-maintained landscaping areas, respectively. When handled properly, the composting of food scraps would not cause odors (USEPA 2016).

The project would require the future HOA to maintain the composting process. The HOA would be required to enter into a contract or agreement with a contractor that would provide food waste bins that would minimize misuse or contamination, collect food waste for delivery directly to the on-site composting area, and maintain the composting area to prevent odors. Due to the small nature of the composting facility, and the maintenance that would be required, no odors are expected for nearby residences.

Furthermore, the project would be required to comply with the aforementioned SDAPCD Rule 51 which prohibits the discharge of odorous emissions that would create a public nuisance. As such, long-term operation of the project would not create objectionable odors affecting a substantial number of people.

5.5.5.3 Significance of Impact

No objectionable odors would be expected to be discernible at the property line from either construction or operational sources. Impacts would be less than significant.

5.5.5.4 Mitigation, Monitoring and Reporting

As no significant impacts would occur, no mitigation measures would be required.

5.6 Greenhouse Gas Emissions

This section presents the results of an assessment of potential GHG impacts associated with the project, based on the information and analysis presented in the project's GHG Emissions Technical Report (HELIX 2019f), included as Appendix E.

5.6.1 Existing Conditions

5.6.1.1 Environmental Setting

Climate Change Background

Global climate change refers to changes in average climatic conditions on Earth, as a whole, including temperature, wind patterns, precipitation, and storms. Global temperatures are moderated by atmospheric gases. These gases are commonly referred to as greenhouse gases because they function like a greenhouse by letting light in but preventing heat from escaping, thus warming the Earth's atmosphere.

GHGs are emitted by natural processes and human (anthropogenic) activities. Anthropogenic GHG emissions are primarily associated with: (1) the burning of fossil fuels during motorized transport, electricity generation, natural gas consumption, industrial activity, manufacturing, and other activities; (2) deforestation; (3) agricultural activity; and (4) solid waste decomposition. The temperature record shows a decades-long trend of warming, with 2016 global surface temperatures ranking as the warmest year on record since 1880 (National Aeronautics and Space Administration [NASA] 2018). The newest release in long-term warming trends announced that 2017 ranked as the second warmest year, with an increase of 1.62 degrees Fahrenheit compared to the 1951-1980 average (NASA 2018). GHG emissions from human activities have been the most significant driver of observed climate change since the mid-20th century (Intergovernmental Panel on Climate Change [IPCC] 2013). The IPCC constructed several emission trajectories of GHGs needed to stabilize global temperatures and climate change impacts. The statistical models show a "high confidence" that temperature increase caused by anthropogenic GHG emissions could be kept to less than two degrees Celsius relative to pre-industrial levels if atmospheric concentrations are stabilized at about 450 parts per million (ppm) carbon dioxide equivalent (CO_2e) by the year 2100 (IPCC 2014).

GHG Emission Inventories

CARB performs statewide GHG inventories. The inventory is divided into six broad sectors: agriculture and forestry, commercial, electricity generation, industrial, residential, and transportation. Emissions are quantified in million metric tons (MMT) of CO_2e. Statewide GHG emissions totaled 433 MMT CO_2e in 1990, 471 MMT CO_2e in 2000, 448 MMT CO_2e in 2010, and 424 MMT CO_2e in 2017 (CARB 2019). Transportation-related emissions consistently contribute the most GHG emissions, with 41 percent of the total in 2017, followed by industrial emissions (24 percent), electricity generation (15 percent), agriculture (8 percent), residential (7 percent), and commercial (5 percent).

A San Diego regional emissions inventory was prepared by the University of San Diego School of Law, Energy Policy Initiative Center (EPIC) that took into account the unique characteristics of the

region. Their 2010 emissions inventory for San Diego County showed emissions of 33.2 MMT CO_2e (EPIC 2013). Similar to statewide GHG emissions, transportation contributed the most countywide, with 43 percent of total emissions.

For the City, the most recent GHG inventory for the year 2010 estimated the total emissions at approximately 13.0 MMT CO_2e per year (City 2015a). As with state and County emissions, transportation is the largest emissions category, with 55 percent of total emissions. Energy consumption is the next largest source of emissions, with 40 percent of the total. Under a business-as-usual scenario, the City forecasts that City GHG emissions will increase to approximately 14.1 MMT CO_2e in 2020, 15.9 MMT CO_2e in 2030, and 16.7 MMT CO_2e in 2035 (City 2015a).

Types of GHGs

The GHGs, as defined under California's AB 32, include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6).

CO_2 is the most common anthropogenic GHG. CO_2 is an odorless, colorless GHG. Natural sources include the decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungi; evaporation from oceans; and volcanic outgassing. Anthropogenic sources of CO_2 include burning fuels, such as coal, oil, natural gas, and wood. Data from ice cores indicate that CO_2 concentrations remained steady prior to the current period for approximately 10,000 years. The atmospheric CO_2 concentration in 2010 was 390 ppm, 39 percent above the concentration at the start of the Industrial Revolution (about 280 ppm in 1750). As of April 2018, the CO_2 concentration exceeded 408 ppm (National Oceanic and Atmospheric Administration [NOAA] 2018).

CH_4 is the main component of natural gas used in homes. A natural source of methane is from the decay of organic matter. Geological deposits known as natural gas fields contain methane, which is extracted for fuel. Other sources are from decay of organic material in landfills, fermentation of manure, and cattle digestion.

N_2O is produced by both natural and human-related sources. N_2O is emitted during agricultural and industrial activities, as well as during the combustion of fossil fuels and solid waste. Primary human-related sources of N_2O are agricultural soil management, animal manure management, sewage treatment, mobile and stationary combustion of fossil fuel, adipic (fatty) acid production, and nitric acid production.

Fluorocarbons are gases formed synthetically by replacing all hydrogen atoms in methane or ethane with chlorine and/or fluorine atoms. Chlorofluorocarbons are nontoxic, nonflammable, insoluble, and chemically nonreactive in the troposphere (the level of air at Earth's surface). Chlorofluorocarbons were first synthesized in 1928 for use as refrigerants, aerosol propellants, and cleaning solvents. They destroy stratospheric ozone; therefore, their production was stopped as required by the 1989 Montreal Protocol.

SF_6 is an inorganic, odorless, colorless, nontoxic, nonflammable gas. SF_6 is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semi-conductor manufacturing, and as a tracer gas for leak detection.

GHGs have long atmospheric lifetimes that range from one year to several thousand years. Long atmospheric lifetimes allow for GHGs to disperse around the globe. Because GHGs vary widely in the power of their climatic effects, climate scientists have established a unit called global warming potential (GWP). The GWP of a gas is a measure of both potency and lifespan in the atmosphere as compared to CO_2. For example, because methane and N_2O are approximately 25 and 298 times more powerful than CO_2, respectively, in their ability to trap heat in the atmosphere, they have GWPs of 25 and 298, respectively (CO_2 has a GWP of 1). CO_2e is a quantity that enables all GHG emissions to be considered as a group despite their varying GWP.

5.6.1.2 Regulatory Framework

Federal Clean Air Act

The U.S. Supreme Court ruled on April 2, 2007, in *Massachusetts v. USEPA,* that CO_2 is an air pollutant, as defined under the CAA, and that the USEPA has the authority to regulate emissions of GHGs. The USEPA announced that GHGs (including CO_2, CH_4, N_2O, HFC, PFC, and SF_6) threaten the public health and welfare of the American people. This action was a prerequisite to finalizing the USEPA's GHG emissions standards for light-duty vehicles, which were jointly proposed by the USEPA and the United States Department of Transportation's National Highway Traffic Safety Administration (NHTSA).

Light-Duty Vehicle Greenhouse Gas Emissions Standards and Corporate Average Fuel Economy Standards

The USEPA and the NHTSA have worked together on developing a national program of regulations to reduce GHG emissions and to improve fuel economy of light-duty vehicles. On April 1, 2010, the USEPA and NHTSA announced a joint Final Rulemaking that established standards for 2012 through 2016 model year vehicles. This was followed up on October 15, 2012, when the agencies issued a Final Rulemaking with standards for model years 2017 through 2025. The rules require vehicles to meet a 2016 standard that is equivalent to 35.5 miles per gallon (mpg), and a 2025 standard that is equivalent to 54.5 mpg if the levels were achieved solely through improvements in fuel efficiency. The agencies expect, however, that a portion of these improvements will be made through improvements in air conditioning leakage and the use of alternative refrigerants that would not contribute to fuel economy. These standards would cut GHG emissions by an estimated two billion metric tons (MT) and four billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2017–2025). The combined USEPA GHG standards and NHTSA Corporate Average Fuel Economy (CAFE) standards resolve previously conflicting requirements under both federal programs and the standards of the State of California and other states that have adopted the California standards (USEPA 2011, USEPA and NHTSA 2012).

California Code of Regulations, Title 24, Part 6

CCR Title 24 Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings were first established in 1978 in response to a legislative mandate to reduce California's energy consumption. Energy-efficient buildings require less electricity, natural gas, and other fuels. Electricity production from fossil fuels and on-site fuel combustion (typically for water heating) results in GHG emissions.

The Title 24 standards are updated approximately every three years to allow consideration and possible incorporation of new energy efficiency technologies and methods. The latest update to the Title 24 standards occurred in 2016 and went into effect on January 1, 2017. The next update to Title 24 occurred in 2019 and went into effect on January 1, 2020. The 2019 standards will continue to improve construction of new buildings and alterations to existing buildings.

California Green Building Standards Code

The CALGreen Building Standards Code (24 CCR, Part 11) is a code with mandatory requirements for new residential and nonresidential buildings (including buildings for retail, office, public schools and hospitals) throughout California. The current version of the code went into effect on January 1, 2017. As noted above, the 2019 standards, in effect as of January 2020, will continue to improve upon the current 2016 standards.

The CALGreen Code contains diverse requirements; including for storm water control during construction, construction waste reduction, indoor water use reduction, material selection, natural resource conservation, and site irrigation conservation. The code provides for design options allowing the designer to determine how best to achieve compliance for a given site or building condition. The code also requires building commissioning, which is a process for the verification that all building systems, such as heating and cooling equipment and lighting systems, are functioning at their maximum efficiency.

Executive Order S-3-05

On June 1, 2005, EO S-3-05 proclaimed that California is vulnerable to climate change impacts. It declared that increased temperatures could reduce snowpack in the Sierra Nevada, further exacerbate California's air quality problems, and potentially cause a rise in sea levels. In an effort to avoid or reduce climate change impacts, EO S-3-05 calls for a reduction in GHG emissions to the year 2000 level by 2010, to year 1990 levels by 2020, and to 80 percent below 1990 levels by 2050.

Assembly Bill 32 – Global Warming Solution Act of 2006

The California Global Warming Solutions Act of 2006, widely known as AB 32, requires that CARB develop and enforce regulations for the reporting and verification of statewide GHG emissions. CARB is directed to set a GHG emission limit, based on 1990 levels, to be achieved by 2020. The bill requires CARB to adopt rules and regulations in an open public process to achieve the maximum technologically feasible and cost-effective GHG reductions.

Executive Order B-30-15

On April 29, 2015, EO B-30-15 established a California GHG reduction target of 40 percent below 1990 levels by 2030. The EO aligns California's GHG reduction targets with those of leading international governments, including the 28-nation European Union. California is on track to meet or exceed the target of reducing GHG emissions to 1990 levels by 2020, as established in AB 32. California's new emission reduction target of 40 percent below 1990 levels by 2030 will make it possible to reach the ultimate goal established by EO S-3-05 of reducing emissions 80 percent under 1990 levels by 2050.

Senate Bill 32

As a follow-up to AB 32 and in response to EO-B-30-15, SB 32 was passed by the California legislature in August 2016 to codify the EO's California GHG reduction target of 40 percent below 1990 levels by 2030.

Assembly Bill 197

A condition of approval for SB 32 was the passage of AB 197, which also occurred in the California legislature in August 2016. AB 197 requires that CARB consider the social costs of GHG emissions and prioritize direct reductions in GHG emissions at mobile sources and large stationary sources. AB 197 also gives the California legislature more oversight over CARB through the addition of two legislatively appointed members to the CARB Board and the establishment of a legislative committee to make recommendations about CARB programs to the legislature.

Assembly Bill 1493 – Vehicular Emissions of Greenhouse Gases

AB 1493 (Pavley) requires that CARB develop and adopt regulations that achieve "the maximum feasible reduction of GHGs emitted by passenger vehicles and light-duty truck and other vehicles determined by CARB to be vehicles whose primary use is noncommercial personal transportation in the State." On September 24, 2009, CARB adopted amendments to the Pavley regulations to support reduction of GHG emissions in new passenger vehicles from 2009 through 2016. The amendments bind California's enforcement of AB 1493 (starting in 2009), while providing vehicle manufacturers with new compliance flexibility. The amendments also prepare California to merge its rules with the federal CAFE rules for passenger vehicles (CARB 2013). In January 2012, CARB approved a new emissions-control program for model years 2017 through 2025. The program combines the control of smog, soot, and global warming gases and requirements for greater numbers of zero-emission vehicles into a single packet of standards called Advanced Clean Cars (CARB 2013).

Assembly Bill 341

In 2011, the State legislature enacted AB 341 (California Public Resource Code Section 42649.2), increasing the solid waste diversion target to 75 percent statewide. AB 341 also requires the provision of recycling service to commercial and residential facilities that generate 4 cy or more of solid waste per week.

Executive Order S-01-07

This EO, signed on January 18, 2007, directs that a statewide goal be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by the year 2020. It orders that a Low Carbon Fuel Standard (LCFS) for transportation fuels be established for California and directs CARB to determine whether an LCFS can be adopted as a discrete early action measure pursuant to AB 32. CARB approved the LCFS as a discrete early action item with a regulation adopted and implemented in April 2010. Although challenged in 2011, the Ninth Circuit reversed the District Court's opinion and rejected arguments that implementing LCFS violates the interstate commerce clause in September 2013. CARB is therefore continuing to implement the LCFS statewide.

Senate Bill 375

SB 375 aligns regional transportation planning efforts, regional GHG reduction targets, and affordable housing allocations. Metropolitan Planning Organizations (MPOs) are required to adopt an SCS, which allocates land uses in the MPO's RTP. Qualified projects consistent with an approved SCS or Alternative Planning Strategy categorized as "transit priority projects" would receive incentives to streamline CEQA processing.

California Air Resources Board: Scoping Plan

On December 11, 2008, CARB adopted the Scoping Plan (CARB 2008) as directed by AB 32. The Scoping Plan proposes a set of actions designed to reduce overall GHG emissions in California to the levels required by AB 32. Measures applicable to development projects include those related to energy-efficiency building and appliance standards, the use of renewable sources for electricity generation, regional transportation targets, and green building strategy. Relative to transportation, the Scoping Plan includes nine measures or recommended actions related to reducing vehicle miles traveled and vehicle GHGs through fuel and efficiency measures. These measures would be implemented statewide rather than on a project-by-project basis.

In response to EO B-30-15 and SB 32, all state agencies with jurisdiction over sources of GHG emissions were directed to implement measures to achieve reductions of GHG emissions to meet the 2030 and 2050 targets. CARB was directed to update the Scoping Plan to reflect the 2030 target and is moving forward with the update process. The mid-term target is critical to help frame the suite of policy measures, regulations, planning efforts, and investments in clean technologies and infrastructure needed to continue driving down emissions. CARB has released a second update to the Scoping Plan to reflect the 2030 target set by EO B-30-15 and codified by SB 32. The 2017 Climate Change Scoping Plan Update, Proposed Strategy for Achieving California's 2030 Greenhouse Gas Target, was adopted December 2017.

SANDAG's San Diego Forward: The Regional Plan

San Diego Forward: The Regional Plan (SANDAG 2015) is the long-range planning document developed to address the region's housing, economic, transportation, environmental, and overall quality-of-life needs. The Regional Plan establishes a framework to increase the region's transportation sustainability and encourage smart growth. The Regional Plan encourages local governments to increase residential and employment concentrations in areas with the best existing and future transit connections, and to preserve important open spaces. The focus is on implementation of basic smart growth principles designed to strengthen the integration of land use and transportation.

City of San Diego General Plan

The City General Plan includes several climate change-related policies aimed at reducing GHG emissions from future development and City operations. For example, Conservation Element policy CE-A.2 aims to reduce the City's carbon footprint and to develop and adopt new or amended regulations, programs, and incentives as appropriate to implement the goals and policies set forth related to climate change (City 2008a). The Land Use and Community Planning Element; the Mobility Element; the Urban Design Element; and the Public Facilities, Services and Safety Element also

identify GHG reduction and climate change adaptation goals. These elements contain policy language related to sustainable land use patterns, alternative modes of transportation, energy efficiency, water conservation, waste reduction, and greater landfill efficiency. The overall intent of these policies is to support climate protection actions, while retaining flexibility in the design of implementation measures, which could be influenced by new scientific research, technological advances, environmental conditions, or state and federal legislation. The 2008 General Plan was adopted in 2009, and amended in 2010 and 2012.

City of San Diego Climate Action Plan

In October 2010, the City Council established the Environmental and Economic Sustainability Task Force as an independent advisory body to work with City staff on the development of a plan for both City operations and the community to reduce GHG emissions and to begin to evaluate vulnerabilities in the community and outline adaptation strategies. The City prepared a CAP that was approved by the City Council in December 2015 (City 2015a).

The CAP serves four primary purposes: (1) providing a roadmap for the City to achieve GHG reductions; (2) conforming the City's climate change efforts to California laws and regulations; (3) implementing climate change actions from the General Plan; and (4) providing CEQA tiering for the GHG emissions of new development.

To provide a mechanism for CEQA tiering, the City developed a CAP Consistency Checklist to provide a streamlined review process for GHG emissions analysis of proposed new developments that are subject to CEQA. The checklist contains measures that are required to be implemented on a project-by-project basis to ensure that the specified emissions targets identified in the CAP are achieved. Implementation of these measures would ensure that new development is consistent with the CAP's assumptions for relevant CAP strategies toward achieving the identified GHG reduction targets. Projects that are consistent with the CAP as determined through the use of this Checklist may rely on the CAP for the cumulative impacts analysis of GHG emissions. Projects that are not consistent with the CAP must prepare a comprehensive project-specific analysis of GHG emissions, including quantification of existing and projected GHG emissions and incorporation of the measures in this Checklist to the extent feasible. Cumulative GHG impacts would be significant for any project that is not consistent with the CAP.

5.6.2 Impact 1: Generation of GHG Emissions and Climate Action Plan Consistency

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 the City's Climate Action Plan or another applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?*

5.6.2.1 Impact Thresholds

According to the City's Significance Determination Thresholds, projects that are consistent with the City's CAP, as determined using 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 with the CAP Consistency Checklist, potentially significant GHG impacts would occur.

Global climate change is inherently a cumulative impact; a project participates in this potential global 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.

5.6.2.2 Impact Analysis

There are numerous plans, policies and regulations adopted for the purpose of reducing GHG emissions, as detailed in Section 5.6.1.2. The principal overall state plan and policy are AB 32 and the follow-up legislation, SB 32. The quantitative goal of AB 32 is to reduce GHG emissions to 1990 levels by 2020 and the goal of SB 32 is to reduce GHG emissions to 40 percent below 1990 levels by 2030. The City's CAP outlines the measures for the City to achieve its share of state GHG reductions.

Statewide plans and regulations such as GHG emissions standards for vehicles (AB 1493), the LCFS, and regulations requiring an increasing fraction of electricity to be generated from renewable sources, are being implemented at the statewide, rather than project-specific, level. Therefore, the project does not conflict with those plans and regulations.

The City has adopted the City General Plan with policies to reduce GHG emissions. The Conservation Element of the General Plan lists City policies to reduce emissions. The project's consistency with these policies is analyzed in Table 5.6-1, *City General Plan Implementation Strategies*. As shown in the table, the project would be consistent with the City's General Plan policies for reducing GHG emissions.

Table 5.6-1
CITY GENERAL PLAN IMPLEMENTATION STRATEGIES

Policy	Project Consistency
CE-A.2: Reduce the City's carbon footprint through improved energy efficiency, land use patterns to reduce vehicular trips, and reduce fuel emissions levels by encouraging alternative transportation.	**Consistent**. The project shall achieve a 5 percent increase in energy efficiency over the 2016 Title 24 standards through structural design elements.
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.	**Consistent**. The project would utilize recycled construction materials where feasible, with a minimum target of 5 percent and a goal of 10 percent.
CE-A.10: Include features in buildings to facilitate recycling of waste generated by building occupants and associated refuse storage areas.	**Consistent**. Recycling facilities and bins would be provided throughout the building and parking areas in compliance with the City's Storage Ordinance.
CE-A.11: Implement sustainable landscape design and maintenance.	**Consistent**. The project would use a drought-tolerant plant palette appropriate for U.S. Department of Agriculture Plant Hardiness Zone 10a. The landscaping would be hydrozoned and irrigated with weather-based irrigation systems to comply with the California Model Water Efficient Landscape Ordinance.

Table 5.6-1 (cont.)
CITY GENERAL PLAN IMPLEMENTATION STRATEGIES

Policy	Project Consistency
CE-I.4: Maintain and promote water conservation and waste diversion programs to conserve energy.	**Consistent**. The project would implement a water conservation strategy that would reduce water consumption by 20 percent when compared to the statewide average, and would implement waste diversion programs (see Table 5.6-8, under the heading Plumbing Fixtures and Fittings)
LU-A.2: Identify sites suitable for mixed-use village development that will complement the existing community fabric or help achieve desired community character, with input from recognized community planning groups and the general public.	**Consistent.** The southern portion of the project site is located in an area with a low to moderate village propensity, as identified in General Plan Figure LU-1, and may be considered appropriate for development of conventional housing types. Although it would not qualify as a village, the project would bring residential land uses and public spaces in close proximity to commercial/retail and hotel development, with connections to transit, consistent with the City of Villages Strategy to add housing in proximity to transit. The project entails multi-family age-qualified (55+) residential development that would complement and be compatible with the character of the surrounding residential area and would include public spaces available to neighboring residents. Ongoing coordination with community planning groups and community residents has occurred through an extensive outreach process, including presentations and public input during a number of community planning group and community meetings. The intent of these public outreach efforts is to solicit input from key stakeholders. Additional opportunities for community input will be provided during the plan review and environmental review processes.
LU-A.4: Locate village sites where they can be served by existing or planned public facilities and services, including transit services.	**Consistent.** The site is currently served by public facilities and services (including water, wastewater, police, fire, school and library services) and is located adjacent to several local and regional bus routes. The site is approximately 2.0 miles from the Rancho Bernardo Transit Station (accessible from the project site by the Route 20 bus) and 1.0 mile from the Sabre Springs/Peñasquitos Transit Station and Parking Structure (an approximately 15-minute bike ride or a 5-minute drive); both of these stations provide access to all three major Bus Rapid Transit services currently operating from North County throughout the San Diego region.
ME-A.7: Improve walkability through the pedestrian-oriented design of public and private projects in areas where higher levels of pedestrian activity are present or desired.	**Consistent.** The project concept, in its provision of residential uses integrated with public spaces and recreational uses in close proximity to commercial/ retail uses that support various housing

Table 5.6-1 (cont.)
CITY GENERAL PLAN IMPLEMENTATION STRATEGIES

Policy	Project Consistency
ME-A.7 (cont.) a. Enhance streets and other public rights-of-way with amenities such as street trees, benches. b. Design site plans and structures with pedestrian-oriented features (see also Urban Design Element, Policies UD-A.6, UD-B.4, and UD-C.6).Encourage the use of non-contiguous sidewalk design where appropriate to help separate pedestrians from auto traffic. In some areas, contiguous sidewalks with trees planted in grates adjacent to the street may be a preferable design. c. Enhance alleys as secure pathways to provide additional pedestrian connections. d. Implement traffic calming measures to improve walkability in accordance with Policy ME-C.5. When existing sidewalks are repaired or replaced, take care to retain sidewalk stamps and imprints that are indicators of the age of a particular neighborhood, or that contribute to the historic character of a neighborhood.	types, including affordable housing, promotes walkability by facilitating access to a variety of nearby destinations with connectivity to the surrounding area. Additionally, the project specifically includes pedestrian features, such as lighting, landscaping, noncontiguous sidewalks, the social loop trail, and public spaces to promote walkability within the development and connectivity to the surrounding area. The development would include numerous shade trees, benches, courtyards, and walkways with a variety of landscaping themes that would provide passive and active uses for residents and the surrounding community. Traffic calming features such as roundabouts and crosswalks have also been incorporated into the project design. The project site does not include historic sidewalks.
ME-B.2: Support the provision of higher-frequency transit service and capital investments to benefit higher-density residential or mixed-use areas; higher-intensity employment areas and activity centers; and community plan-identified neighborhood, community, and urban villages; and transit-oriented development areas.	**Consistent.** Although it would not formally be designated as a village, the project would bring residential land uses and public spaces in close proximity to commercial/retail and hotel development, with connections to transit, consistent with the City of Villages Strategy to add housing in proximity to transit. Existing bus service is available in the project area (MTS Route 20 bus route stop on Carmel Mountain Road at the project's southern boundary). The site is approximately 2.0 miles from the Rancho Bernardo Transit Station (accessible from the project site by the Route 20 bus) and 1.0 mile from the Sabre Springs/Peñasquitos Transit Station and Parking Structure (an approximately 15-minute bike ride or a 5-minute drive); both of these stations provide access to all three major BRT services currently operating from North County throughout the San Diego region. The residential and public space uses of the project site would be connected to theses modes of transit to further serve the transit-oriented development goals of the Mobility Element.

Table 5.6-1 (cont.)
CITY GENERAL PLAN IMPLEMENTATION STRATEGIES

Policy	Project Consistency
ME-B.3: Design and locate transit stops/stations to provide convenient access to high activity/density areas, respect neighborhood and activity center character, implement community plan recommendations, enhance the users' personal experience of each neighborhood/center, and contain comfortable walk and wait environments for customers (see also Urban Design Element, Policy UD-A.9).	**Consistent.** The project, which is designed to be consistent with the surrounding neighborhood character, would provide access to the existing bus routes adjacent to the project site and nearby BRT. The project would incorporate benches within internal open space areas and trails.
ME-E.3: Emphasize the movement of people rather than vehicles.	**Consistent.** The project would integrate development of residential and public space/recreational uses. It features pedestrian walkways and a pedestrian/bicycle social loop trail, with nearby access to transit. Improved connectivity between bicycle, pedestrian, and transit modes would emphasize and facilitate the movement of people rather than vehicles.
ME-G.5: Implement parking strategies that are designed to help reduce the number and length of automobile trips. Reduced automobile trips would lessen traffic and air quality impacts, including greenhouse gas emissions (see also Conservation Element, Section A). Potential strategies include but are not limited to those described on Table ME3.	**Consistent.** The project type has the potential to reduce automobile trips because it provides additional bicycle, transit, and pedestrian facilities to enhance and expand connections with existing facilities, which would be consistent with adopted plans supporting alternative transportation modes. While the project would provide adequate parking, it also would provide access to local bus Route 20 that connects to the regional BRT system. The project would also include enhanced pedestrian and bicycle connectivity, on-site open space and recreational opportunities, and other public spaces. Guest parking would be shared. Electric vehicle charging stations would also be provided in the community. Encouraging the use of electric vehicles would also contribute to reduced air quality/greenhouse gas impacts.
UD-A.4: Use sustainable building methods in accordance with the sustainable development policies in the Conservation Element.	**Consistent.** Sustainable building methods would be utilized as discussed below under the Conservation Element policies in this table. The project would incorporate sustainable design features, which are identified in Section 3.0 of this EIR.

Table 5.6-1 (cont.)
CITY GENERAL PLAN IMPLEMENTATION STRATEGIES

Policy	Project Consistency
UD-A.9: Incorporate existing and proposed transit stops or stations into project design (see also Mobility Element, Policies ME-B.3 and ME-B.9). a. Provide attractively designed transit stops and stations that are adjacent to active uses, recognizable by the public, and reflect desired neighborhood character (see also Land Use Element, Policy LU-I.11). b. Design safe, attractive, accessible, lighted, and convenient pedestrian connections from transit stops and stations to building entrances and street network (see also Land Use Element, Policy LU-I.10)	**Consistent.** The project would provide accessibility for future on-site residents to bus stops on Route 20, which in turn, would increase access to the regional BRT system at the Rancho Bernardo Transit Station. The project would provide a new, lighted access walkway from the site to Carmel Mountain Road, which would facilitate pedestrians and bicyclists reaching the bus stops along Carmel Mountain Road (particularly the stop at the Peñasquitos Drive/Carmel Mountain Road intersection). No transit stops are existing or proposed within the project site.
UD-A.10: Design or retrofit streets to improve walkability, bicycling, and transit integration; to strengthen connectivity; and to enhance community identity. Streets are an important aspect of Urban Design as referenced in the Mobility Element, Sections A, B, C, and F.	**Consistent.** The project would provide increased connectivity to existing sidewalks and bike lanes along Peñasquitos Drive and Carmel Mountain Road. Generous landscaping would be incorporated along the main on-site roadways.

Moreover, the project also was analyzed for consistency with the CAP's Checklist (HELIX 2019d; see Appendix E for the Checklist). 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 transit priority area (TPA) would be consistent with the assumptions of the CAP. Step 3 would only apply if Step 1 is answered in the affirmative under Option B. The project's consistency with the CAP Consistency Checklist is presented below.

Step 1: Land Use Consistency

The first step in determining CAP consistency is to assess the project's consistency with the growth projections used in the development of the CAP. Step 1 allows for three options for concluding a project is consistent: Option A asks if the project is consistent with the existing General Plan and Community Plan land use and zoning designations. The existing General Plan and Community Plan land use designations for the project site are Park, Open Space, and Recreation, and Open Space/ Golf Course, respectively, with a small portion in the south designated Commercial. The primary existing zoning designation is Residential Single Unit (RS-1-14), which would allow for construction of

up to an estimated 831 dwelling units, compared to the 536 units proposed by the project. The project consists of a retirement community with 536 multi-family residential units and would therefore not be consistent with the existing single-family zoning designation or the existing open space land use designation. The applicant is proposing a Community Plan Amendment to re-designate the majority of the site to Low-Medium Density Residential and an associated rezone. Therefore, Option A would not apply to the project. Option B asks if the project would result in an increase in density within a TPA and, if so, requires the project to implement various actions included under Step 3 of the CAP Checklist. The project is not located within a TPA; therefore, Option B would not apply to the project.

Option C asks if the project would result in an equivalent or less GHG-intensive project when compared to the existing designations. Therefore, an estimate of the project's emissions under both the existing and proposed land use designations was required and is provided below. The results of this evaluation provide an affirmative response to the Step 1 CAP Checklist item.

GHG emissions were calculated using the CalEEMod, Version 2016.3.2. CalEEMod is a computer model used to estimate criteria air pollutant and GHG emissions resulting from construction and operation of land development projects throughout the state of California. CalEEMod was developed by the South Coast Air Quality Management District (SCAQMD) with the input of several air quality management and pollution control districts. The project and two other buildout scenarios were analyzed for comparative purposes as part of this quantitative analysis:

- Scenario 1: Buildout of the project;
- Scenario 2: Maximum allowable single-family residential development under the existing zoning designation; and
- Scenario 3: Redevelopment of the golf course and tennis courts consistent with the existing Community Plan land use designation (and therefore also consistent with Step 1 of the CAP Consistency Checklist), which is also representative of the previous use of the project site.

Emissions from each GHG source category are discussed below with respect to each of the three development scenarios. The input data and subsequent construction and operation emission estimates for the project are discussed below. CalEEMod output files are included in Appendix A.

Construction Emissions

Scenario 1: Buildout of the Project

The construction analysis included modeling of the projected construction equipment that would be used during each construction activity and quantities of earth and debris to be moved. The model calculates GHG emissions in terms of MT of CO_2e. Construction would require heavy equipment during site preparation, mass grading, underground utilities, building construction, and paving. Construction equipment estimates are based on default values in CalEEMod. Table 5.6-2, *Construction Equipment Assumptions*, presents a summary of the assumed equipment that would be involved in each stage of construction.

Table 5.6-2
CONSTRUCTION EQUIPMENT ASSUMPTIONS

Construction Phase	Equipment	Number
Demolition	Concrete/Industrial Saws	1
	Excavators	3
	Rubber Tired Dozers	2
Site Preparation	Rubber Tired Dozers	3
	Tractors/Loaders/Backhoes	4
Grading	Excavators	2
	Graders	1
	Rubber Tired Dozers	1
	Scrapers	2
	Tractors/Loaders/Backhoes	2
Building Construction	Cranes	1
	Forklifts	3
	Generator Sets	1
	Tractors/Loaders/Backhoes	3
	Welders	1
Paving	Pavers	2
	Paving Equipment	2
	Rollers	2
Architectural Coating	Air Compressors	1

Source: CalEEMod (output data, including equipment horsepower, is provided in Appendix A of the GHG Technical Report)

The construction schedule was determined by using CalEEMod defaults, input from the project applicant, and standard assumptions for similarly sized projects, taking into consideration the size of the project in order to estimate necessary construction activities and length of days per construction activity. As shown in Table 5.6-3, *Anticipated Construction Schedule,* project development was assumed to start in November 2019 and end in February 2023.

Table 5.6-3
ANTICIPATED CONSTRUCTION SCHEDULE

Construction Activity	Construction Period		
	Start	End	Number of Working Days
Demolition	11/1/2019	11/30/2019	21
Site Preparation	12/1/2019	2/28/2020	65
Grading	3/1/2020	5/29/2020	65
Building Construction	6/1/2020	9/30/2022	610
Paving	10/1/2022	11/30/2022	43
Architectural Coating	12/1/2022	2/28/2023	64

Source: CalEEMod (output data are provided in Appendix A of the GHG Technical Report)
Start and end dates are subject to Project Approvals and Hearings.

The quantity, duration, and intensity, of construction activity have an effect on the amount of construction emissions and their related emissions that occur at any one time. As such, the emission forecasts provided below reflect a specific set of conservative assumptions based on the expected

construction scenario wherein a relatively large amount of construction is occurring in a relatively intensive manner. Because of this conservative assumption, actual emissions could be less than those forecasted. If construction is delayed or occurs over a longer time period, emissions could be reduced because of: (1) a more modern and cleaner-burning construction equipment fleet mix than incorporated in the CalEEMod; and/or (2) a less intensive buildout schedule (i.e., fewer daily emissions occurring over a longer time interval). A complete listing of the assumptions used in the analysis and model output is provided in Appendix E.

Emissions of GHGs related to the construction of the project would be temporary. As shown in Table 5.6-4, *Estimated Construction Emissions for the Project*, based on emission estimates from CalEEMod for heavy construction equipment, total GHG emissions associated with construction are estimated at 2,483 MT CO_2e for the duration of construction.

Table 5.6-4
ESTIMATED CONSTRUCTION EMISSIONS FOR THE PROJECT

Source	Emissions (MT CO_2e)
Demolition	80
Site Preparation	161
Grading	183
Building Construction	1,989
Paving	46
Architectural Coating	24
TOTAL	**2,483**
Amortized Construction Emissions[1]	83

Source: HELIX 2019f
Note: Totals may not sum due to rounding
[1] Construction emissions are amortized over 30 years.
MT=metric tons; CO_2e=carbon dioxide equivalent

Construction emissions were amortized over 30 years per Association of Environmental Professionals (AEP) and SCAQMD recommendations (AEP 2010; SCAQMD 2009). Therefore, the proposed construction activities would contribute 83 MT CO_2e emissions per year.

Scenario 2: Maximum Residential Buildout Consistent with Existing Zoning

In order to ensure consistency across scenarios, construction emissions were estimated for the maximum residential development scenario consistent with the existing zoning (831 single-family residential dwelling units) based on CalEEMod defaults for equipment and phasing based on development size. Emissions of GHGs related to the construction would be temporary. Based on emission estimates from CalEEMod for heavy construction equipment, total GHG emissions associated with construction are estimated at 3,569 MT CO_2e for the duration of construction. Therefore, the amortized construction activities associated with this alternative scenario would contribute 119 MT CO_2e emissions per year.

Scenario 3: Existing Land Use Designation/Previous Use of Project Site

In order to ensure consistency across scenarios, construction emissions were estimated for the existing community plan land use designation scenario (110.46-acre golf course and 1.85 acres of

tennis courts) using assumptions scaled based on the Palo Alto Golf Course Reconfiguration Project (Appendix B of the certified EIR for a 156-acre golf course reconfiguration [State Clearinghouse #2013012053]). Emissions of GHGs related to the construction would be temporary. Based on emission estimates from CalEEMod for heavy construction equipment, total GHG emissions associated with construction are estimated at 637 MT CO_2e for the duration of construction. Therefore, the construction activities associated with this alternative scenario would contribute 21 MT CO_2e emissions per year.

Operational Emissions

Buildout of the Project

Operation of the project would result in GHG emissions from area sources, energy sources, mobile sources, solid waste, and water supply. Per the construction schedule assumptions, construction of the project is assumed to be completed in 2023, with the first full year of operation potentially being 2024.

Area Sources

Area sources include GHG emissions that would occur from the use of landscaping equipment and fireplaces. Area source emissions were calculated using CalEEMod default values for landscaping and the assumption that the project would include a total of 135 natural gas fireplaces, consistent with the design feature described in Section 3.3.1.3.

Energy Sources

As represented in CalEEMod, energy sources include emissions associated with building electricity and natural gas usage (non-hearth). Projects that increase electricity consumption also result in an indirect increase in GHG emissions. The generation of electricity through the combustion of fossil fuels typically yields CO_2, and to a much smaller extent, methane, and nitrous oxide. The natural gas use associated with the project was estimated assuming CalEEMod default consumption rates and emission factors for San Diego Gas & Electric (SDG&E), which would be the energy source provider to the site. Based on these factors, it was estimated the project would demand 2,377 megawatt-hours of electricity and 6,017 million British thermal units (BTU) of natural gas.

The project is designed to include rooftop PV systems for a combined total system size of at least 1,396 DC kW. Assuming a Capacity Factor of 28.9 percent, consistent with the statewide average for California (Berkeley Lab 2018), total electricity generation is estimated at 3,537 megawatt-hours per year. This exceeds the expected electricity demand of the project by approximately 1,160 megawatt hours per year, thereby resulting in a net offset of electricity related emissions. The breakdown of PV system size by unit is provided Table 5.6-5, *Photovoltaic Panel System Sizing by Plan*, below.

Table 5.6-5
PHOTOVOLTAIC PANEL SYSTEM SIZING BY PLAN

Plan	Number of Dwelling Units	Plan Area (SF)	PV System Size per Unit (kW DC)	Total kW DC per Plan
Duplex 1	46	1,802	2.68	123.28
Duplex 2	45	2,111	3.02	135.90
Duplex 3	45	2,331	3.35	150.75
50x90 1	36	1,738	2.68	96.48
50x90 2	32	1,945	3.02	246.64
50x90 3	32	2,331	3.35	107.20
50x90 4	33	2,468	3.69	121.77
Cluster 1	62	1,209	1.68	104.16
Cluster 2	31	1,505	2.35	72.85
Cluster 2X	31	1,984	3.02	93.62
Cluster 3	31	1,781	2.68	83.08
Cluster 3X	31	2,244	3.35	103.85
Affordable 1BR	65	600	1.2	78.00
Affordable 2BR	16	900	1.79	28.64
Affordable Community Room	1	1,400	-	-
			TOTAL kW DC	**1,396.22**

Source: SunStreet 2019

Notes: Sizes are based upon proposed roof for each product and orientation.
Assumed 75% maximum system size allowed by SDG&E on market rate units and 100% of SDG&E allowable on affordable for rent building.
Rounded market rate based on 335W panels.
System proposed exceeds 2019 Title 24.

SF=square feet; kW=kilowatt; DC=direct current

Mobile Sources

The project would consist of redevelopment in the vicinity of (i.e., immediately across I-15) an identified SANDAG Smart Growth Area (Potential Community Center). In addition, the southeastern portion of the project site would be within a SANDAG-identified Transit Oriented District and the project would include the VMT reducing measures identified in Section 3.0.

Mobile-source GHG emissions were calculated using CalEEMod, including the following model inputs: daily trip data provided by LLG; average trip length as determined using the SANDAG 2020 Regional Transportation Plan Series 13 Forecast Model; and the inclusion of the project features identified in Section 3.0 (including the sustainable design features in Section 3.3.1.3); (HELIX 2019f and LLG 2019). Annual VMT was estimated to be 3.4 million miles per year based on the location, type (age-restricted with an affordable component), and design (e.g., connectivity elements and electrical vehicle support through an aggressive EV-pre-wired program in every for-sale home) of the project.

Solid Waste

Solid waste generated would also contribute to GHG emissions. Treatment and disposal of solid waste produces significant amounts of methane. Consistent with the Waste Management Plan

(Appendix J4) prepared for the project, it was assumed the project would generate 322 tons of waste per year after inclusion of the project's robust recycling and compost program.

Water and Wastewater

Water-related GHG emissions are from the conveyance and treatment of water. The California Energy Commission's 2006 Refining Estimates of Water-Related Energy Use in California defines average energy values for water in Southern California. These values are used in CalEEMod to establish default water-related emission factors. The project design features described in Section 3.0 were applied to CalEEMod default water consumption and wastewater generation rates by land use to estimate GHG emissions associated with water and wastewater.

Project Emissions

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 2024 (i.e., the first full year of operation) are shown in Table 5.6-6, *Estimated Annual Project Greenhouse Gas Emissions*.

Table 5.6-6
ESTIMATED ANNUAL PROJECT GREENHOUSE GAS EMISSIONS

Emission Sources	Emissions of CO_2e (MT/year)
Area Sources	115
Energy Sources	(57)
Vehicular (Mobile) Sources	1,303
Solid Waste Sources	162
Water Sources	222
OPERATIONAL SUB-TOTAL	**1,745**
Amortized Construction	**83**
TOTAL	**1,827**

Source: HELIX 2019f
Note: Totals may not sum due to rounding
CO_2e=carbon dioxide equivalent; MT=metric tons

As shown in Table 5.6-6, annual emissions from buildout of the project would be approximately 1,827 MT CO_2e per year.

Scenario 2: Maximum Residential Buildout Consistent with Existing Zoning

As previously described, the project site is currently zoned RS-1-14. For the purposes of this comparative analysis, the existing zoning designation scenario assumes development of 831 residential units. The 831-unit assumption is based upon the minimum lot size required by the existing zoning (5,000 square feet), with an 85 percent building efficiency (i.e., 15 percent of the 112.3-acre site would be developed as internal roadways and landscaping). This scenario uses the "Single Family Housing" land use category in CalEEMod and assumes a 2024 operational year consistent with first full operational year of the project scenario.

Area Sources

Area sources include GHG emissions that would occur from the use of landscaping equipment and fireplaces. Area source emissions were calculated using CalEEMod default values for landscaping and included the assumption that all fireplaces would be natural gas.

Energy Sources

As represented in CalEEMod, energy sources include emissions associated with building electricity and natural gas usage (non-hearth). Projects that increase electricity consumption also result in an indirect increase in GHG emissions. The generation of electricity through the combustion of fossil fuels typically yields CO_2, and to a much smaller extent, methane and nitrous oxide. The electricity and natural gas use associated with the existing zoning scenario was estimated assuming CalEEMod default consumption rates and emission factors for SDG&E, which would be the energy source provider to the site. Emission estimates assume Scenario 2 would include rooftop solar consistent with the requirements of the 2019 updates to Title 24.

Mobile Sources

Mobile-source GHG emissions were modeled in CalEEMod utilizing trip generation rates available in the City of San Diego Trip Generation Manual and average trip lengths available in SANDAG's (Not So) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region (City of San Diego 2003; SANDAG 2002). Annual VMT was estimated to be approximately 24 million miles.

Solid Waste

Solid waste generated would also contribute to GHG emissions. Treatment and disposal of solid waste produces significant amounts of methane. CalEEMod default values for solid waste generation based on the land use type were used to estimate GHG emissions associated with solid waste.

Water and Wastewater

Water-related GHG emissions are from the conveyance and treatment of water. The California Energy Commission's 2006 Refining Estimates of Water-Related Energy Use in California defines average energy values for water in southern California. These values are used in CalEEMod to establish default water-related emission factors. CalEEMod default water consumption and wastewater generation rates by land use were used to estimate GHG emissions associated with water and wastewater.

Project Consistency with Existing Zoning Emissions

Table 5.6-7, *Estimated Annual Greenhouse Gas Emissions – Development Per Existing Zoning,* presents the operational GHG emissions from buildout of the comparative scenario consistent with the existing zoning. As described above, this scenario was modeled as 831 single-family residential dwelling units.

Table 5.6-7
ESTIMATED ANNUAL GREENHOUSE GAS EMISSIONS – DEVELOPMENT PER EXISTING ZONING

Emission Sources	Emissions of CO_2e (MT/year)
Area Sources	669
Energy Sources	1,271
Vehicular (Mobile) Sources	8,777
Solid Waste Sources	490
Water Sources	429
OPERATIONAL SUB-TOTAL	**11,636**
Amortized Construction	**119**
TOTAL	**11,755**

Source: HELIX 2019f
Note: Totals may not sum due to rounding.
CO_2e=carbon dioxide equivalent; MT=metric tons

As shown in Table 5.6-7, annual emissions from buildout of the existing zoning would be approximately 11,755 MT CO_2e per year. This would be approximately 9,928 MT CO_2e per year greater than the project.

Scenario 3: Existing Land Use Designation/Previous Use of Project Site

As previously described, the existing Community Plan land use designation for the project site is Open Space with policy direction to preserve the existing golf course as an open space and community amenity. For the purposes of this comparative analysis, the existing land use designation scenario assumes development of a golf course and tennis courts consistent with the Community Plan and the previous use of the site. The "Golf Course" land use category in CalEEMod was selected for the golf course and the "Racquet Club" land use category was used for the tennis courts (assuming a 110.46-acre golf course and 1.85 acres of tennis courts). Modeling assumes a 2024 operational year consistent with the first full operational year of the project.

Area Sources

Area sources include GHG emissions that would occur from the use of landscaping equipment. Area source emissions were calculated using estimates of gasoline and diesel fuel usage for landscaping equipment for golf course facilities. It was assumed a golf course of this size would consume 3,063 gallons of diesel fuel per year and 4,200 gallons of gasoline per year.

Energy Sources

As represented in CalEEMod, energy sources include emissions associated with building electricity and natural gas usage (non-hearth-related). Projects that increase electricity consumption also result in an indirect increase in GHG emissions. The generation of electricity through the combustion of fossil fuels typically yields CO_2, and to a much smaller extent, methane, and nitrous oxide. The electricity and natural gas use associated with the existing land use scenario was estimated assuming CalEEMod default consumption rates and emission factors for SDG&E, which would be the energy source provider to the site.

Mobile Sources

Mobile-source GHG emissions were modeled in CalEEMod utilizing trip generation rates available in the City of San Diego Trip Generation Manual and average trip lengths available in SANDAG's (Not So) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region (City of San Diego 2003; SANDAG 2002). Annual VMT was estimated to be approximately 2.1 million miles.

Solid Waste

Solid waste generated would also contribute to GHG emissions. Treatment and disposal of solid waste produces significant amounts of methane. CalEEMod default values for solid waste generation based on the land use type were used to estimate GHG emissions associated with solid waste.

Water and Wastewater

Water-related GHG emissions are from the conveyance and treatment of water. The California Energy Commission's 2006 Refining Estimates of Water-Related Energy Use in California defines average energy values for water in southern California. These values are used in CalEEMod to establish default water-related emission factors. CalEEMod default water consumption and wastewater generation rates by land use were used to estimate GHG emissions associated with water and wastewater.

Project Consistent with Existing Land Use Designation

Table 5.6-8, *Estimated Annual Greenhouse Gas Emissions – Development Per Existing Land Use Designation,* presents the operational GHG emissions from buildout of the comparative scenario that is both consistent with the existing land use designation and representative of the past golf course/ tennis court use of the project site. As described previously, this scenario was modeled as a 110.46-acre golf course and 1.85-acres of tennis courts.

Table 5.6-8
ESTIMATED ANNUAL GREENHOUSE GAS EMISSIONS – DEVELOPMENT PER EXISTING LAND USE DESIGNATION

Emission Sources	Emissions of CO_2e (MT/year)
Area Sources	68
Energy Sources	269
Vehicular (Mobile) Sources	779
Solid Waste Sources	282
Water Sources	517
OPERATIONAL SUB-TOTAL	**1,916**
Amortized Construction	**21**
TOTAL	**1,937**

Source: HELIX 2019f
Note: Totals may not sum due to rounding
CO_2e=carbon dioxide equivalent; MT=metric tons

As shown in Table 5.6-8, annual emissions from buildout of the existing land use would be approximately 1,937 MT CO_2e per year. This is approximately 110 MT CO_2e greater than the estimated emissions from the project.

Conclusion as to Step 1 for the Project

As detailed previously, operational GHG emissions were calculated for three scenarios for comparison purposes: the project, the existing RS-1-14 zoning designation based on 831 dwelling units, and the existing Community Plan Land Use as a golf course. The project would result in emissions of 1,827 MT CO_2e per year, which would be 110 MT CO_2e less than development as a golf course land use and 9,928 MT CO_2e less than the maximum potential development under the existing zoning. Because the project would result in lower emissions than the existing land use, the project would be consistent with Step 1 of the CAP Consistency Checklist under Option C.

Step 2: CAP Strategies Consistency

After determining consistency with Step 1 of the Checklist, Step 2 determines a project's consistency with applicable CAP measures. The project's conformance with each CAP measure is described in Table 5.6-9, *CAP Measure Consistency*.

Table 5.6-9
CAP MEASURE CONSISTENCY

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 CALGreen 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 CALGreen Building Standards Code?; or • Would the project include a combination of the above two options?	**Consistent**. Where not covered by solar panels, the project would 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 CALGreen Building Standards Code.
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 psi; • 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 implement low-flow fixtures and appliances consistent with the measures specified.

Table 5.6-9 (cont.)
CAP MEASURE CONSISTENCY

CAP Consistency Checklist Item	Consistency Evaluation
Strategy 1: Energy- and Water-Efficient Buildings (cont.)	
2. Plumbing fixtures and fittings (cont.) 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 CALGreen Building Standards Code; and • Appliance and fixtures for commercial applications that meet the provisions of Section A5.303.3 (voluntary measures) of the CALGreen Building Standards Code?	
Strategy 3: Bicycling, Walking, Transit & 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 provide 1,241 parking spaces and would exceed City pre-wiring requirements (i.e., cabinets and conduits provided for future wiring) of 3 percent of parking required (a total of 37 spaces) for the future installation of EV charging stations, with 50 percent of that number (19 of the 37 spaces) to contain additional necessary equipment to be active vehicle charging stations. The project would also provide EV-ready pre-wiring in all 455 market-rate residential garages.
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)? Note: The checklist states that this item applies only to non-residential projects.	**Not Applicable**. As a residential development, this item would not apply to the project.
5. Shower facilities If the project includes nonresidential development that would accommodate over 10 tenant occupants (employees), would the project include changing/shower facilities in accordance with the voluntary measures under the CALGreen Building Standards Code?	**Not Applicable**. As a residential development, this item would not apply to the project.
6. Designated Parking Spaces If the project includes a nonresidential use in a TPA, would the project provide designated parking for a combination of low-emitting, fuel efficient, and carpool/vanpool vehicles?	**Not Applicable**. As a residential development located outside a TPA, this item would not apply to the project.

Table 5.6-9 (cont.)
CAP MEASURE CONSISTENCY

CAP Consistency Checklist Item	Consistency Evaluation
Strategy 3: Bicycling, Walking, Transit & Land Use (cont.)	
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?	**Not Applicable**. As a residential development, this item would not apply to the project.

As summarized in Table 5.6-9, the project would be consistent with all applicable CAP Consistency Checklist Step 2 measures 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.

Step 3: TPA Consistency

Because the project site is not located in a City-designated TPA, defined by SB 743 as an area within one-half mile of a site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service of 15 minutes or less during the morning and afternoon peak commute periods, Step 3 is not applicable.

5.6.2.3 Significance of Impacts

Per Step 1 of the CAP consistency analysis, the project would require a Community Plan Amendment and zone change and the project is not located in a TPA; therefore, the project does not comply with options A or B of Step 1 of the CAP Consistency Checklist. However, as demonstrated in this analysis, the project would result in a less GHG-intensive land use than the assumptions utilized in development of the CAP; therefore, the project would be consistent with Step 1 of the CAP Consistency Checklist under option C.

Regarding Step 2, the project would be consistent with all applicable CAP Consistency Checklist items and would implement 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 TPA.

As demonstrated in this report, the project would be consistent with the CAP and, therefore, the project would result in a less than significant cumulative impact regarding GHG emissions.

5.6.2.4 Mitigation, Monitoring and Reporting

As impacts would be less than significant, no mitigation measures would be required.

5.7 Energy

In order to assure that energy implications are considered in project decisions, CEQA requires that EIRs include a discussion of the potential energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful and unnecessary consumption of energy (see Public Resources Code Section 21100(b)(3)). This section of the Code provides that EIRs shall include a detailed statement of a project's significant effects on the environment and mitigation measures proposed to minimize these significant effects, "including, but not limited to, measures to reduce the wasteful, inefficient, and unnecessary consumption of energy." The *CEQA Guidelines* (Section 15126.2(b)) require an EIR to discuss energy conservation measures when relevant. Appendix F to the *Guidelines* addresses energy conservation goals, notes that potentially significant energy implications of a project shall be considered in an EIR to the extent relevant and applicable to the project, and contains general examples of mitigation measures for a project's potentially significant energy impacts. The following discussion is consistent with and fulfills the intent of CEQA Guidelines Appendix F, and is based on information from the HELIX (2019b) Air Quality Technical Report; EIR Appendix D); the HELIX (2019f) GHG Technical Report (EIR Appendix E); the California Energy Demand (CED) 2018-2030 Revised Forecast (California Energy Commission [CEC] 2018a); and the CEC's Final 2017 Integrated Energy Policy Report (CEC 2018b).

5.7.1 Existing Conditions

5.7.1.1 Environmental Setting

Existing Energy Consumption and Generation

Units of Measure

The units of energy used in this section are the British thermal units (BTU), kilowatt hours[1] (kWh), therms, and gallons. A BTU is the quantity of heat required to raise the temperature of one pound of water one °F at sea level. Because the other units of energy can all be converted into equivalent BTU, the BTU is used as the basis for comparing energy consumption associated with different resources. A kWh is a unit of electrical energy, and one kWh is equivalent to approximately 3,413 BTU, taking into account initial conversion losses (i.e., from one type of energy, such as chemical, to another type of energy, such as mechanical) and transmission losses. Natural gas consumption is described typically in terms of cubic feet or therms; one cubic foot of natural gas is equivalent to approximately 1,050 BTU, and one therm represents 100,000 BTU. One gallon of gasoline/diesel is equivalent to approximately 125,000/139,000 BTU, respectively, taking into account energy consumed in the refining process.

[1] Kilowatt hours is the most commonly used measure of electrical consumption; however, due to the scope of this analysis, gigawatt hours (GWh; equivalent to one million kWh) is also used.

Overview of Energy Supply

California's electricity needs are satisfied by a variety of entities, including investor-owned utilities, publicly owned utilities, electric service providers, and community choice aggregators.[2] As of 2010, in-state generating facilities accounted for about 71 percent of the total electric power produced in California, with the remaining electricity coming from out-of-state imports. In-state generation also accounted for approximately 12 percent of the state's natural gas supply and approximately 38 percent of the state's crude oil supply.

Since deregulation in 1998, the CEC has licensed or given small power plant exemptions to 91 power plants, including:

- 66 projects representing 22,965 megawatts[3] (MW) currently on-line;
- 3 projects totaling 2,537 MW currently under pre-construction or construction;
- 6 projects totaling 2,661 MW currently on hold or under suspension; and
- 11 projects totaling 4,441.5 MW approved but then cancelled by applicants, or license expired or terminated before construction.

In addition, as of April 2018, the CEC had a total of five proposed projects under review, totaling approximately 733.7 MW (CEC 2018c). Two additional geothermal steam turbine projects, representing a total of 485 MW, have been announced but have not yet filed with the CEC.

The American Recovery and Reinvestment Act of 2009 (ARRA) was signed on February 13, 2009, providing $787 billion nationwide to create new jobs, jump-start the economy and invest in long-term growth. ARRA funding provided California additional resources to develop and conduct programs aimed at saving energy, creating jobs, and contributing to California's economic recovery through energy efficiency upgrade projects in existing buildings. The ARRA programs emphasized collaborations of local governments and industry to deliver energy assessments, ratings, efficiency improvements, and quality assurance. ARRA-funded programs have allowed California to establish revolving loan programs that will remain in operation after the ARRA funding ceases, provide loan loss reserves to encourage lenders to provide financing for energy efficiency upgrades and pilot Property Assessed Clean Energy financing in concert with local property assessments. ARRA funding will contribute to California's energy policy goals of achieving cost-effective energy efficiency in existing buildings, meeting a 33 percent renewable energy target by 2020 and reducing the state's dependence on petroleum fuels.

On the demand side, Californians consumed 284,060 gigawatt hours (GWh) of electricity in 2017, primarily in the commercial, residential, and industrial sectors. CEC staff forecasts of future electricity demand anticipate that consumption will grow by between 0.99 and 1.59 percent per year

[2] Community choice aggregation is authorized in California by AB 117 (Chapter 836, Statutes of 2002), which allows cities, counties, and groups of cities and counties to aggregate the electric load of the residents, businesses and institutions within their jurisdictions to provide them electricity.

[3] Megawatts (MW) is a unit of power and represents the rate at which energy is generated or used. One MW is equivalent to one million watts.

from 2016 to 2030, with peak demand growing by 0.3 to 1.52 percent annually over the same period (CEC 2018a).

In 2016, California consumed 2,177,467 million cubic feet of natural gas and produced 205,024 million cubic feet. With the state's natural gas reserves declining, California production satisfies about one-tenth of state demand (Department of Energy [DOE] 2018).

The San Diego Regional Energy Office's (SDREO's) *San Diego Regional Energy Infrastructure Study* provided an integrated and comprehensive analysis of the electricity and natural gas supply and demand inventory and issues (SDREO 2002). That study found that the San Diego region is unique compared to the rest of the state because of its proximity to Baja California, Mexico, and the close integration with respect to trade flows, movement of people, and capital. Currently, there is a growing interdependency between San Diego County and northern Baja California in terms of both the supply and demand of energy. Electric power transfers have taken place between California and northern Baja California, to some extent, for more than 20 years and recently, the binational supply and demand interdependencies have increased dramatically. In addition, while abundant renewable resources are located within San Diego County, the available resources are much greater when the potential of surrounding counties and northern Baja California are considered. The San Diego region's economic and energy development future depends on binational as well as interregional cooperation and joint problem solving.

SANDAG's 2009 Regional Energy Strategy (RES; SANDAG 2009) identifies priority early implementation actions, essential to meeting the region's energy goals:

1. Pursue a comprehensive building retrofit program to improve efficiency and install renewable energy systems;

2. Create financing programs to pay for projects and improvements that save energy;

3. Utilize the SANDAG-SDG&E Local Government Partnership to help local governments identify opportunities and implement energy savings at government facilities and throughout their communities;

4. Support land use and transportation planning strategies that reduce energy use and GHG emissions;

5. Support planning of electric charging and alternative fueling infrastructure; and

6. Support use of existing unused reclaimed water to decrease the amount of energy needed to meet the water needs of the San Diego region.

The RES identified the main drivers of the strategy, including the state's preferred loading order for meeting new energy needs and global climate change and its policy implications. The California Public Utilities Commission (CPUC) and CEC adopted a preferred loading order to meet the goals for satisfying the state's growing demand for electricity, which would place top priority on increasing energy efficiency and demand response (i.e., temporary reduction or shift in energy use during peak hours), generating new energy from renewable and distributed generation resources, and improvements to clean fossil-fueled generation and infrastructure. Environmental changes caused

by climate change are anticipated to have an increasing impact on energy production and peak demand for electricity. Global climate change is discussed in detail in Section 5.6, *Greenhouse Gas Emissions*, of this EIR.

The major sources of energy in the San Diego region, which encompasses the project area, include petroleum, electricity (including fossil fuel, solar and wind sources), and natural gas. Electricity and natural gas services are primarily provided to the San Diego region by SDG&E. The following discussion outlines consumption rates for these various energy sources in San Diego.

Electricity

San Diego County has two major steam electric generating units and a number of smaller combustion turbine units, most of which were constructed between 1960 and 1978. Although these units have continued operation with modifications and upgrades, they are quickly nearing technological and economical obsolescence. Reliability must-run units are generation facilities that are necessary during certain operating conditions in order to maintain the security of power systems in a competitive environment. A number of the units that are currently considered "must-run" to meet the region's energy needs have been operating in the three percent capacity range but need to be operating in the five percent capacity range. Must-run units are more expensive to operate and are only used as operating reserves during peak periods or in times of emergency backup. This is because the outage costs are much higher than the power generating cost (SDREO 2002).

As of 2003 when the San Diego Regional Energy Infrastructure Study was completed, San Diego had a total on-system generation capacity of about 2,359 MWs, which was about 55 percent of the region's summer peak demand. This capacity consists of 1,628-MW base-load plants. Base-load plants are the production facilities used to meet some or all of a given region's continuous energy demand, and produce energy at a constant rate, usually at a low cost relative to other production facilities available to the system. The remaining capacities are small and medium-sized peaking plants and on-site generators (excluding backup generation). All of this generation is not normally available since many of the generators are for emergency use only. During peak demand periods, approximately 64 percent of peak demand can be met by in-county electrical generation.

The project site is currently served by SDG&E. The SDG&E service area covers 4,100 square miles within San Diego and southern Orange counties. Energy is provided by SDG&E to 3.6 million customers through 1.4 million electric meters and 873,000 natural gas meters (SDG&E 2018). San Diego's electricity supply was supplemented in 2012 by the Sunrise Powerlink, a 117-mile, 500,000-volt transmission line which carries renewable energy from Imperial County to San Diego County. This transmission line will eventually carry 1,000 MW of power (enough energy for 650,000 homes; SDG&E 2012).

The electricity consumption within San Diego County decreased approximately five percent from 2008 to 2010 because of the economic downturn, followed by an upward trend with an increase of approximately four percent from 2010 to 2016 (CEC 2016b). The annual electricity consumption for the County in 2016 was approximately 19,700 GWh. The CED 2017 projections present three demand scenarios: high, mid, and low. The high demand scenario is characterized by low electricity rates, high population growth, low levels of efficiency, and low self-generation. Inversely, the low demand scenario is characterized by high electricity rates, low population growth, high levels of

efficiency, and high self-generation. The mid demand scenario uses assumptions in between the high and low scenarios. The CED 2017 adopted forecast estimates that annual electricity consumption for the County would reach between 24,000 and 27,000 GWh by 2030, depending on which demand scenario is realized.

Projections are shown to increase toward the end of the forecast period (2030) as a result of consumption from electric vehicles. The recent recession and increased savings from conservation and energy efficiency programs combined to cause a short-term dip in per capita consumption from 2008 to 2011. By 2030, annual per capita electricity consumption is projected to range between approximately 7,400 and 8,200 kWh per person.

Residential and commercial sectors use the most electricity in the San Diego region, and consumption is projected to increase with regional population and job growth (SANDAG 2009). By 2030, residential electricity consumption is expected to reach between approximately 9,408 and 10,231 GWh per year and commercial electricity consumption is anticipated to reach between approximately 10,955 and 11,844 GWh per year based on the CED 2017 adopted forecast.

SDG&E forecasts future energy consumption demand on a continual basis; primarily based on installation of transmission and distribution lines. The SDG&E Long Term Procurement Plan (LTPP), as discussed in Section 5.7.1.2, ensures that adequate energy supplies are available to meet existing and projected future demands.

In situations where projects with large power loads are planned, this is considered together with other loads in the project vicinity, and electrical substations are upgraded if required. Two substations are located within the vicinity of the project site: the Chicarita substation and the Rancho Carmel substation (CEC 2016a). The Chicarita substation is located approximately 1.7 miles southwest of the project site, along Azuaga Street, south of SR-56 and west of I-15. It has a maximum capacity of between 110 and 161 kilovolts (kV). The Rancho Carmel substation is located approximately 0.4 mile northeast of the project site along Innovation Drive. It has a maximum capacity of between 33 and 92 kV (CEC 2016d).

Natural Gas

Natural gas continues to play an important and varied role in California. In 2012, nearly 45 percent of the natural gas burned in California was used for electricity generation, and much of the remainder was consumed in the residential (21 percent), industrial (25 percent), and commercial (9 percent) sectors (CEC 2013). Natural gas supplies are currently plentiful and relatively inexpensive as a result of technological advances that allow recovery of natural gas from formations such as shale reservoirs that were previously inaccessible. However, potential environmental concerns are causing decision makers to reexamine the development of shale resources and consider tighter regulations, which could affect future natural gas supplies and prices.

Several major generating plants were implemented in the last two decades in San Diego County, including the 90-MW Larkspur Energy Facility in Chula Vista in 2001; the 550-MW Palomar Power Plant in Escondido in 2006; and the 513-MW Otay Mesa Center power plant near the U.S.-Mexico border in 2009. In addition, a proposal has been submitted to SDG&E to annex the proposed 558-MW Carlsbad Energy Center to the existing 965-MW Encina Power Plant, for use as a peaking or intermediate power plant.

The San Diego region currently consumes approximately 470 million therms (MMTh) of natural gas per year (not including gas used for electricity generation, as accounted for above; CEC 2016c). The majority of natural gas uses are for residential and commercial purposes. Currently, California imports 87 percent of natural gas needs from out of state, while in-state natural gas production is decreasing. Regional gas consumption is expected to increase to 660 MMTh in 2020 and 730 MMTh in 2030 (SANDAG 2009).

Water-related Energy

Before it reaches semiarid San Diego, water is pumped hundreds of miles from either the Sacramento-San Joaquin Bay Delta in northern California or from the Colorado River. More than 50 percent of the region's water comes from the Colorado River. The San Diego County Water Authority (SDCWA) purchases some Colorado River supplies from The Metropolitan Water District of Southern California (MWD) and also on its own through a long-term water conservation and transfer agreement with the Imperial Irrigation District (IID) and two canal-lining agreements that transfer conserved water to San Diego County. In recent years about 30 percent of the region's water has come from the northern California Bay-Delta, a vast network of channels and islands at the convergence of the Sacramento and San Joaquin rivers, via the State Water Project (SWP) operated by California's Department of Water Resources (DWR). Local supplies, including surface water, groundwater, recycled water, and conservation, currently meet about 20 percent of the region's water demand.

Energy is used in the conveyance, treatment, and distribution of water; therefore, there is a certain amount of energy use in every unit of water utilized by a project. This is known as "embedded" energy. Each unit of water may have a different amount of energy embedded in it depending on how much it is processed or conveyed before it is delivered to the user. The amount of required energy is quite different in northern California compared to southern California because energy use partially depends on pumping requirements related to distance and topography. The pumping of water along the federal and state water projects and across the Tehachapi Mountains into the Los Angeles Basin account for the higher energy embedded in consumption of water in southern California. Treatment and distribution before end use is better defined and fairly consistent across California (CEC 2007a).

As water demand grows in the state, so grows water-related energy demand. Because population growth drives demand for both resources, water and energy demands are growing at about the same rate and in many of the same geographic areas (CEC 2007a). In California, water-related energy use consumes about 19 percent of the state's electricity (3 percent of which is used by the SWP to convey water from northern California to southern California [CEC 2007b]), 30 percent of its natural gas, and 88 billion gallons of diesel fuel every year. Of this amount, more than 12,000 GWh (26 percent, about 5 percent of the state's total electricity requirements) were deemed attributable to energy used by water and wastewater systems and their operations. The balance of water-related energy was attributed to the amount of energy needed to apply and use water for agricultural, residential, commercial, and industrial purposes.

Total water-related electrical consumption for the state amounts to approximately 52,000 GWh. Electricity to pump water by the water purveyors in the state amounts to 20,278 GWh. The remaining 32,000 GWh represent electricity that customers use to move, heat, pressurize, filter, and cool water (CEC 2007b). Water supply-related electrical demands exceed 2,000 MW on summer peak

days in California. Agricultural groundwater and surface water pumping represent 60 percent of the total water supply-related peak day electrical demand, with water agency demands representing the remaining 40 percent. Over 500 MW of water agency electrical demand is used for providing water/sewer services to residential water customers.

The CEC's Water Supply Related Electricity Demand in California study (CEC 2007b) examined electrical demand necessary to treat water and get it to the customer, to take the wastewater from the customer and dispose of it, and to provide groundwater pumping and surface water pumping for the agricultural community. The study examined the water supply-related peak day demands of the California investor-owned utilities: Pacific Gas & Electric (PG&E), Southern California Edison (SCE), and SDG&E.

Within the SDG&E planning area, within which the project is located, the predominant water-related demand is for urban water supply. Approximately 20 percent of water supply-related electricity use is due to agricultural pumping, with the remaining 80 percent from the water/sewer agencies.

SDG&E has the lowest embedded residential peak water supply-related electrical demand of any of the utility service areas. The San Diego area is at the end of the pipeline. Almost all of its water is treated somewhere else (generally in the SCE service area at the larger MWD treatment plants) and shipped to the San Diego area. Residential water demand in the San Diego area results in electrical-demand increases in the SCE area for treatment and shipping. However, collaboration between SDG&E and the region's water agencies has resulted in most of the treatment (fresh water and sewer) facilities in this area having their own self-generation, dramatically reducing electrical demand by the water sector as the treatment facilities produce most of their own electricity (CEC 2007b).

Wastewater Service

The project is not located in a local sanitation or maintenance district. Wastewater generation is included in the CalEEMod data for water. In addition, energy demand related to wastewater treatment is accounted for in the CEC's recommended water-energy proxies based on the water-use cycles for indoor and outdoor uses, as described above (CEC 2007a).

Transportation

Automobiles and trucks consume gasoline and diesel fuel, which are nonrenewable energy products derived from crude oil. In addition to energy consumption associated with on-road vehicle use, energy is consumed in connection with construction and maintenance of transportation infrastructure. Passenger cars and light-duty trucks are by far the largest consumers of transportation fuel, accounting for approximately 1.6 billion gallons of gasoline and diesel fuel per year (SANDAG 2009).

Based on the CARB EMFAC Emissions Database, the average fuel economy of the 2018 vehicle fleet in the county was estimated as 23 mpg for gasoline and 10 mpg for diesel. Based on the CARB EMFAC2017 vehicle fleet type breakdown for the County, approximately 94 percent of the VMT is from gasoline-powered vehicles and approximately 6 percent is from diesel-powered trucks. The energy consumption rates for gasoline- and diesel-powered vehicles are 5,378 and 14,183 BTU per

VMT, respectively. Based on the above numbers, the total automobile and truck-related energy usage in the county in 2018 is estimated at approximately 207 trillion BTU per year.

Energy Efficiency Potential

Infrastructure Development

Several challenges exist to siting major energy infrastructure projects in San Diego. There is a lack of suitable sites away from populous areas and near transmission lines. Power plants, particularly coastal plants that restrict public access to coastal areas, are not perceived as ideal neighbors. In addition, the transmission and distribution infrastructure required to support power plants create aesthetic, health, and quality of life concerns with residents in the local community. Lastly, siting is more problematic for water-cooled plants than dry-cooled plants due to the effects of power plant cooling systems on the ecosystem (SANDAG 2009).

In addition, the SDAB (which encompasses San Diego County) is currently classified as a nonattainment area for O_3 and particulate matter (PM_{10} and $PM_{2.5}$) under state standards and 8-hour ozone is in moderate nonattainment for the federal standard as well (refer to Section 5.5). This means that all new major emission sources of ozone and particulate matter must be mitigated through the purchase of offsets (credits for reduction of emissions) from other sources within San Diego County. The SDAPCD requires emission offsets, and limited availability of emission reduction credits is a barrier to the building of new power plants. Several strategies could be used to create the needed emissions credits. These include repowering existing power plants, allowing mobile offsets to be used for stationary power plants, and creating inter-border pollution offsets.

Energy Demand Reductions

Estimates vary on what level of future energy reductions will be attributed to efficiency programs and standards over the next decade, depending on the assumptions used. A 2015 study intended to determine the remaining potential for energy efficiency programs in California included a detailed, bottom-up study of energy efficiency program potential in San Diego County. The primary objective of the work underlying this report was to produce estimates of remaining potential energy savings that might be obtainable in the near (2015) and foreseeable (2016-2024) future through publicly funded energy efficiency programs in the existing and new residential, industrial, and commercial sectors. The study focused on providing a reasonable proxy of the remaining potential for implementation of local government policies to affect energy savings. The study estimates that in the San Diego region, efficiency programs will achieve gross savings of 2,214 GWh and 33.4 MMTh between 2016 and 2024 (Navigant 2015).

5.7.1.2 Regulatory Framework

Regulatory Setting

Energy consumption is a significant source of GHGs. Regulations to address energy also address GHGs resulting in some overlap in the discussions in the following text and in Section 5.6, *Greenhouse Gas Emissions*. In addition to the federal, state, and local regulations directed at reducing GHG emissions through increased efficiencies Section 5.6 (i.e., CAFE Standards; CCR, Title 24, Part 6: California Energy Code; CCR, Title 24, Part 11; EO S-01-07; SB 1078, EO S-14-08, and S-21-09; AB 32;

AB 1493; SB 375; SB 1368; the CARB Scoping Plan; the SANDAG Climate Action Strategy; and the City CAP), many of which are described in Section 5.6, energy efficiency regulations that have the potential to considerably influence the project are discussed below.

Federal Energy Regulations

Energy Independence and Security Act of 2007

The Energy Independence and Security Act of 2007 established new standards for a few equipment types not already subjected to a standard, and updated some existing standards. Perhaps the most substantial new standard that HR 6 established is for general service lighting that is being deployed in two phases. First, phased in between 2012 through 2014, common light bulbs were required to use about 20 to 30 percent less energy than previous incandescent bulbs. Second, by 2020, light bulbs must consume 60 percent less energy than 2007 bulbs; this requirement will effectively phase out the incandescent light bulb.

California Energy Regulations

Assembly Bill 32 – Global Warming Solution Act of 2006

The California Global Warming Solutions Act of 2006, widely known as AB 32, requires that CARB develop and enforce regulations for the reporting and verification of statewide GHG emissions. CARB is directed to set a GHG emission limit, based on 1990 levels, to be achieved by 2020. The bill requires CARB to adopt rules and regulations in an open public process to achieve the maximum technologically feasible and cost-effective GHG reductions.

Executive Order B-30-15

On April 29, 2015, EO B-30-15 established a California GHG reduction target of 40 percent below 1990 levels by 2030. The EO aligns California's GHG reduction targets with those of leading international governments, including the 28-nation European Union. California is on track to meet or exceed the target of reducing GHG emissions to 1990 levels by 2020, as established in AB 32. California's new emission reduction target of 40 percent below 1990 levels by 2030 will make it possible to reach the ultimate goal established by EO S-3-05 of reducing emissions 80 percent under 1990 levels by 2050.

Senate Bill 32

As a follow-up to AB 32 and in response to EO-B-30-15, SB 32 was passed by the California legislature in August 2016 to codify the EO's California GHG reduction target of 40 percent below 1990 levels by 2030.

Assembly Bill 197

A condition of approval for SB 32 was the passage of AB 197, which also occurred in the California legislature in August 2016. AB 197 requires that CARB consider the social costs of GHG emissions and prioritize direct reductions in GHG emissions at mobile sources and large stationary sources. AB 197 also gives the California legislature more oversight over CARB through the addition of two

legislatively appointed members to the CARB Board and the establishment of a legislative committee to make recommendations about CARB programs to the legislature.

Light-Duty Vehicle Greenhouse Gas Emissions Standards and Corporate Average Fuel Economy Standards

The USEPA and the NHTSA have worked together on developing a national program of regulations to reduce GHG emissions and to improve fuel economy of light-duty vehicles. On April 1, 2010, the USEPA and NHTSA announced a joint Final Rulemaking that established standards for 2012 through 2016 model year vehicles. This was followed up on October 15, 2012, when the agencies issued a Final Rulemaking with standards for model years 2017 through 2025. The rules require vehicles to meet a 2016 standard that is equivalent to 35.5 mpg, and a 2025 standard that is equivalent to 54.5 mpg if the levels were achieved solely through improvements in fuel efficiency. The agencies expect, however, that a portion of these improvements will be made through improvements in air conditioning leakage and the use of alternative refrigerants that would not contribute to fuel economy. These standards would cut GHG emissions by an estimated two billion MT and four billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2017–2025). The combined USEPA GHG standards and NHTSA CAFE standards resolve previously conflicting requirements under both federal programs and the standards of the State of California and other states that have adopted the California standards (USEPA 2011, USEPA and NHTSA 2012).

Assembly Bill 1493 – Vehicular Emissions of Greenhouse Gases

AB 1493 (Pavley) requires that CARB develop and adopt regulations that achieve "the maximum feasible reduction of GHGs emitted by passenger vehicles and light-duty truck and other vehicles determined by CARB to be vehicles whose primary use is noncommercial personal transportation in the State." On September 24, 2009, CARB adopted amendments to the Pavley regulations to support reduction of GHG emissions in new passenger vehicles from 2009 through 2016. The amendments bind California's enforcement of AB 1493 (starting in 2009), while providing vehicle manufacturers with new compliance flexibility. The amendments also prepare California to merge its rules with the federal CAFE rules for passenger vehicles (CARB 2013). In January 2012, CARB approved a new emissions-control program for model years 2017 through 2025. The program combines the control of smog, soot, and global warming gases and requirements for greater numbers of zero-emission vehicles into a single packet of standards called Advanced Clean Cars (CARB 2013).

Executive Order S-01-07

This EO, signed on January 18, 2007, directs that a statewide goal be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by the year 2020. It orders that LCFS for transportation fuels be established for California and directs CARB to determine whether an LCFS can be adopted as a discrete early action measure pursuant to AB 32. CARB approved the LCFS as a discrete early action item with a regulation adopted and implemented in April 2010. Although challenged in 2011, the Ninth Circuit reversed the District Court's opinion and rejected arguments that implementing LCFS violates the interstate commerce clause in September 2013. CARB is, therefore, continuing to implement the LCFS statewide.

California Code of Regulations, Title 24, Part 6: California Energy Code

Title 24 of the CCR, *Energy Efficient Standards for Residential and Nonresidential Buildings,* was adopted in 1978 by the CEC in response to a legislative mandate to reduce California's energy consumption. New buildings in California are required to conform to energy conservation standards specified in Title 24 of the CCR. The standards apply only to residential and nonresidential buildings for human occupancy.

Title 24 of the CCR comprises the State Building Standards Code. Part 6 of Title 24 is the California Energy Code, which includes the building energy efficiency standards. The standards include provisions applicable to all buildings, residential and nonresidential, describing requirements for documentation and certification that the building meets the standards. These provisions include mandatory requirements for efficiency and design of the following types of systems, equipment, and appliances:

- Air conditioning systems
- Heat pumps
- Water chillers
- Gas- and oil-fired boilers
- Cooling equipment
- Water heaters and equipment
- Pool and spa heaters and equipment
- Insulation and cool roofs
- Lighting and control devices
- Windows and exterior doors
- Joints and other building structure openings ("envelope")
- Gas-fired equipment including furnaces and stoves/ovens

The standards include additional mandatory requirements for space conditioning (cooling and heating), water heating, and indoor and outdoor lighting systems and equipment in nonresidential, high-rise residential, and hotel or motel buildings.

The latest update to the Title 24 standards were published January 1, 2019 and went into effect on January 1, 2020. The project will be required to comply with these new standards. The new rules require all new residential buildings and homes to have access to on-site or community renewable energy resources, such as rooftop solar, and to provide incentives for on-site energy storage.

California Code of Regulations Title 24, Part 11

Title 24, Part 11 of the CCR consists of the CALGreen Building Standards for residential, commercial, and public building construction. The guidelines are intended to reduce the amount of water and sewer service needed to serve future development. Use of recycled water is also encouraged in the standards.

California Energy Plan

The CEC is responsible for preparing the State Energy Plan, which identifies emerging trends related to energy supply, demand, conservation, public health and safety, and the maintenance of a healthy economy. The plan calls for the state to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the fewest

environmental and energy costs. To further this policy, the plan identifies a number of strategies, including providing assistance to public agencies and fleet operators.

Regional

SANDAG 2009 San Diego Regional Energy Strategy

The RES is an important and integral part of the larger San Diego Regional Comprehensive Plan, intended to contain an integrated set of public policies, strategies, and action plans to promote a smarter, more sustainable growth for the San Diego region. The following goals set forth by the RES are relevant to the project:

- Energy Efficiency and Conservation
    - GOAL: Reduce per capita electricity consumption in the residential and commercial sectors by 20 percent by 2030 in order to keep total electricity consumption flat between now and 2030.

- Renewable Energy
    - GOAL: Support the development of renewable energy resources to meet or exceed a 33 percent renewable portfolio standard (RPS) by 2020 and a 45 percent RPS by 2030.

- Distributed Generation
    - GOAL: Increase the total amount of clean distributed generation (renewable and non-renewable) to reduce peak demand and diversify electricity resources in the San Diego region.

- Energy and Water
    - GOAL: Reduce water-related energy use.

- Peak Demand
    - GOAL: Implement cost-effective steps and incentives to utilize demand response and energy efficiency measures to reduce peak demand.

- Transportation Fuels
    - GOAL: Substantially increase the deployment of alternative transportation fuels and vehicles.

SDG&E Long Term Procurement Plan

As required by the CPUC, utility companies such as SDG&E must prepare an LTPP to ensure that adequate energy supplies are available to maintain a reserve margin of 15 percent above the estimated energy demand. These plans outline any future energy needs and how those needs can be met. In December 2006, SDG&E filed its LTPP with the CPUC, which included a 10-year energy resource plan that details its expected portfolio of energy resources over the planning horizon of 2007 through 2016. The projections included in the current LTPP (modified and approved in September 2008) were based on the CEC's CED 2008-2018 Forecast, dated November 2007. No

additional LTPP has been filed since that date, but the 2016-2026 CEC CED projections are now lower than what was anticipated in 2007.

City of San Diego

City of San Diego General Plan

The following policies contained in the Conservation Element of the 2008 City General Plan are applicable to the project's energy use:

- CE-A.2. Reduce the City's carbon footprint. Develop and adopt new or amended regulations, programs, and incentives as appropriate to implement the goals and policies set forth in the General Plan to:
    - Create sustainable and efficient land use patterns to reduce vehicular trips and preserve open space;
    - Reduce fuel emission levels by encouraging alternative modes of transportation and increasing fuel efficiency;
    - Improve energy efficiency, especially in the transportation sector and buildings and appliances;
    - Reduce the Urban Heat Island effect through sustainable design and building practices; and
    - Reduce waste by improving management and recycling programs.
- CE-A.5. Employ sustainable or "green" building techniques for the construction and operation of buildings.
    - Develop and implement sustainable building standards for new and significant remodels of residential and commercial buildings to maximize energy efficiency, and to achieve overall net zero energy consumption by 2020 for new residential buildings and 2030 for new commercial buildings.

Climate Action Plan

The City adopted a CAP in December 2015 (City 2015a). The CAP 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. The City CAP identifies a comprehensive set of goals and actions, including ordinances, policies, resolutions, programs, and incentives, that the City can use to reduce GHG emissions. Many of these goals and actions, such as the installation of cool/green roofing materials and the provision of electric vehicle charging, would have the effect of reducing energy use.

5.7.2 Impact 1: Potential for Wasteful Energy Use

Issue 1: Would construction and operation of the project result in the use of excessive amounts of 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.)?

5.7.2.1 Impact Thresholds

Consistent with CEQA Guidelines Appendix F, a project would result in a significant impact to energy conservation if it would:

- Substantially increase the consumption of electricity, natural gas, gasoline, diesel, or other non-renewable energy types such that the construction of new facilities and sources of energy or major improvements to local infrastructure would be required; or
- Cause the use of large amounts of electricity and natural gas in a manner that is wasteful or otherwise inconsistent with adopted plans or policies.

5.7.2.2 Impact Analysis

Per CEQA Guidelines Appendix F, energy conservation impacts were analyzed by estimating project energy requirements by amount and type, and by evaluating project compliance with regulatory requirements. These data were used to evaluate the project's effects on energy resources and the degree to which the project would comply with existing energy standards.

The project site is currently occupied by a decommissioned golf course. This analysis does not factor in existing energy use rates associated with an operational golf course and then subtract them out from projected uses as the golf course was not an existing condition at the time of NOP issuance.[4] Rather, the analysis uses a baseline demand of zero for electric, natural gas, water, wastewater, and other energy demands associated with the new buildings proposed as part of the project. The analysis included in this section utilizes the CalEEMod Version 2016.3.2 results from the project's air quality and GHG analyses to evaluate energy impacts (refer to EIR Appendices D and E).

Potential to Substantially Increase Consumption of Non-renewable Energy

Construction Impacts

Project construction would require the use of construction equipment for site preparation, grading, underground utility installation, building activities, and paving, as well as vehicles for construction workers, vendors, and haul trucks traveling to and from the project site. Electricity consumption is expected to be negligible as construction equipment requires gasoline, diesel, and potentially other fuel sources to operate. This is the case too for the embodied energy associated with the transport

[4] As a point of clarification, it is noted that this varies from the GHG analyses in Section 5.6, above. This is because the City CAP expressly requests review of emissions based on General Plan land use designations as part of the analysis. This is not the case for the topic of Energy, where an existing conditions baseline is the only analysis prepared.

of water as most water will be trucked in to the site. To assess construction-related energy consumption for development of the project, a conservative analysis assessing the 3.5-year construction schedule was assumed. Construction data used in CalEEMod (refer to Section 5.5 for details) were utilized to determine energy consumption associated with the proposed construction activities.

Construction energy was calculated based on the fuel consumption rates from the SCAQMD CEQA Air Quality Handbook for each piece of off-road heavy-duty equipment (SCAQMD 1993). Fuel economy (i.e., gasoline and diesel) for all off-road equipment was determined using values provided in the CARB's OFFROAD2011 model. Fuel economy for on-road vehicles was determined by using the average fuel economy in the County for 2018 (estimated as 23 mpg for gasoline and 108 mpg for diesel) based on the CARB EMFAC Emissions Database. The analysis did not assume increases in fleet fuel economy due to changes in technology, as the effects on the average fuel economy of the future years' equipment and vehicle fleet remain uncertain.

Table 5.7-1, *Total Energy Consumption from Construction Equipment and Vehicles*, presents the amount of energy in BTU required during construction of the project. Energy consumption from construction equipment and off-road vehicles would be approximately 20.1 billion BTU. Construction workers, vendors, and haul trucks are estimated to generate 2,932,695 VMT during the 3.5-year construction duration; this would result in approximately 24.2 billion BTU. Therefore, the total estimated amount of energy consumption required during construction would be approximately 44.3 billion BTU.

Table 5.7-1
TOTAL ENERGY CONSUMPTION FROM CONSTRUCTION EQUIPMENT AND VEHICLES

Equipment	Qty	Diesel Fuel (gallons)	BTU
Air Compressors	1	949	131,894,231
Concrete/Industrial Saws	1	656	91,133,048
Cranes	1	18,879	2,624,197,930
Excavators	5	6,118	850,445,946
Forklifts	3	17,199	2,390,671,008
Generator Sets	1	20,020	2,782,848,499
Graders	1	2,631	365,752,702
Pavers	2	2,479	344,619,475
Paving Equipment	2	2,158	299,932,554
Rollers	2	1,380	191,876,045
Rubber-tired Dozers	6	15,754	2,189,841,139
Scrapers	2	12,092	1,680,735,514
Tractors/Loaders/Backhoes	9	37,734	5,245,029,920
Welders	1	6,667	926,720,784
Construction Equipment Total		**144,717**	**20,115,698,795**
Construction Workers and Vendors		**2,932,695 VMT**	**24,204,715,761**
Total Construction Energy Expenditure = 44.3 Billion BTU			

Source: HELIX 2019b
BTU= British thermal units

Construction of the project would incorporate on-site energy conservation features. The following practices identified as project conditions would be implemented during project construction to reduce waste and energy consumption:

- Follow maintenance schedules to maintain equipment in optimal working order and rated energy efficiency, which would include, but not be limited to, regular replacement of filters, cleaning of compressor coils, burner tune-ups, lubrication of pumps and motors, proper vehicle maintenance, etc. as part of routine best management practices;

- Reduce on-site vehicle idling to no more than five minutes in accordance with APCD requirements; and

- In accordance with CALGreen criteria as well as state and local laws, at least 50 percent of on-site construction waste and ongoing operational waste would be diverted from landfills through reuse and recycling.

The project's construction-related energy usage would not represent a significant demand on energy resources because it is temporary in nature. Additionally, with implementation of the on-site energy conservation features (refer to Section 3.3.1.3), project construction would avoid or reduce inefficient, wasteful, and unnecessary consumption of energy. Therefore, the project's construction-phase energy impacts would be less than significant.

Operational Impacts

Electricity, natural gas, water demand, and wastewater generation, as well as anticipated VMT associated with the operation of the project, were calculated in CalEEMod (refer to EIR Appendix D), using CalEEMod defaults and features such as project size and location. Table 5.7-2, *Projected Annual Energy Consumption at Buildout*, summarizes this information and converts the values to kWh and BTU for energy comparison purposes. As shown in Table 5.7-2, the project would result in approximately 7.3 GWh or 25.0 billion BTU of energy demand annually.

Table 5.7-2
PROJECTED ANNUAL ENERGY CONSUMPTION AT BUILDOUT (OPERATIONAL)

Source	Demand (Available Unit)	kWh	BTU
Electricity	-1,160,000 kWh	-1,160,000	-3,959,080.000
Natural Gas	6,016,860 kBTU	1,762,924	6,016,860,000
Water	45.55 MGal	506,095	1,727,302,034
Wastewater	27.94 MGal	363,807	1,241,672,404
Transportation	3,400,000 VMT	5,852,918	19,976,010,059
	Total	**7,325,744**	**25,002,764,496**
		Total Annual Energy Consumption = 7.3 GWh or 25.0 Billion BTU	

Source: HELIX 2019b
kWh= kilowatt hours; kBTU= kilo-British thermal units; MGal=million gallons; VMT= vehicle miles traveled

Stationary Energy. Stationary energy demands include electricity, natural gas, water, and wastewater. The total demand associated with these uses is estimated at approximately 1.5 GWh or 5.0 billion BTU annually.

The project is designed to include rooftop PV systems for a combined total system size of at least 1,396 DC kW. Total electricity generation is estimated at 3,537 mega-watt hours per year. This exceeds the expected electricity demand of the project. As such, the project would not represent an increase in the City's electricity use. As discussed in Subsection 5.7.1.1, in 2016, the County's natural gas usage was approximately 470 MMTh (equivalent to 47.3 trillion BTU). The anticipated energy usage from the project represents an increase from 2016 county usage of 0.01 percent for natural gas.

While the project would increase the consumption of energy related to natural gas, water, and wastewater, the increase is consistent with the energy projections for the state and the region, as described in Section 5.7.1.1. The project would also include the following sustainable design features, which would also help to ensure the project's gas/water/wastewater energy usage is not excessive or wasteful:

- Native and drought-tolerant landscape materials and plant species to reduce water usage;
- Low-flow sprinkler heads, drip irrigation, and automatic weather-sensitive controllers in irrigation systems to reduce water usage;
- Light-colored stone pavers to reduce heat absorption;
- Low Impact Design measures such as use of grasscrete, permeable pavers, extensive landscaping with climate-appropriate materials and other methods to reduce surface runoff;
- Heat-reflecting roofing to reduce heat absorption;
- Pre-wiring of 3 percent of parking areas for the future installation of electric vehicle charging stations, with 50 percent of that number to be supplied by providing the necessary equipment to create active vehicle charging stations ready for resident use;
- Recycling to reduce the amount of waste disposed of;
- Energy-conserving lighting to reduce electricity consumption; and
- Installation of rooftop PV solar systems for a combined total system size of at least 1,396 DC kW.

Due to the project's provision of on-site solar, implementation of the project would not require the construction of additional off-site electricity transmission infrastructure. In order to sufficiently supply natural gas to the project, an existing 6-inch gas line that crosses the project site would be relocated within the project site to SDG&E standards. The incremental increase in natural gas usage associated with implementation of the project is anticipated under the region's projected increase in natural gas usage (refer to section 5.7.1.1) and would not require the construction of new energy facilities or sources of energy that would not otherwise be needed to serve the region. Impacts from stationary energy would, therefore, be less than significant.

Mobile Energy. Energy is used for transportation in the form of fuel for vehicular trips. The analysis used the fuel economy for on-road vehicles as described under Construction Impacts. As described further below, however, due to anticipated increases in fuel economy standards driven by legislated

deadlines, the actual average fuel economy at project buildout would likely be much higher than that included in this analysis. The project also incorporates a number of project design features and assumptions that would lower projected ADT, and therefore energy consumption rates related to private vehicular transportation:

- Increased transit accessibility (near MTS Route 20) and within/adjacent to a SANDAG Transit Oriented District;
- Integration of affordable housing into the project, which reduces expected individual vehicular trips;
- Provision of a pedestrian access network that internally links all uses and connects to all existing or planned external streets and pedestrian facilities contiguous with the project site.
- Pre-wiring (i.e., cabinets and conduits provided for future wiring in the 455 market-rate residential garages [exceeding the City CAP requirement by 419 spaces]); and
- Incorporation of a 0.81-acre privately owned park, with a public recreation easement, at the southern portion of the project. In addition to sports courts, this park will incorporate mobility features such as pedestrian paths and benches, shaded seating areas, bike racks and tethered bike tools, transit and bike routes informational signage, and a rideshare pickup/dropoff location. These features are intended to promote non-vehicular methods of travel.

Trip generation rates provided in the project TIA (refer to EIR Appendix B) were used in CalEEMod to estimate the annual total number of VMT. As shown in Table 5.7-2, project-related VMT was estimated to be 3.4 million miles per year.

Table 5.7-3*, Project Fuel Economy and Energy Consumption Rates for Autos and Trucks*, presents the fuel economy and energy consumption rates for the project-related light-duty and heavy-duty passenger vehicle use. As shown, the total estimated direct annual energy consumption from project-related automobile (both gasoline and diesel combined) would be approximately 20.0 billion BTU per year at buildout.

Table 5.7-3
PROJECT FUEL ECONOMY AND ENERGY CONSUMPTION RATES FOR AUTOS AND TRUCKS

Vehicle Type	Fuel Economy (mpg)	VMT per Year	Energy Consumption Factor (BTU/vehicle mile)	BTU per Year
Light-Duty Passenger Vehicles	23.24	3,207,834	5,378	17,250,462,506
Heavy Trucks	9.8	192,166	14,183	2,725,547,553
			Total	**19,976,010,059**
Total Mobile Energy Consumption Per Year = 20.0 Billion BTU				

Source: HELIX 2019b and CARB EMFAC 2017
mpg=miles per gallon; VMT=vehicle miles traveled; BTU=British thermal units

As discussed in Subsection 5.7.1.1, the County's use of energy for transportation in 2018 is estimated at 207 trillion BTU. The projected energy usage of 20.0 billion BTU from the project related to transportation represents an increase from 2018 County usage of 0.01 percent. This percentage is considered analogous to the margin of error built into the inventory process and is considered negligible.

State regulations are expected to require increasingly stricter standards for vehicular fuel efficiency. The federal CAFE standards, EO S-1-07 LCFS, and AB 1493 fuel efficiency standard (analogous to the federal CAFE standard), as well as light/heavy vehicle efficiency/hybridization programs, all contribute to increased fuel efficiency, and therefore, would continue to reduce vehicle fuel energy consumption rates over time. Thus, the annual vehicular energy consumption calculated for the project is considered a conservative estimate, because 2018-level fuel efficiency was used in the calculation. While the project would increase the consumption of gasoline and diesel proportionately with projected population growth, the increase is consistent overall with the energy projections for the state and the region, as described in Section 5.7.1.1. Thus, this percentage increase would not require the construction of new regional facilities and sources of energy. Because gasoline and diesel are transported via truck to individual service stations, the increase in demand also is not anticipated to require major utility improvements to local fueling infrastructure. Therefore, energy impacts related to vehicular energy during project operations would be less than significant.

Potential to Waste Non-renewable Energy or be Inconsistent with Adopted Plans and Policies

The project is located within the SDG&E planning area which is covered by the LTPP. As discussed in Section 5.7.1.2, the current LTPP plans for higher levels of demand than has actually occurred. Thus, the project would not result in an unanticipated increase of energy demand beyond what is already planned for and included in the LTPP. Through the implementation of the sustainable design features outlined above, the project would comply with state, county, and City energy conservation measures during construction and operations, such as increasing building efficiency and renewable energy generation, as well as reducing water consumption and VMT.

The California Energy Code Building Energy Efficiency Standards include provisions applicable to all buildings, residential and nonresidential, which are mandatory requirements for efficiency and design. The project would be consistent with the requirements of Title 24 through implementation of energy-reduction measures, such as energy efficient lighting and appliances, rooftop solar panels, and cool roofs.

As described in Section 5.1 of this EIR, the project would be consistent with applicable energy conservation goals and policies within the General Plan and the RPCP. In addition to the goals and policies discussed in Section 5.1, the project would also be consistent with the goals and policies listed and described in Section 5.7.1.1 of this discussion. The Strategic Energy Plan goal of efficient use of water and other natural resources would be met through reducing potable water usage through implementation of the sustainable design features listed above and through compliance with CALGreen standards. The Strategic Energy Plan goal of efficient energy use in buildings and infrastructure would be met through the project's provision of on-site solar, as well as energy efficiency measures and sustainable building practices that meet 2019 Title 24 requirements. Additional details regarding project consistency with General Plan goals and policies are provided in Section 5.1.

The sustainable design features and conservation strategies addressing water consumption, electricity use, etc., as noted above and listed in Section 3.0, that are proposed as part of the project are intended to ensure that the project would avoid or reduce inefficient, wasteful, or unnecessary consumption of energy. The project is anticipated to generate energy use demand, including both stationary and mobile uses, of 25.0 billion BTU or 7.3 GWh per year. The project's demand on energy resources and services would not be anticipated to require the construction of new energy facilities or require improvements to local infrastructure. Therefore, impacts related to inconsistency with adopted plans and policies and energy waste would be less than significant.

5.7.2.3 Significance of Impacts

Based on the analysis provided above, the project would have less than significant impacts related to energy.

5.7.2.4 Mitigation, Monitoring and Reporting

As no significant impacts would occur, no mitigation would be required.

5.8 Biological Resources

This section of the EIR evaluates anticipated impacts to biological resources from implementation of the project. It is based on a Biological Resources Letter Report (HELIX 2019c, as amended), included as Appendix F.

HELIX conducted initial general biological surveys on August 18, 2016 and March 9, 2018, to map vegetation, perform a general botanical and zoological species survey, and conduct a jurisdictional delineation within the project site. Special status plant species surveys were conducted on April 8 and June 4, 2018.

5.8.1 Existing Conditions

5.8.1.1 Environmental Setting

Vegetation Communities

The project site supports four vegetation communities or land uses, including eucalyptus woodland, non-native vegetation, disturbed land, and developed land (Figure 5.8-1, *Vegetation and Jurisdictional Resources*, and Table 5.8-1, *Existing Vegetation Communities/Land Use Types*). Additionally, three vegetation communities or land uses are located within the Caltrans ROW area, south of the project site and north of Carmel Mountain Road (Figure 5.8-1), that will be disturbed as part of project implementation.

Table 5.8-1
EXISTING VEGETATION COMMUNITIES/LAND USE TYPES

Vegetation Community/ Land Use Type	MSCP Tier[1]	Area (acres)[2]	
		On-Site	Off-Site[3]
Uplands			
Eucalyptus Woodland	IV	<0.1	--
Non-Native Vegetation	IV	19.3	0.3
Disturbed Land	IV	84.5	<0.1
Developed Land	IV	8.5	<0.1
TOTAL	**--**	**112.3**	**0.4**

[1] MSCP refers to Multiple Species Conservation Program. Tiers refer to City MSCP Subarea Plan habitat classification system.
[2] Acreages rounded to the nearest 0.1 acre; total reflects rounding.
[3] Includes improvements within the adjacent California Department of Transportation Right-of-Way located south of the project site and north of Carmel Mountain Road, and within the existing drainage easement adjacent to the northwestern project boundary.

Eucalyptus Woodland

Eucalyptus woodland is dominated by eucalyptus, an introduced group of species that has often been planted purposely for wind blocking, ornamental and hardwood production purposes. Most groves are monotypic with the most common species being either the blue gum (*Eucalyptus gunnii*)

or red gum (*E. camaldulensis* ssp. *obtusa*). The understory within well-established groves is usually very sparse due to the closed canopy and allelopathic (toxic to other species) nature of the abundant leaf and bark litter. If sufficient moisture is available, this group of species becomes naturalized and is able to reproduce and expand its range. The sparse understory offers only limited wildlife habitat; however, as a wildlife habitat, these woodlands provide potential nesting sites for a variety of raptors. Eucalyptus woodland covers approximately 0.02 acre of the project site.

Non-native Vegetation

Non-native vegetation is a category describing stands of naturalized or ornamental trees and shrubs, many of which are also used in landscaping. Ornamental vegetation within the project site consists primarily of planted trees, mainly eucalyptus (*Eucalyptus* sp.) and pine (*Pinus* sp.), scattered throughout the former golf course. Approximately 19.3 acres of non-native vegetation occur within the project site, and 0.3 acre occur within the Caltrans ROW and adjacent off-site drainage easement.

Disturbed Land

Disturbed habitat or disturbed land includes land cleared of vegetation (e.g., dirt roads), land containing a preponderance of non-native plant species such as ornamentals or ruderal exotic species that take advantage of disturbance (previously cleared or abandoned landscaping), and land showing signs of past or present human or animal usage that removes any capability of providing viable habitat. The majority of the site consists of disturbed land with Bermuda grass (*Cynodon dactylon*), Russian thistle (*Salsola tragus*), sow-thistle (*Sonchus oleraceus*), and wild lettuce (*Lactuca serriola*) comprising the dominant species. Approximately 84.5 acres of disturbed land are mapped within the project site, and less than 0.1 acre is mapped within the Caltrans ROW.

Developed Land

Developed land includes areas that have been constructed upon or otherwise covered with a permanent, unnatural surface and may include, for example, structures, pavement, irrigated landscaping, or hardscape to the extent that no natural land is evident. These areas no longer support native or naturalized vegetation. Developed lands within the project site consist of paved golf cart paths, buildings, and other areas of hardscape or maintained landscaping. Approximately 8.5 acres of urban/developed lands are mapped within the project site, and less than 0.1 acre is mapped within the Caltrans ROW.

Jurisdictional Areas

A jurisdictional delineation of the project site was conducted by HELIX on March 9, 2018, and results are included in the Biological Resources Letter Report (HELIX 2019c, as amended). The delineation was conducted to identify and map any water and wetland resources potentially subject to USACE jurisdiction pursuant to Section 404 of the Clean Water Act (CWA; 33 USC 1344), RWQCB jurisdiction pursuant to Section 401 of the CWA and State Porter-Cologne Water Quality Control Act (Porter-Cologne), and streambed and riparian habitat potentially subject to CDFW jurisdiction pursuant to Sections 1600 et seq. of the California Fish and Game Code (CFG Code). The delineation was also conducted to determine the presence or absence of City ESL wetlands. Areas generally characterized by depressions, drainage features, and riparian and wetland vegetation were evaluated.

The site supports a single jurisdictional feature in the form of a man-made ditch, which, as discussed below, was identified as being subject to USACE, RWQCB, and CDFW jurisdiction. This ditch was created during grading and development of the prior on-site golf course in the 1960s, which involved a substantial amount of fill and earth movement. It enters the site from the adjacent residential area near the northwestern site boundary and continues in a mostly north-to-south alignment to the eastern site boundary, where it exits the site into a culvert, passes underneath I-15, and presumably drains into Chicarita Creek east of I-15. Chicarita Creek flows in a southerly direction eventually connecting to Peñasquitos Creek to the south of Poway Road which then flows to the west towards Los Peñasquitos Lagoon. The man-made ditch has an earthen bottom along its northern two-thirds, transitioning to a concrete-lined v-ditch in the southern third of its length.

U.S. Army Corps of Engineers/Regional Water Quality Control Board Jurisdictional Areas

Potential USACE-jurisdictional waters of the U.S. ~~(WUS)~~ were delineated using three criteria (vegetation, hydrology, and soils) established for wetland delineations as described within the Wetlands Delineation Manual (Environmental Laboratory 1987) and Arid West Regional Supplement (USACE 2008).

Areas were determined to be potential non-wetland ~~WUS~~ waters of the U.S. if there was evidence of regular surface flow (e.g., bed and bank) but either the vegetation or soils criterion was not met. Jurisdictional limits for these areas were defined by the ordinary high water mark (OHWM), which is defined in 33 CFR Section 329.11 as "that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank; shelving; changes in the character of the soil; destruction of terrestrial vegetation; the presence of litter or debris; or other appropriate means that consider the characteristics of the surrounding areas."

Potential RWQCB-jurisdictional waters of the State ~~(WS)~~ were delineated in the same manner as potential ~~WUS~~ waters of the U.S. All waters of the U.S. were considered waters of the State subject to RWQCB jurisdiction pursuant to CWA Section 401. Where features were determined to be geographically isolated, they were considered isolated waters of the State subject to RWQCB jurisdiction pursuant to Porter-Cologne.

Potential USACE/RWQCB jurisdiction at the project site is based on jurisdictional delineation information provided in the Biological Resources Letter Report (HELIX 2019c, as amended). Approximately 0.10 acre (2,593 linear feet) of potential USACE/RWQCB jurisdiction in the form of non-wetland waters of the U.S./state occur within the project site (Figure 5.8-1 and Table 5.8-2, *Waters of the U.S./State*).

Table 5.8-2
WATERS OF THE U.S./STATE

Jurisdictional Resource	Area (acres)[1]	Length (feet)[1]
Non-wetland Waters of the U.S./State (Man-made Earthen Channel)	0.08	1,682
Non-wetland Waters of the U.S./State (Man-made Concrete Channel)	0.02	911
TOTAL	**0.10**	**2,593**

[1] Acres rounded to the nearest 0.01 and feet rounded to the nearest foot

California Department of Fish and Wildlife Jurisdictional Areas

Potential CDFW-jurisdictional streambed and riparian habitat were determined based on the presence of riparian vegetation or regular surface flow within a measurable bed and bank. Streambeds within CDFW jurisdiction were delineated based on the definition of streambed as "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supporting fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports riparian vegetation" (Title 14, Section 1.72). Potential CDFW-jurisdictional unvegetated streambed encompasses the top-of-slope to top-of-slope width for the features within the project site. Vegetated streambed includes all riparian shrub or tree canopy extending within or beyond the banks of features within the project site.

Potential CDFW jurisdiction within the project site includes 0.15 acre (2,593 linear feet) of unvegetated streambed (Figure 5.8-1 and Table 5.8-3, *CDFW Streambed Habitat*).

Table 5.8-3
CDFW STREAMBED HABITAT

Jurisdictional Resource	Area (acres)[1]	Length (feet)[1]
Unvegetated Streambed		
Man-made Earthen Channel	0.11	1,682
Man-made Concrete Channel	0.04	911
TOTAL	**0.15**	**2,593**

[1] Acres rounded to the nearest 0.01 and feet rounded to the nearest foot

City-defined Wetlands

Potential ESL wetlands were determined based on the predominance of hydrophytic plant species. In addition, areas lacking naturally occurring wetland vegetation communities are still considered wetlands if hydric soil or wetland hydrology is present and past human activities have occurred to remove the historic vegetation. Areas lacking wetland vegetation communities, hydric soils and wetland hydrology due to non-permitted filling of previously existing wetlands will be considered a wetland under the ESL and regulated accordingly. However, seasonal drainage patterns that are sufficient to etch the landscape would not satisfy the City's wetland definition unless wetland dependent vegetation is either present in the drainage or lacking due to past human activities.

Naturally occurring wetland vegetation communities include saltmarsh, brackish marsh, freshwater marsh, riparian forest, oak riparian forest, riparian woodland, riparian scrub and vernal pools.

There are no areas within the project site that meet the criteria to be considered City ESL wetlands (City 2018l). The on-site ditch is man-made and ephemeral in nature being fed primarily by urban runoff from the adjacent residential development. It was created as part of the golf course development and is primarily in fill soils. The ditch is characterized by non-native, disturbed habitat dominated by Bermuda grass and sow-thistle. It lacks sufficient hydrology to support significant and self-sustaining stands of wetland dependent vegetation. Scattered individuals of tall flatsedge (*Cyperus eragrostis*) and slender creeping spike-rush (*Eleocharis montevidensis*) were present within portions of the ditch during surveys; however, these individuals were not present in sufficient numbers, coverage, or area to represent a functioning stand of wetland habitat or to support wetland conditions. Therefore, no portions of the ditch meet the criteria for a City ESL wetland.

Plant Species

A total of 77 plant species were identified during the field survey, of which 63 (82 percent) are non-native species. A rare plant survey was conducted for special status plants with potential to occur on the project site. Special status plant species have been afforded special status and/or recognition by the USFWS, CDFW, and/or the City (e.g., MSCP narrow endemic species) and may also be included in the California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants.

No special status plant species were observed during the April 2018 rare plant survey. A total of 38 special status plant species known to the region were analyzed for their potential to occur within the study area. No special status plant species were observed within the study area during the August 2016 and March 2018 surveys.

None of the special status plant species known to the region have a high potential to occur within the project site due primarily to the lack of suitable conditions, habitat conversion and disturbances from previous golf course uses, and prevalence of non-native vegetation.

Animal Species

A total of 36 animal species were observed or otherwise detected in the project site during the biological surveys, including 3 invertebrate, 1 reptile, 28 bird, and 4 mammal species.

Special status animal species include those that have been afforded special status and/or recognition by the USFWS, CDFW, and/or the City. One sensitive animal species was detected on site: Western bluebird (*Sialia mexicana*). The Western bluebird is a MSCP covered species. A single individual was observed perched within a tree and foraging during the March 2018 survey. A total of 25 special status animal species known to the region were analyzed for their potential to occur within the study area. Only one other special status species was determined to have a high potential to occur: Cooper's hawk (*Accipiter cooperii*).

Sensitive Biological Resources

Sensitive vegetation communities/habitat types are defined as land that supports unique vegetation communities or the habitats of rare or endangered species or subspecies of animals or plants as

defined by Section 15380 of the State CEQA Guidelines. The City defines sensitive habitat as ESL in their Land Development Code Biology Guidelines. In the context of the City's MSCP Subarea Plan, Tier IIIB types and higher are considered sensitive requiring compensatory mitigation.

No sensitive vegetation communities/habitat types occur within the project site. Although Bermuda grass is a species that can be associated with non-native grassland habitat, which is a Tier IIIB sensitive habitat requiring mitigation under the City's Biology Guidelines, areas of the site that are dominated by this species were not considered grassland as this species was installed as a turf grass for the golf course. As such, it is not a naturalized community on the project site and is considered disturbed land, particularly given the invasion by Russian thistle and other invasive weeds.

As stated above, no sensitive plant species were observed within the project site. One sensitive animal species, Western bluebird was observed on site, and one special status species, Cooper's hawk, was determined to have a high potential to occur.

As discussed in Section 5.8.2, *Regulatory Framework*, active bird nests are considered sensitive biological resources. The project site contains trees and shrubs that provide potentially suitable nesting habitat for a variety of bird species. Raptor species, which also have special protections, may use the site for foraging opportunities. However, the habitat within the project site does not provide high quality raptor foraging habitat due to the urban setting of the site and surrounding area. As the site was an active golf course for decades, it has likely not functioned as a local or regional foraging resource of importance for raptors.

Wildlife Corridors

Wildlife corridors connect otherwise isolated pieces of habitat and allow movement or dispersal of plants and animals. Local wildlife corridors allow access to resources such as food, water, and shelter within the framework of their daily routine. Regional corridors provide these functions over a larger scale and link two or more large habitat areas, allowing the dispersal of organisms and the consequent mixing of genes between populations. A corridor is a specific route that is used for the movement and migration of species, and may be different from a linkage in that it represents a smaller or narrower avenue for movement. A linkage is an area of land that supports or contributes to the long-term movement of animals and genetic exchange by providing live-in habitat that connects to other habitat areas. Many linkages occur as stepping-stone linkages that are comprised of a fragmented archipelago arrangement of habitat over a linear distance.

The project site does not occur within any known corridors or linkages. No portions of the project site function as linkage or corridor habitat. The site is surrounded by existing development, and as such, does not by itself function as a wildlife corridor or linkage. Black Mountain Open Space Park is the nearest undeveloped block of habitat~~ and is located approximately 0.2 mile to the west.~~ This area is separated from the project site by existing roadways and residential homes. The site is further characterized by open, exposed areas that lack suitable cover and resources that are typically associated with wildlife movement areas. Common birds and mammals might move through the site to forage and during dispersal activities; however, they would not be expected to use the site as a wildlife corridor, linkage, or specific travel route to and from important resources.

5.8.1.2 Regulatory Framework

Federal

All migratory bird species that are native to the U.S. or its territories are protected under the Migratory Bird Treaty Act (MBTA), as amended under the Migratory Bird Treaty Reform Act of 2004 (Federal Register Doc. 05-5127). The MBTA is generally protective of migratory birds, but does not actually stipulate the type of protection required. In common practice, the MBTA is now used to place restrictions on disturbance of active bird nests during the nesting season (generally February 1 to July 30). In addition, the USFWS commonly places restrictions on disturbances allowed near active raptor nests.

Under Section 404 of the CWA, the USACE is charged with regulating the discharge of dredge and fill materials into jurisdictional waters of the U.S. The terms "~~WUS~~ waters of the U.S." and "jurisdictional waters" have a broad meaning that includes special aquatic sites, such as wetlands. ~~WUS~~ Waters of the U.S., as defined by regulation and refined by case law, include: (1) the territorial seas; (2) coastal and inland waters, lakes, rivers, and streams that are navigable ~~WUS~~ waters of the U.S., including their adjacent wetlands; (3) tributaries to navigable ~~WUS~~ waters of the U.S., including adjacent wetlands; and (4) interstate waters and their tributaries, including adjacent isolated wetlands and lakes, intermittent and ephemeral streams, prairie potholes, and other waters that are not a part of a tributary system to interstate waters or navigable ~~WUS~~ waters of the U.S., the degradation or destruction of which could affect interstate commerce. Projects could be permitted on an individual basis or be covered under one of several approved Nationwide Permits. Individual Permits are assessed individually based on the type of action, amount of fill, etc. It is assumed that the project impacts to ~~WUS~~ waters of the U.S. within the jurisdiction of the USACE would be covered by an approved Nationwide Permit.

Section 401 of the CWA requires that any applicant for a federal license or permit to conduct any activity that may result in a discharge to ~~WUS~~ waters of the U.S. must obtain a Water Quality Certification, or a waiver thereof, from the state in which the discharge originates. In California, the RWQCB issues Water Quality Certifications.

State

The California Endangered Species Act (CESA) established that it is State policy to conserve, protect, restore, and enhance State endangered species and their habitats. Under State law, plant and animal species may be formally designated rare, threatened, or endangered by official listing by the California Fish and Game Commission. The CESA authorizes that private entities may "take" plant or wildlife species listed as endangered or threatened under the Federal Endangered Species Act (FESA) and CESA, pursuant to a federal Incidental Take Permit if the CDFW certifies that the incidental take is consistent with CESA (CFG Code Section 2080.1[a]). For State-only listed species, Section 2081 of CFG Code authorizes the CDFW to issue an Incidental Take Permit for State-listed threatened and endangered species if specific criteria are met. The City was issued a take permit for its adopted MSCP Subarea Plan pursuant to Section 2081.

The CFG Code provides specific protection and listing for several types of biological resources. Pursuant to CFG Code Section 3503, it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant

thereto. Raptors and owls and their active nests are protected by CFG Code Section 3503.5, which states that it is unlawful to take, possess, or destroy any birds of prey or to take, possess, or destroy the nest or eggs of any such bird unless authorized by the CDFW. Section 3513 states that it is unlawful to take or possess any migratory non-game bird as designated in the MBTA. These regulations could require that construction activities (particularly vegetation removal or construction near nests) be reduced or eliminated during critical phases of the nesting cycle unless surveys by a qualified biologist demonstrate that nests, eggs, or nesting birds will not be disturbed, subject to approval by CDFW and/or USFWS.

Lake and Streambed Alteration Program

CFG Code Sections 1600 through 1603 requires a CDFW agreement for projects affecting riparian and wetland habitats through issuance of a Streambed Alteration Agreement (SAA). It is assumed that the project would require a 1602 SAA from the CDFW for impacts to CDFW jurisdictional areas.

Pursuant to Section 1600 et seq. of the CFGC, the CDFW regulates activities of an applicant's project that would *substantially* alter the flow, bed, channel, or bank of streams or lakes unless certain conditions outlined by CDFW are met by the applicant. The limits of CDFW jurisdiction are defined in CFGC Section 1600 et seq. as the "bed, channel, or bank of any river, stream,[1,2] or lake designated by [CDFW] in which there is at any time an existing fish or wildlife resource or from which these resources derive benefit."[3] However, in practice, the CDFW usually extends its jurisdictional limit and assertion to the top of a bank of a stream, the bank of a lake, or outer edge of the riparian vegetation, whichever is wider.

Section 1601(a)[4] is based on Title 14 CCR 720, which designates waters under the administration of CDFW to be as follows:

> For the purpose of implementing Sections 1601 and 1603 of the Fish and Game Code, which requires submission to [CDFW] of general plans sufficient to indicate the nature of a project for construction by or on behalf of any person, governmental agency, state or local, and any public utility, of any project which will divert, obstruct, or change the natural flow or bed of any river, stream, or lake designated by [CDFW], or will use material from the streambeds designated by [CDFW], all rivers, streams, lakes, and streambeds in the State of California, including all rivers, streams, and streambeds which may have intermittent flows of water, are hereby designated for such purpose.

[1] The California Code of Regulations (Title 14 CCR 1.72) defines a stream as "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation."

[2] Title 14, Section 1.72 *does not* pertain to CDFW's stream jurisdiction as embodied in CFGC and thus, is *not* the definition used in practice by CDFW.

[3] This also includes the habitat upon which fish or wildlife depend for continued viability (CFGC Division 5, Chapter 1, Section 45 ["Fish" means wild fish, mollusks, crustaceans, invertebrates, or amphibians, including any part, spawn, or ova thereof], and Division 2, Chapter 1, Section 711.2[a], ["Wildlife" means and includes all wild animals, birds, plants, fish, amphibians, reptiles, and related ecological communities, including the habitat upon which the wildlife depends for its continued viability]).

[4] Title 14 CCR 720 has long been recognized by CDFW and Case law to include steams with ephemeral flow.

The CDFW links stream protection, conservation, and management with the presence (and/or indirect consideration) of fish, wildlife, and their habitats. In practice, the CDFW defines a stream as follows:

> A body of water that flows perennially, intermittently, or ephemerally and that is defined by the area in which water currently flows, or has flowed over a given course during the historic hydrologic regime, and where the width of its course can reasonably be identified by physical or biological indicators (CDFG 2010).

In summary, CFGC Section 1600 et seq. was enacted to conserve fish and wildlife associated with stream ecosystems. The size of a watershed, the size of its streams, the duration of flows, and the absence of hydrologic connectivity to other waterbodies is immaterial. The CDFW does not consider a stream or watercourse defined by particular flow events, such as bankfull flow or ordinary high water, but rather by the local topography or elevations of the land that confine a stream to a definite course when its waters rise to their highest level. Thus, the watercourse is a stream and its boundaries define the maximal extent or expression of a stream on the landscape. All streams are subject to CDFW jurisdiction (Brady et. al. 2014).

Therefore, semi-arid aquatic features with ephemeral flow can meet CDFW's definition of a jurisdictional stream and can be under CDFW's regulation because these semi-arid aquatic features can support fish and wildlife (directly or indirectly). This is based on CDFW guidance concerning ephemeral streams and, to a lesser extent, developed swales that exhibit short-duration, low-volume flow (Vyverberg 2010). Therefore, under this interpretation, CDFW jurisdiction *is not* predicated on the following:

- The size of a stream or river;
- The morphology of the stream or riverine feature, or how well-defined its banks are;
- The cross-sectional area occupied by particular flow events;
- The time period between flow events; or
- The constancy of water flow.

<u>California Water Code</u>

The SWRCB and RWQCB regulate the discharge of waste into waters of the State via the 1969 Porter-Cologne Act as described in the California Water Code. The California Water Code is the State's version of the federal CWA. Waste, according to the California Water Code, includes sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation, including waste placed within containers of whatever nature prior to, and for purposes of, disposal.

State waters that are not federal waters may be regulated under Porter-Cologne. A Report of Waste Discharge must be filed with the RWQCB for projects that result in discharge of waste into waters of

the State. The RWQCB will issue Waste Discharge Requirements (WDRs) or a waiver. The WDRs are the Porter-Cologne version of a CWA Section 401 Water Quality Certification.

Natural Communities Conservation Planning Act

The Natural Communities Conservation Planning (NCCP) program is a cooperative effort to protect habitats and species. It began under the State's NCCP Act of 1991, legislation broader in its orientation and objectives than the CESA or FESA. These laws are designed to identify and protect individual species that have already declined significantly in number. The NCCP Act of 1991 and the associated Southern California Coastal Sage Scrub NCCP Process Guidelines (1993), Southern California Coastal Sage Scrub NCCP Conservation Guidelines (1993), and NCCP General Process Guidelines (1998) have been superseded by the NCCP Act of 2003.

The primary objective of the NCCP program is to conserve natural communities at the ecosystem level while accommodating compatible land use. The program seeks to anticipate and prevent the controversies and gridlock caused by species' listings by focusing on the long-term stability of wildlife and plant communities and including key interests in the process.

This voluntary program allows the State to enter into planning agreements with landowners, local governments, and other stakeholders to prepare plans that identify the most important areas for a threatened or endangered species, and the areas that may be less important. These NCCP plans may become the basis for a State permit to take threatened and endangered species in exchange for conserving their habitat. The CDFW and USFWS worked to combine the NCCP program with the federal HCP process to provide take permits for State and federal listed species. Under the NCCP, local governments, such as the City, can take the lead in developing these NCCP plans and become the recipients of State and federal take permits. The City has developed such a plan, to which the resource agencies are signatories (see discussion below under City of San Diego).

Local

City of San Diego

Environmentally Sensitive Lands Ordinance

Impacts to sensitive biological resources in the City must comply with the City's ESL Ordinance. The purpose of the Ordinance is to "protect, preserve and, where damaged restore, the environmentally sensitive lands of San Diego and the viability of the species supported by those lands" (SDMC Chapter 14, Section 143.0101). Environmentally sensitive lands are defined to include sensitive biological resources, steep slopes, coastal beaches, sensitive coastal bluffs, and 100-year floodplains. For additional information, please refer to the preceding Section 5.8.1.2.

Multiple Species Conservation Program

The City's MSCP Subarea Plan has been prepared to meet the requirements of the California NCCP Act of 1992, as described above. This Subarea Plan describes how the City's portion of the MSCP Preserve, the MHPA, will be implemented.

In July 1997, the USFWS, CDFW, and City adopted the Implementing Agreement for the MSCP. This program allows the incidental take of threatened and endangered species as well as regionally-sensitive species that are covered and protected by the MSCP. The MSCP designates regional preserves that are intended to be mostly void of development activities, while allowing development of other areas subject to the requirements of the program. The closest MHPA area to the project is the Black Mountain Open Space Park (located west of the project site, and west of the tract homes that abut the project on its west side). Impacts to biological resources are regulated by the City's ESL regulations.

City General Plan

Goals and policies of the City General Plan related to biological resources and habitats are located in the Conservation Element (CE). As noted above, the project site does not contain MSCP lands, protected habitats, sensitive plant or animal species, or City ESL wetlands or habitats. The site does contain a drainage that is under the jurisdiction of the Corps, CDFW and RWQCB, and is proposed to be reestablished and improved. The following City General Plan policies have potential relevance for the project:

CE-G.1.a. Educate the public about the impacts invasive plant species have on open space.

CE-G.1.b. Remove, avoid or discourage the planting of invasive plant species.

CE-H.1. Use a watershed planning approach to preserve and enhance wetlands.

CE-H.4. Support the long-term monitoring of restoration and mitigation efforts to track and evaluate changes in wetland acreage, functions, and values.

CE-H.7. Encourage site planning that maximizes the potential biological, historic, hydrological and land use benefits of wetlands.

CE-H.8. Implement a "no net loss" approach to wetlands conservation in accordance with all city, state, and federal regulations.

CE-H.9. Consider public health, access, and safety, including pest and vector control, on wetland creation and enhancement sites.

5.8.2 Impact 1: Sensitive Species and Habitats

Issue 1: Would the project result in a substantial adverse impact, either directly or through habitat modification, on any species identified as a candidate, sensitive, or special status species in the MSCP or other local or regional plans, policies or regulations, or by the CDFG or USFWS?

Issue 2: Would the project result in a substantial adverse impact on any Tier I Habitats, Tier II Habitats, Tier IIIA Habitats, or Tier IIIB Habitats, as identified in the Biology Guidelines of the Land Development manual or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFG or USFWS?

Issue 3: Would the project result in a substantial adverse impact on wetlands (including, but not limited to, marsh, vernal pool, riparian, etc.) through direct removal, filling, hydrological interruption, or other means?

5.8.2.1 Impact Thresholds

In accordance with the City's CEQA Significance Determination Thresholds (2016a) and Land Development Code Biology Guidelines (2018l), the project would have a significant impact if it would:

- Result in a substantial adverse impact, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in the MSCP or other local or regional plans, policies or regulations, or by CDFW or USFWS;
- Result in a substantial adverse impact on any Tier I Habitats, Tier II Habitats, Tier IIIA Habitats, or Tier IIIB Habitats as identified in the Biology Guidelines of the Land Development Manual or other sensitive natural community identified in local or regional plans, policies or regulations, or by CDFW or USFWS; or
- Result in a substantial adverse impact on wetlands (including, but not limited to, marsh, vernal pool, riparian, etc.) through direct removal, filling, hydrological interruption, or other means.

5.8.2.2 Impact Analysis

Sensitive Species Direct Impacts

Sensitive Plant Species

As discussed under existing conditions, no special status plant species were observed within the project site during the April or June 2018 rare plant surveys. Special status plant species that are known to the region would not be expected to occur within the project because of the general lack of suitable habitat, disturbed nature of the site due to remnant exotic landscaping and developed features from previous golf course operation, and current periodic site maintenance activities (i.e., mowing/fuel management controls), as well as the large distance from natural open space with intervening existing development. Therefore, special status plant species are not likely to occur, no impacts are anticipated, and no mitigation is required.

Sensitive Animal Species

One special status animal species, western bluebird, was observed within the project site in March 2018 and one special status animal species has high potential to occur, Cooper's hawk. Potential significant impacts would occur to western bluebird and Cooper's hawk if they were determined to be nesting within the project site during project construction. Compliance with the MBTA and CFG Code would ensure that no direct impacts would occur to western bluebird or Cooper's hawk.

Raptor Foraging

In its current state, the project site provides marginal and relatively low-quality foraging opportunities for common raptors that are resident and migratory to the region. The habitat within the project site does not provide high quality raptor foraging habitat due to the urban setting of the site and surrounding area. The ornamental trees provide suitable perching habitat and the remnant golf course fairways provide open habitat for hunting. Prey for certain raptor species are likely to be present, although taller, weedy species cover a good portion of the ground and would likely make foraging more difficult. Although the project site provides some function and value for raptor foraging, it previously served as a golf course for decades, is sited adjacent to urban developed uses (tract homes and an interstate freeway), and has likely not functioned as a local or regional foraging resource of importance for raptors. Other more expansive areas occur in the local area and region that provide high-quality foraging habitat, such as the Black Mountain Open Space Preserve located ~~approximately 0.2 mile~~ west of the site (and west of intervening existing residential development and roads). Impacts of the project on raptor foraging are expected to be less than significant and no mitigation is required.

Nesting Birds

The project site contains trees, shrubs, and other vegetation that provide suitable nesting habitat for birds, including raptors, protected under the MBTA and CFG Code. Significant impacts could occur to nesting birds if suitable nesting habitat is removed during the general bird breeding season (January 15 to July 15 for raptors; February 15 to August 31 for all other avian species). As a regulatory requirement, the project must comply with the regulations and guidelines of the MBTA and CFG Code, which would ensure that no significant impacts on nesting birds would occur, including western bluebird and raptors.

Vegetation Communities Direct Impacts

The project site is characterized by disturbed and developed land associated with the former Carmel Highland Golf Course. Native and naturalized habitat is absent from the site. The project would only impact non-sensitive Tier IV habitats including non-native vegetation, disturbed habitat, and developed land. The project would not result in significant impacts to sensitive vegetation communities, and no mitigation is required.

Jurisdictional Areas Direct Impacts

A man-made drainage ditch created for conveyance of storm water and irrigation, as well as an aesthetic water feature for the former golf course, occurs within the northeastern portion of the project site. Water that flows through this ditch is largely controlled through a series of small culverts and pipes, ultimately discharging into an existing storm drain and culvert that extends beneath I-15.

The ditch lacks wetland-dependent vegetation and therefore does not meet the criteria for a City ESL wetland. No impacts to City ESL wetlands would occur.

In spite of the lack of native riparian habitat or vegetation within the ditch, it qualifies as a non-wetland ~~WUS/WS~~ waters of the U.S./State subject to USACE and RWQCB jurisdiction and a

streambed subject to CDFW jurisdiction. Unavoidable impacts would occur to non-wetland waters of the U.S./State and CDFW-jurisdictional streambed habitat in order to realign and enhance the existing man-made drainage ditch from its current configuration and disturbed condition. The realignment and enhancement activities would require permanent impacts to the existing ditch, including 0.10 acre of USACE/RWQCB-jurisdictional non-wetland waters of the U.S./State (Figure 7) and 0.15 acre of CDFW-jurisdictional streambed. Project impacts to the man-made ditch are shown in Figure 5.8-2, *Vegetation and Jurisdictional Resources Impacts* and quantified in Table 5.8-4, *Jurisdictional Impacts and Mitigation*.

Table 5.8-4
JURISDICTIONAL IMPACTS AND MITIGATION

Jurisdictional Resource	Existing Acres (feet)[1]	Impact Acres (feet)[1]	Proposed Ratio (Method)	Mitigation Required Acres (feet)[1]
USACE/RWQCB Jurisdiction				
Non-wetland Waters of the U.S./State (Man-made Earthen Channel)	0.08 (1,682)	0.08 (1,682)	1:1 (Establishment / Re-Establishment)	0.10 (2,593)
Non-wetland Waters of the U.S./State (Man-made Concrete Channel)	0.02 (911)	0.02 (911)		
TOTAL	**0.10 (2,593)**	**0.10 (2,593)**	**--**	**0.10 (2,593)**
CDFW Jurisdiction[2]				
Man-made Earthen Channel	0.11(N/A)	0.11 (N/A)	1:1 (Establishment / Re-Establishment, Restoration/ Rehabilitation, Enhancement, or Preservation)	0.15 (N/A)
Man-made Concrete Channel	0.04 (N/A)	0.04 (N/A)		
TOTAL	**0.15 (N/A)**	**0.15 (N/A)**	**--**	**0.15 (N/A)**

[1] Acres rounded to the nearest 0.01, linear feet rounded to the nearest foot.
[2] Mitigation for loss of linear feet not required by CDFW.
N/A = Not applicable

Pursuant to regulatory requirements, the project would notify the USACE and, if required, request authorization pursuant to a Section 404 Nationwide Permit, to comply with CWA Section 404. The project would also notify RWQCB with a Request for Water Quality Certification in compliance with CWA Section 401. In addition, the project would notify the CDFW and, if required, obtain a SAA in compliance with CFG Code Sections 1600 et seq. The project would be required to implement any compensatory mitigation, additional mitigation measures, and permit conditions prescribed by the USACE, RWQCB, and CDFW in permits.

Indirect Impacts

As discussed in Impact 3 below, the project is not located within or immediately adjacent to MHPA-designated land. Furthermore, land surrounding the property does not support native vegetation. Thus, no indirect impacts to sensitive vegetation or animal resources would occur.

5.8.2.3 Significance of Impact

No impacts to sensitive plant species, City ESL wetlands, or sensitive vegetation communities are anticipated. Potential impacts of the project on raptor foraging are expected to be less than significant. Because the project would comply with the mandatory MBTA and CFG Code, no significant impacts to nesting western bluebird and Cooper's hawk, or to nesting birds in general (including raptors) would occur. Potential suitable nesting habitat would be removed outside of the nesting season.

Construction of the project would result in impacts to the man-made drainage feature that occurs within the eastern/northeastern portion of the project site, which qualifies as a non-wetland ~~WUS/WS~~ waters of the U.S./State subject to USACE and RWQCB jurisdiction and a streambed habitat subject to CDFW jurisdiction. The project would be required to notify the regulatory agencies of impacts to jurisdictional resources and would be required to implement any compensatory mitigation, additional mitigation measures, and permit conditions prescribed by the USACE, RWQCB, and CDFW in permits.

5.8.2.4 Mitigation Monitoring and Reporting

Implementation of Mitigation Measures BIO-1 and BIO-2 would reduce the impacts to USACE, RWQCB, and CDFW jurisdictional resources to below the level of significance. Mitigation is proposed at standard ratios and methods consistent with those required by the regulatory agencies. Final mitigation requirements will be identified as conditions in the regulatory permits and approvals issued with the USACE, RWQCB, and CDFW.

BIO-1 Impacts to 0.10 acre of USACE- and RWQCB-jurisdictional non-wetland waters of the U.S./State shall be mitigated at a minimum 1:1 ratio through one or a combination of the following: on- and/or off-site establishment, re-establishment, rehabilitation, and/or enhancement of a minimum of 0.10 acre waters of the U.S./State; and/or off-site purchase of waters of the U.S./State credits at an approved mitigation bank, such as the Brook Forest Conservation/Mitigation Bank, or other location deemed acceptable by the USACE and RWQCB. Impacts to waters of the U.S./State would require notification to the USACE for issuance of a Section 404 CWA permit and notification to the RWQCB for issuances of a Section 401 CWA permit from the RWQCB.

BIO-2 Impacts to 0.15 acre of CDFW-jurisdictional streambed will be mitigated at a minimum 1:1 ratio through one or a combination of the following: on- and/or off-site establishment, re-establishment, rehabilitation, and/or enhancement of a minimum of 0.15 acre riparian and/or stream habitat; and/or off-site purchase of riparian and/or stream credits at an approved mitigation bank, such as the Brook Forest Conservation/Mitigation Bank, or other location deemed acceptable by the CDFW. Impacts to CDFW-jurisdictional resources would require notification to the CDFW for a CFG Section 1602 Streambed Authorization Agreement.

5.8.3 Impact 2: Wildlife Corridors

Issue 4: Would the project result in substantial interference with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, including linkages identified in the MSCP Plan, or impede the use of native wildlife nursery sites?

5.8.3.1 Impact Threshold

In accordance with the City Significance Determination Thresholds (2016a) and Land Development Code Biology Guidelines (2018l), the project would have a significant impact if it would substantially interfere with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, including linkages identified in the MSCP Plan, or impede the use of native wildlife nursery sites.

5.8.3.2 Impact Analysis

The project site is surrounded by existing development, and as such, does not by itself function as and does not contribute to any wildlife corridors or linkages, or native wildlife nursery sites. No stationary or running water with resident or migratory fish species is present on site. The project therefore would not impede the movement of any native, resident, or migratory fish or wildlife species; interfere with established native, resident, or migratory wildlife corridors, including linkages identified in the MSCP Plan; and would not impede the use of native wildlife nursery sites.

5.8.3.3 Significance of Impact

No significant impacts to wildlife corridors or movement are anticipated to occur as a result of implementation of the project.

5.8.3.4 Mitigation Monitoring and Reporting

As no significant impacts are anticipated, no mitigation measures are required.

5.8.4 Impact 3: Local Plans and Policies

Issue 5: Would the project result in a conflict with any local policies or ordinances protecting biological resources?

5.8.4.1 Impact Thresholds

In accordance with the City's CEQA Significance Determination Thresholds (2016a) and Land Development Code Biology Guidelines (2012), the project would have a significant impact if it would conflict with adopted plans, adjacent land use or local policies/ordinances as noted:

Adopted Plans

- Result in a conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan, either within the MSCP plan area or in the surrounding region;

Adjacent Land Uses

- Introduce land use within an area adjacent to the MHPA that would result in adverse edge effects;

Local Policies or Ordinances

- Result in a conflict with any local policies or ordinances protecting biological resources.

5.8.4.2 Impact Analysis

Adopted Plans

The project site is located outside the MHPA and all impacts would be entirely restricted to disturbed and developed lands. No other adopted HCP, Resource Management Plan, Special Area Management Plan, Watershed Plan, or other regional planning efforts are applicable to the project. As stated above, potential impacts to nesting birds, including MSCP-covered species, would be avoided through mandatory compliance with existing regulations, including the MBTA and CFG Code, ensuring project consistency with the adopted City MSCP Subarea Plan.

Adjacent Land Uses

The project would not introduce land use within an area adjacent to the MHPA that would result in adverse edge effects. In the context of the City's MSCP Subarea Plan, the project site occurs outside of the MHPA associated with the Black Mountain core area., ~~which is located 0.2 mile to the west.~~ The precise distance between the project and the City's MHPA varies from 690 to 1,100 feet, and the distance from the project to the boundary of the BMOS varies from 180 to 1,080 feet. In between the site and this nearest MHPA boundary are a row of single-family homes and Peñasquitos Drive; most of the site is farther away from the MHPA. Given this distance and the land uses in between, development at the site would not impact the City's MHPA and would not come under the MHPA adjacency guidelines.

Local Policies or Ordinances

The project has been specifically designed to minimize impacts to biological resources addressed in the City's MSCP Subarea Plan and Land Development Code. Compliance with existing regulations would ensure project consistency with the MSCP.

5.8.4.3 Significance of Impact

The project would avoid impacts to special status animal nesting birds, including MSCP-covered species, through compliance with the City's adopted MSCP Subarea Plan, as well as existing regulations noted above and other local policies or ordinances. No significant impact would occur.

The project would not introduce land use within an area adjacent to the MHPA that would result in adverse edge effects. No impact would occur from land use adjacency.

5.8.4.4 Mitigation Monitoring and Reporting

No significant impacts are identified and no mitigation is required.

5.8.5 Impact 4: Invasive Species

Issue 6: Would the project result in an introduction of invasive species of plants into a natural open space area?

5.8.5.1 Impact Threshold

In accordance with the City's CEQA Significance Determination Thresholds (2016a) and Land Development Code Biology Guidelines (2012), the project would have a significant impact if it would introduce invasive species of plants into a natural open space area.

5.8.5.2 Impact Analysis

The project would not result in the introduction of invasive species of plants into a natural open space area. The project area does not support native habitat and is surrounded by urban development and non-native plant species are prevalent on adjacent lands. Furthermore, any landscaping associated with the project would not include plant species identified as invasive by the California Invasive Plant Council (Cal-IPC 2006) per a project condition requiring implementation of the Final Landscaping Plan, which would be reviewed by project biologists and City staff to ensure that no invasive species identified by Cal-IPC are present. Within the restored drainage area, plant palettes have been specifically developed to include appropriate native species.

5.8.5.3 Significance of Impact

The project would not result in the introduction of invasive species of plants into a natural open space area, thus no significant impact would occur.

5.8.5.4 Mitigation Monitoring and Reporting

No significant impacts are anticipated, and no mitigation measures are required.

Project Site
Caltrans ROW Grading
Jurisdictional Delineation Data Point

Jurisdictional Resources

Concrete-lined Channel: Non-wetland Waters of the U.S./State; CDFW Streambed (width shown in feet)
Natural-bottom Channel: Non-wetland Waters of the U.S./State; CDFW Streambed (width shown in feet)
Culvert

Vegetation

Developed Land
Disturbed Land
Eucalyptus Woodland
Non-Native Vegetation

Socorro Way
Madrigal St
Segovia Ct
Susita St
Amalia St
Andorra Way
Avenida Montuosa
Via Hond'onado
Calle Juanito
Avenida Maria
Via Abajo
Del Diablo Way
Satanas St
Del Diablo Ln
Priscilla St
Del Diablo St
Guadalimar Way
Penasquitos Ct
Caminito Orense Este
Rancho Carmel Dr
Janal Way
Carmel Mountain Rd
Cuca St
Via Venezia
Penasquitos Dr
DP-1
15
4/6
4/4
3/3
2/4
3/4
2/4
1/2
2/2
1/2
1/1
1/2
3/5
1/2
3/3
4/4
2/3
1/2
2/3
1/2
1/2
2/3

I:\PROJECTS\N\NDG\NDG-01_TheJunipers\Map\EIR\Fig5.8-1_VegID.mxd LEN-84 1/6/2020 - SAB

0 350 Feet

Source: Aerial (Terraserver 2016)

HELIX Environmental Planning

Vegetation and Jurisdictional Resources

Figure 5.8-1

Project Site
On-site Impacts
Caltrans ROW Grading
Off-site Impacts
Jurisdictional Delineation Data Point

Jurisdictional Resources

Concrete-lined Channel: Non-wetland Waters of the U.S./State; CDFW Streambed (width shown in feet)
Natural-bottom Channel: Non-wetland Waters of the U.S./State; CDFW Streambed (width shown in feet)
Culvert

Vegetation

Developed Land
Disturbed Land
Eucalyptus Woodland
Non-Native Vegetation

Socorro Way
Madrigal St
Segovia Ct
Susita St
Amalia St
Avenida Maria
Via Abajo
Andorra Way
Del Diablo Way
Satanas St
Del Diablo Ln
Priscilla St
Del Diablo St
Guadalimar Way
Penasquitos Ct
Caminito Orense Este
Rancho Carmel Dr
Janal Way
Carmel Mountain Rd
Cuca St
Via Venezia
Penasquitos Dr
DP-1
15
4/6
4/4
3/3
2/4
3/4
2/4
1/2
2/2
1/2
1/1
1/2
3/5
1/2
3/3
4/4
2/3
1/2
2/3
1/2
1/2
2/3

I:\PROJECTS\N\NDG\NDG-01 TheJunipers\Map\EIR\Fig5.8-2 VegDImpacts.mxd LEN-84 1/6/2020 - SAB

0 350 Feet

Source: Aerial (Terraserver 2016)

HELIX Environmental Planning

Vegetation and Jurisdictional Resources Impacts

Figure 5.8-2

5.9 Hydrology and Water Quality

This section addresses potential impacts that the project would have on water quality, groundwater supplies, stormwater, erosion, and flooding. The section is based on two technical studies related to hydrology and water quality prepared for the project by Hunsaker & Associates, Inc. (Hunsaker), including: (1) Junipers Drainage Study (Hunsaker 2019a); and (2) Priority Development Project Storm Water Quality Management Plan for The Junipers (SWQMP, Hunsaker 2019b). These studies are summarized below along with other applicable data and are included in EIR Appendices G1 and G2, respectively.

5.9.1 Existing Conditions

5.9.1.1 Environmental Setting

Climate and Topography

Average annual precipitation in the project site vicinity (zip code 92129) is approximately 12 inches, with much of this (nearly 83 percent) occurring during the period of November through March (Melissadata.com 2018). The project site consists of moderate, undulating slopes and level areas associated with the previous golf course land use, with an overall north-to south gradient and localized steeper slopes located along portions of the site perimeter. On-site elevations range from approximately 750 feet AMSL at the northernmost property corner, to 620 feet AMSL in the east-central portion of the property.

Watershed and Drainage Characteristics

The project site is located within the Peñasquitos Hydrologic Unit (HU), 1 of 11 major drainage areas identified in the Basin Plan (RWQCB 1994 as amended). The Peñasquitos HU (basin number 906.0) is a triangular-shaped area of approximately 170 square miles, and extends from the City of Poway on the east to Mission Bay-Del Mar along the coast. This HU is divided into a number of hydrologic areas (HAs) in the Basin Plan based on local drainage characteristics, with the project site located within the Poway HA (906.20, as shown in Figure 5.9-1, *Project Location Within Local Hydrologic Designations*). Portions of the Peñasquitos HU are also identified as the Los Peñasquitos Watershed Management Area (WMA; Project Clean Water 2018). The Los Peñasquitos WMA is an approximately 94-square mile area that encompasses the Miramar Reservoir HA (906.10) and the Poway HA (906.20, which includes the project site). Surface drainage in the Peñasquitos HU and Poway HA occurs through a number of small to moderate size streams, including Chicarita and Peñasquitos creeks in the project site vicinity. Chicarita Creek is located just east of I-15, and flows generally south before intersecting Peñasquitos Creek approximately 2.3 miles south of the site. Peñasquitos Creek then continues generally southwest for approximately nine miles and flows into Peñasquitos Lagoon near the I-5/I-805 merge.

The project site consists of a previously developed golf course property and an adjacent recreational (tennis court) site, with associated existing features including unpaved golf course areas (turf, etc., with no current irrigation occurring), administration and maintenance structures, paved areas (tennis courts, roadways and cart paths), and associated landscaping and utilities. Existing drainage

facilities located within the site include several natural and partially concrete-lined channel segments, as well as public storm drain facilities that convey flows from off-site and on-site sources.

In the northern portion of the site, flows are conveyed from the existing off-site neighborhood to the west and enter the site via a storm drain from Andorra Way. Flows also enter the site from the east, via a series of discharge points from I-15.

These flows from the north, east and west, as well as runoff from the project site, are conveyed into a series of unlined drainage ditches which then confluence into a single drainage ditch that runs from the western project boundary near Andorra Way, eastward and then southward. This larger drainage ditch carries the combined on- and off-site flows southward through the eastern portion of the site and transitions into a concrete-lined channel before discharging to the existing 60-inch storm system within Caltrans I-15 right-of-way.

In the southwestern portion of the site, flows from the existing off-site neighborhood to the west (from Del Diablo Street and Peñasquitos Drive) are routed to the site via the existing City of San Diego storm drain system. There are existing storm drain systems in this portion of the project site consisting of public 30- and 42-inch reinforced concrete pipe (RCP) storm drains. On-site flows from this area are conveyed via broad channel and flow overland towards the adjacent property to the south, and are intercepted by catch basins and routed to continue within the existing City storm drain system. Specifically, these include two outlets along the eastern site boundary (Nodes 306 and 406 as depicted on the Existing Drainage Map in Appendix 1 of Hunsaker 2019a), and two outlets along the southern site boundary (Nodes 106 and 206 on the referenced Drainage Map). Flows from the eastern outlets enter two adjacent City storm drain facilities that flow into a Caltrans drainage ditch and/or Chicarita Creek, while runoff from the southern outlets flows through small off-site drainage courses before entering downstream storm drains.

All of the described off-site flows are conveyed generally south to Peñasquitos Creek, which continues southwest to the coast as previously noted. Downstream drainage facilities include bridge crossings along Peñasquitos Creek at a number of roadways such as I-15 and the I-5/I-805 merge. Current peak 100-year storm flows from the site total approximately 442.9 cubic feet per second (cfs; refer to Table 1 in Hunsaker 2019a and Section 5.9.2.2 below). According to the City of San Diego Drainage Design Manual, type “C” and “D” soils are assumed for the entire site. Type “C” soils are categorized as having a high potential for runoff. Type “D” soils are categorized as having a slow infiltration rate when thoroughly wet.

Flood Hazards

FEMA has mapped flood hazards within the project site and vicinity. The entire project site and adjacent areas are designated as “Zone X” which means these areas are determined to be outside of identified 100-year floodplains and are considered minimal flood hazard areas due to their elevation above the 0.2-percent-annual chance (or 500-year) flood (FEMA 2018, 2012). The closest mapped 100-year floodplain is associated with portions of Chicarita Creek approximately 0.25 mile south-southeast of the site. Since the project site is located at an elevation between 620 and 750 feet AMSL, the site is not subject to flood hazards associated with sea level rise.

Groundwater

The project site is not located within or adjacent to the areal extent of any mapped regional groundwater basins, with the closest such aquifer (Poway Valley Basin) located approximately 2.25 miles to the southeast along the Peñasquitos Creek corridor (California DWR 2004). Subsurface exploration conducted as part of the project site project Geotechnical Investigation included 28 borings extending to maximum depths of 75.5 feet, and 9 trenches excavated to depths of between 8 and 17 feet. While static (permanent) groundwater aquifers were not encountered in these investigations, seepage of perched groundwater was observed in a number of locations at depths of between 3 and 54 feet (Geocon 2019a). Specifically, perched groundwater consists generally of unconfined (i.e., not under pressure) aquifers contained by impermeable or semi-permeable strata, with the presence and/or extent of such groundwater bodies typically associated with and influenced by seasonal precipitation, as well as local landscape and/or agricultural irrigation. The Geotechnical Investigation also notes that the depth and areal extent of perched aquifers within on-site alluvial deposits may fluctuate seasonally. Since groundwater elevations can vary with seasonal precipitation, irrigation, land use, and other factors, it is not uncommon for groundwater or seepage conditions to develop where none previously existed.

Water Quality

Surface Water

Surface water within the project site and vicinity consists of intermittent flows from storm events and storm/irrigation runoff from off-site residential areas to the north and west, and from I-15 to the east, as well as runoff from the project site. No known surface water quality data are available for the project site, with surface storm and irrigation flows typically subject to variations in water quality due to local conditions such as runoff rates/amounts and land use. A summary of typical pollutant sources and loadings for various land use types is provided in Table 5.9-1, *Summary of Typical Pollutant Sources for Urban Storm Water Runoff*, and Table 5.9-2, *Typical Loadings for Selected Pollutants in Runoff from Various Land Uses*. Receiving waters associated with the project site include Peñasquitos Creek, Chicarita Creek and Peñasquitos Lagoon as previously described. Existing sources for water quality data in downstream areas include quantitative and qualitative monitoring results, biological assessment (bioassessment) studies, and CWA Section 303(d) impaired water evaluations conducted by the SWRCB and RWQCB. An overview of selected monitoring and reporting data is provided below.

Table 5.9-1
SUMMARY OF TYPICAL POLLUTANT SOURCES
FOR URBAN STORM WATER RUNOFF

Pollutants	Pollutant Sources
Sediment and Trash/Debris	Streets, landscaping, driveways, parking areas, rooftops, construction activities, atmospheric deposition, drainage channel erosion
Pesticides and Herbicides	Landscaping, roadsides, utility rights-of-way, soil wash-off
Organic Compounds	Landscaping, streets, parking areas, animal wastes, recreation areas
Oxygen Demanding Substances	Landscaping, animal wastes, leaky sanitary sewer lines, recreation areas
Heavy Metals	Automobiles, bridges, atmospheric deposition, industrial areas, soil erosion, corroding metal surfaces, combustion processes
Oil and Grease/Hydrocarbons	Roads, driveways, parking lots, vehicle maintenance areas, gas stations, illicit dumping to storm drains
Bacteria and Viruses	Landscaping, roads, leaky sanitary sewer lines, sanitary sewer cross-connections, animal wastes, recreation areas
Nutrients (Nitrogen and Phosphorus)	Rooftops, landscaping, atmospheric deposition, automobile exhaust, soil erosion, animal wastes, detergents, recreation areas

Source: USEPA 1999

Table 5.9-2
TYPICAL LOADINGS FOR SELECTED POLLUTANTS IN RUNOFF
FROM VARIOUS LAND USES
(lbs/acre/year)

Land Use	TSS	TP	TKN	NH_3 - N	NO_2 + NO_3 - N	BOD	COD	Pb	Zn	Cu
Commercial	1000	1.5	6.7	1.9	3.1	62	420	2.7	2.1	0.4
Parking Lot	400	0.7	5.1	2	2.9	47	270	0.8	0.8	0.04
HDR	420	1	4.2	0.8	2	27	170	0.8	0.7	0.03
MDR	190	0.5	2.5	0.5	1.4	13	72	0.2	0.2	0.14
LDR	10	0.04	0.03	0.02	0.1	N/A	N/A	0.01	0.04	0.01
Freeway	880	0.9	7.9	1.5	4.2	N/A	N/A	4.5	2.1	0.37
Industrial	860	1.3	3.8	0.2	1.3	N/A	N/A	2.4	7.3	0.5
Park	3	0.03	1.5	N/A	0.3	N/A	2	0	N/A	N/A
Construction	6000	80	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Source: USEPA 1999
HDR = High Density Residential; MDR = Medium Density Residential; LDR = Low Density Residential
N/A = Not available; insufficient data to characterize; TSS = Total Suspended Solids; TP = Total Phosphorus; TKN = Total Kjeldahl Nitrogen; NH_3 – N = Ammonia - Nitrogen; NO_2 + NO_3 – N = Nitrite + Nitrate - Nitrogen; BOD = Biochemical Oxygen Demand; COD = Chemical Oxygen Demand; Pb = Lead; Zn = Zinc; Cu = Copper

As summarized below, water quality monitoring has been conducted for downstream portions of Peñasquitos Creek and Lagoon in association with requirements under the federal CWA, NPDES, and the associated Municipal Storm Water Permit (refer to the discussion of Regulatory Framework below in Section 5.9.1.2 for additional information).

Wet and dry weather monitoring has been conducted historically at a number of locations within the Peñasquitos Creek watershed in association with the NPDES Municipal Permit and other

requirements. Applicable (downstream) monitoring sites include the Los Peñasquitos Creek Mass Loading Station (MLS), located at the bridge crossing of Vista Sorrento Parkway (approximately 9.3 miles southwest of the site), and a third-party (Coastkeeper) site located in Peñasquitos Lagoon. Based on data from these and other sites located upstream and/or in adjacent watersheds (e.g., Carmel Valley and Carroll Canyon creeks), the following summary water quality assessments are provided: (1) High Priority Water Quality Problems (HPWQPs) are identified for fecal coliform and *Enterococcus* bacteria levels in the Peñasquitos Creek watershed as a whole (including Peñasquitos Lagoon), and for sedimentation in the Miramar HA (downstream of the project site) portion of the watershed (City of San Diego 2017b; City of Poway, et al. 2013); (2) impairment of Basin Plan beneficial uses for Peñasquitos Creek (refer to Section 5.9.1.2, below) are identified in association with pollutant categories including sediment, turbidity, fecal coliform and *Enterococcus* bacteria, pesticides (Bifenthrin and Diazinon), selenium, nitrogen, phosphorus, dissolved oxygen, total suspended solids (TSS), total dissolved solids (TDS) and toxicity (City of San Diego et al. 2015); (3) bioassessment scores[1] are listed as "very poor" for the Peñasquitos Creek watershed as a whole in 2011 (City of Poway, et al. 2013); and (4) impairment of Basin Plan beneficial uses for Peñasquitos Lagoon are identified in association with pollutants categories including TSS, TDS, turbidity, toxicity, fecal coliform and *Enterococcus* bacteria, pesticides (Bifenthrin), and phosphorus (City 2017b; City, et al. 2015).

Groundwater

As previously described, the project site is not located within any mapped regional groundwater basin. On-site occurrences are limited to observation perched groundwater seepage at depths of between approximately 3 and 54 feet, with additional localized perched aquifers potentially occurring in low-lying alluvial deposits (Geocon 2019a). No known groundwater quality data are available for the project site and vicinity, with water quality characteristics of potential localized aquifers subject to variation in association with local land uses and related surface water quality. The closest regional aquifer (Poway Valley Basin) has been historically characterized as primarily sodium chloride in character, with TDS levels ranging from 750 to 1,500 milligrams per liter (DWR 2004).

CWA Section 303(d) Impaired Water Bodies and Total Maximum Daily Loads

The SWRCB and RWQCBs produce bi-annual qualitative assessments of statewide and regional water quality conditions. These assessments are focused on CWA Section 303(d) impaired water listings and assignment of total maximum daily load (TMDL) requirements. A TMDL establishes the maximum amount of an impairing substance or stressor that a water body can assimilate and still meet water quality standards, and allocates that load among pollution contributors. TMDLs are quantitative tools for implementing state water quality standards, based on the relationship between pollution sources and water quality conditions. States are required to identify and document any and all polluted surface water bodies, with the resulting documentation referred to as the CWA Section 303(d) List of Water Quality Limited Segments, or more commonly the CWA

[1] Bioassessment testing involves evaluation of the taxonomic richness and diversity of benthic macroinvertebrate (BMI) communities based on the Index of Biotic Integrity (IBI), which provides a quantified score reflecting biological conditions and associated water quality.

Section 303(d) list. The most current (2014/2016) approved 303(d) list identifies the following impaired waters in downstream watersheds (SWRCB 2018):

- Peñasquitos Creek (12 miles) is listed for benthic community effects, indicator bacteria, pesticides (Bifenthrin and Chlorpyrifos), nitrogen, phosphate, TDS and toxicity; and
- Peñasquitos Lagoon (469 acres) is listed for sedimentation/siltation and toxicity.

5.9.1.2 Regulatory Framework

This section provides a summary of the plans and policies of the City of San Diego, and regional, state, and federal agencies that have hydrology/water quality policy and regulatory control over the project site. These plans and policies include the CWA, Porter-Cologne Water Quality Control Act, NPDES permit requirements, and Water Quality Control Plan for the San Diego Basin.

Federal Standards

Clean Water Act/National Pollutant Discharge Elimination System Requirements

The CWA was enacted by Congress in 1972 and is the primary federal law regulating water quality in the United States. The CWA forms the basis for several state and local laws throughout the country. Its objective is to reduce or eliminate water pollution in the nation's rivers, streams, lakes, and coastal waters. The CWA prescribed the basic federal laws for regulating discharges of pollutants and set minimum water quality standards for all waters of the U.S. Several mechanisms are used to control domestic, industrial, and agricultural pollution under the CWA. At the federal level, the CWA is administered by the USEPA. At the state and regional level, the USEPA has delegated administration and enforcement of the CWA in California to the SWRCB and the RWQCBs. The State of California has developed a number of water quality laws, rules, and regulations, in part to assist in the implementation of the CWA and related federally mandated water quality requirements. In many cases, the federal requirements set minimum standards and policies and the laws, rules, and regulations adopted by the SWRCB and RWQCBs exceed the federal requirements. Impacts to Waters of the State and Waters of the U.S. are subject to the requirements of the CWA Sections 401 and 404, as administered by the USACE and RWQCB. Please refer to Section 3.8, *Biological Resources*, for additional discussion.

State Standards

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act established the principal legal and regulatory framework for water quality control in California. This Act is embodied in the California Water Code, which authorizes the SWRCB to implement the provisions of the federal CWA, as previously described. The Porter-Cologne Act also provides for the development and periodic review of water quality control plans that designate beneficial uses for surface waters, groundwater basins, and coastal waters, and establish water quality objectives for applicable waters as outlined below under the *Water Quality Control Plan for the San Diego Basin* heading.

The Porter-Cologne Act establishes the responsibility of the RWQCBs for adopting, implementing, and enforcing water quality control plans, which set forth the state's water quality standards (i.e., beneficial uses of surface waters and groundwater) and the objectives or criteria necessary to protect those beneficial uses. The State of California is divided into nine regions governed by RWQCBs, which implement and enforce provisions of the California Water Code and the CWA under the oversight of the SWRCB. The City is located within the purview of the San Diego RWQCB (Region 9).

National Pollutant Discharge Elimination System

The project is subject to applicable elements of the CWA, including the NPDES. In 1972, the NPDES was created in Section 402 of the CWA to regulate discharges of pollutants from point sources into the nation's waters. In California, the USEPA has delegated authority for implementing NPDES requirements to the SWRCB. Specific NPDES requirements associated with the project include conformance with the following: (1) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit, NPDES No. CAS000002, SWRCB Order 2009-0009-DWQ; as amended by Order Nos. 2010-0014-DWQ and 2012-0006-DWQ); (2) General Groundwater Extraction Discharges to Surface Waters Permit (Groundwater Permit; NPDES No. CAG919003, Order No. R9-2015-0013); and (3) Waste Discharge Requirements for Municipal Separate Storm Sewer Systems (MS4) Permit (Municipal Permit, NPDES No. CAS 0109266, Order No. R9-2013-0001, as amended by Order Nos. R9-2015-0001 and R9-2015-0100). These permits are further described below.

NPDES Construction General Permit

This NPDES Construction General Permit was issued by the SWRCB in 2010 and was amended in 2012 and 2014, pursuant to authority delegated by the USEPA, as previously noted. Construction activities exceeding 1 acre (or meeting other applicable criteria) are subject to pertinent requirements under the Construction General Permit. Specific conformance requirements include implementing a site-specific Storm Water Pollution Prevention Plan (SWPPP), an associated Construction Site Monitoring Program (CSMP), employee training, and minimum BMPs, as well as a Rain Event Action Plan (REAP) for applicable projects (e.g., those in Risk Categories 2 or 3). Under the Construction General Permit, project sites are designated as Risk Level 1 through 3 based on site-specific criteria (e.g., sediment erosion and receiving water risk), with Risk Level 3 sites requiring the most stringent controls. Based on the site-specific risk level designation, the SWPPP and related plans/efforts identify detailed measures to prevent and control the off-site discharge of pollutants in storm water runoff. Depending on the risk level, these may include efforts such as minimizing/ stabilizing disturbed areas, mandatory use of technology-based action levels, effluent and receiving water monitoring/reporting, and advanced treatment systems (ATS). Specific pollution control measures require the use of best available technology economically achievable (BAT) and/or best conventional pollutant control technology (BCT) levels of treatment, with these requirements implemented through applicable BMPs. While site-specific measures vary with conditions such as risk level, proposed grading, and slope/soil characteristics, detailed guidance for construction-related BMPs is provided in the permit and related City standards (as outlined below), as well as additional sources including the *EPA National Menu of Best Management Practices for Storm Water Phase II – Construction* (USEPA 2018), and *Storm Water Best Management Practices Handbooks* (California Stormwater Quality Association [CASQA] 2009). Specific requirements for the project

under this permit would be determined during SWPPP development, after completion of project plans and application submittal to the SWRCB.

To obtain coverage under the Construction General Permit, the applicant is required to submit a Notice of Intent, along with other required documents such as the SWPPP, to both the City and the RWQCB. The Notice of Intent includes general information on the types of construction activities that will occur on the site. It is the responsibility of the designated Legally Responsible Person to obtain coverage under the permit prior to site construction. An annual report must be submitted to the SWRCB each September 1 until a Notice of Termination is filed when construction is complete.

NPDES Groundwater Permit

While shallow permanent groundwater is not expected to be encountered on site during proposed development, perched groundwater was encountered at several locations during geotechnical investigation at depths as shallow as 3 feet. Accordingly, if project-related construction activities entail the discharge of extracted groundwater into receiving waters, the applicant would be required to obtain coverage under the Groundwater Permit. Conformance with this permit is generally applicable to all temporary and certain permanent groundwater discharge activities, with exceptions as noted in the permit fact sheet. Specific requirements for permit conformance include: (1) submittal of appropriate application materials and fees; (2) implementation of pertinent (depending on site-specific conditions) monitoring/testing, disposal alternative, and treatment programs; (3) provision of applicable notification to the associated local agency prior to discharging to a municipal storm drain system; (4) conformance with appropriate effluent standards (as outlined in the permit); and (5) submittal of applicable documentation (e.g., monitoring reports).

NPDES Municipal Permit

The Municipal Permit implements a regional strategy for water quality and related concerns, and mandates a watershed-based approach that often encompasses multiple jurisdictions. The overall permit goals include: (1) providing a consistent set of requirements for all co-permittees; and (2) allowing the co-permittees to focus their efforts and resources on achieving identified goals and improving water quality, rather than just completing individual actions (which may not adequately reflect identified goals). Under this approach, the co-permittees are tasked with prioritizing their individual water quality concerns, as well as providing implementation strategies and schedules to address those priorities. Municipal Permit conformance entails considerations such as receiving water limitations (e.g., Basin Plan criteria as outlined below), waste load allocations (WLAs), and numeric water quality based effluent limitations (WQBELs). Specific efforts to provide permit conformance and reduce runoff and pollutant discharges to the maximum extent practicable (MEP) involve methods such as: (1) using jurisdictional planning efforts (e.g., discretionary general plan approvals) to provide water quality protection; (2) requiring coordination between individual jurisdictions to provide watershed-based water quality protection; (3) implementing appropriate BMPs, including LID measures, to avoid, minimize, and/or mitigate effects such as increased erosion and off-site sediment transport (sedimentation), hydromodification[2] and the discharge of pollutants in urban runoff; and (4) using appropriate monitoring/assessment, reporting, and enforcement

[2] Hydromodification is generally defined in the Municipal Permit as the change in natural watershed hydrologic processes and runoff characteristics (interception, infiltration and overland/groundwater flow) caused by urbanization or other land use changes that result in increased stream flows and sediment transport.

efforts to ensure proper implementation, documentation, and (as appropriate) modification of permit requirements. The City has implemented a number of regulations to ensure conformance with these requirements, as outlined below under local standards.

Water Quality Control Plan for the San Diego Basin

The San Diego Basin Plan establishes a number of beneficial uses and water quality objectives for surface and groundwater resources. Beneficial uses are generally defined in the Basin Plan as "the uses of water necessary for the survival or well-being of man, plus plants and wildlife." Identified existing and potential beneficial uses for downstream surface waters (including applicable portions of Peñasquitos Creek, Chicarita Creek and Peñasquitos Lagoon) include: agricultural supply (AGR); industrial service supply (IND); contact and non-contact water recreation (REC 1 and REC 2); preservation of biological habitats of special significance (BIOL); estuarine habitat (EST); warm freshwater habitat (WARM); cold freshwater habitat (COLD); wildlife habitat (WILD); rare, threatened or endangered species (RARE); marine habitat (MAR); migration of aquatic organisms (MIGR); spawning, reproduction and/or early development (SPWN); and shellfish harvesting (SHELL). Identified beneficial uses for groundwater in the Poway and Miramar HAs include municipal and domestic supply (MUN), AGR and IND applications.

Water quality objectives identified in the Basin Plan are based on established beneficial uses, and are defined as "the limits or levels of water quality constituents or characteristics which are established for the reasonable protection of beneficial uses." These objectives may include both numerical and narrative criteria, and are incorporated into related regulatory requirements such as the NPDES permitting process described above.

Local Standards

Drainage Design Manual

Pursuant to SDMC Chapter 14 Article 2 Division 2, Storm Water Runoff and Drainage Regulations, drainage regulations apply to all development in the City, whether or not a permit or other approval is required.

Drainage design policies and procedures for the City are provided in the Drainage Design Manual (City 2017e), which is incorporated into the Land Development Manual as Appendix B. The Drainage Design Manual provides design guidelines for drainage and drainage-related facilities associated with development in the City, including criteria for determining watersheds, storm discharge, and applicable storm drain structure types and capacities.

Storm Water Standards Manual

The City has adopted a jurisdiction-specific Storm Water Standards Manual (City 2018j) to reflect related NPDES standards, as well as the associated Model BMP Manual for the San Diego Region (Project Clean Water 2016). The Storm Water Manual provides direction for associated regulatory compliance, including identification of construction and post-construction storm water requirements for Standard Projects and Priority Development Projects. Priority Development Projects are projects that are subject to additional requirements due to the nature of the project (e.g., creation of 5,000 square feet or more of new impervious surfaces). The Storm Water Manual

identifies regulatory requirements and provides detailed performance standards and monitoring/ maintenance efforts for: (1) construction BMPs; (2) overall storm water management design; (3) site design (LID) and source control BMPs applicable to all projects; (4) pollutant (or treatment) control and hydromodification management BMPs applicable to Priority Development Projects; (5) operation and maintenance requirements for applicable BMPs; and (6) specific direction and guidance to provide conformance with City and related NPDES storm water standards.

Grading Ordinance

The City Grading Ordinance (SDMC Section 142.0101 et seq.) incorporates requirements related to hydrology and water quality, including BMPs necessary to control storm water pollution from sources such as erosion/sedimentation and construction materials during project construction and operation. Specifically, these include elements related to slope design, erosion/sediment control, revegetation requirements, and material handling/control. For example, cut and fill slopes greater than 8 feet in height are not allowed to exceed a gradient of 50 percent (SDMC Section 142.0133(c)).

General Plan

The City General Plan (2008a) provides a number of goals and policies related to hydrology and water quality concerns in the Public Facilities, Services, and Safety Element; and the Conservation Element, as summarized below.

- Public Facilities, Services, and Safety Element. This element includes a number of goals and policies related to the provision of adequate public facilities and services for existing and proposed development. For storm water, these involve efforts to provide appropriately designed and sized infrastructure and ensure adequate conveyance capacity, protect water quality, and provide conformance with applicable regulatory standards, such as the NPDES); and

- Conservation Element. The Conservation Element provides a number of goals and policies related to preserving and protecting watersheds and natural drainage features, minimizing runoff and related pollutant generation during and after construction activities, and protecting drinking water resources.

Please refer to Table 5.1-1, *City of San Diego Land Use Goals, Objectives, and Policies Consistency Evaluation* for details regarding the proposed project's consistency with specific General Plan policies and goals.

5.9.2 Impact 1: Impervious Surfaces and Runoff

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

5.9.2.1 Impact Thresholds

The City *Significance Determination Thresholds* (2016a) identify potentially significant impacts related to impervious surfaces and runoff if a project would:

- Impose flood hazards on other properties or development, or result in substantial changes to stream flow velocities or quantities; or

- Result in decreased aquifer recharge or result in extraction from an aquifer resulting in a net deficit in the aquifer volume or reduction in the local groundwater table.

5.9.2.2 Impact Analysis

Development of the project would result in the construction of impervious surfaces such as structures and pavement, which can increase both the rate and amount of runoff within and from a site by reducing infiltration capacity and concentrating flows. Such conditions can potentially generate impacts related to local flooding hazards (e.g., if storm drain capacities are exceeded), erosion/sedimentation (e.g., if increased runoff rates or amounts occur in local receiving waters), hydromodification, and/or local groundwater recharge rates if impervious areas are increased (i.e., through decreased surface water percolation). The site was previously developed as a golf course, with an adjacent recreational (tennis court) site, and encompasses a mix of pervious (e.g., turf) and impervious (e.g., pavement) surfaces. Implementation of the project would result in the construction of approximately 38.4 acres of impervious areas (structures and pavement), an increase of approximately 45 percent over the existing condition (Hunsaker 2019b), with a corresponding increase in on-site flow generation. The proposed storm drain system includes a series of inlets, catch basins and pipelines that would be designed and sized to convey storm flows in accordance with applicable City requirements, with on-site flows conveyed to a series of three proposed on-site basins to detain and attenuate off-site discharge (with the described on-site flows including the previously noted run-on from residential areas west of the site and I-15 runoff from the east). Specifically, the proposed storm drain would realign the existing 30- and 42-inch RCPs through the project and tie into existing pipes within the project. In the north there is an additional 30-inch RCP storm drain that comes from Andorra Way and through Lot 206 (APN 313-120-67). The off-site headwall on Lot 206 would be removed and the storm drain would be extended through the project, exiting into a vegetated drainage channel that would extend along the easterly boundary of the project. Similarly, the flows from the east (Caltrans right-of-way) would be intercepted and routed through storm drain, graded or lined ditches, and/or vegetated drainage channel through the site to the eventual discharge location. The project also would construct off-site storm drains in Peñasquitos Drive and Carmel Mountain Road. The three proposed basins are designed to regulate calculated 100-year flows and address water quality concerns associated with the runoff through the site. A single proprietary biofiltration device would be implemented to treat water quality (near the Carmel Mountain Road discharge), as addressed further in Section 5.9.5. As a result, regulated post-development 100-year storm peak flow rate discharged from the site would be approximately 409.4 cfs, a reduction of approximately 33.5 cfs (approximately 7.6 percent) from the existing peak flow rate of 442.9 cfs (Hunsaker 2019a).

Based on the described pre- and post-development flow conditions, the project Drainage Study concludes that: “The project does not increase runoff in the 100-year storm event…” and “…there will be no negative impacts to downstream drainage facilities.” As a result, the project would not increase the rate and amount of peak 100-year storm runoff leaving the site.

An additional concern related to runoff generation involves potential hydromodification effects. Based on the nature of proposed development, the project is considered a Priority Development

Project and is subject to associated hydromodification criteria. Accordingly, Attachment 2 of the project SWQMP includes a hydromodification analysis to address associated potential effects (Hunsaker 2019b in EIR Appendix G2). Specifically, the Hydromodification Management Plan analysis identifies two hydromodification Points of Compliance (POCs; refer to the Hydromodification Map in Attachment 2d of Hunsaker 2019b) which are used to compare existing and proposed discharge from the project site based on a default low-flow threshold 0.1Q2 (i.e., 10 percent of the two-year storm flow). This low-flow threshold was selected based on the assumption that the downstream channel is highly susceptible to erosion, as required, since soil tests were not conducted. Model results show that development of the project would result in a flow rate at the POCs below the low-flow threshold of 0.1Q2 (Hunsaker 2019b). The three proposed on-site detention/water quality basins would provide flow regulation prior to off-site discharge and are "…designed to…meet Water Quality and Hydromodification requirements" (Hunsaker 2019b, refer to Section 5.9.5 below for discussion of water quality criteria). As a result, the project would comply with applicable hydromodification requirements and, as previously described, would result in no net increase in the rate and amount of peak 100-year storm runoff leaving the site.

As previously noted, the project would increase the amount of existing on-site impervious cover by 45 percent, with a post-development total of 38.4 acres of impervious areas. This increased cover is not expected to substantially decrease associated potential groundwater recharge capacity, however, based on the following considerations: (1) proposed development would include approximately 73.9 acres of pervious surfaces, with roughly 66 percent of the total project site area of 112.3 acres therefore retaining infiltration/recharge capacity; and (2) permanent groundwater aquifers were not observed on-site during geotechnical excavations extending to depths of over 75 feet, with associated groundwater recharge potential anticipated to be largely (or wholly) unaffected by project implementation.

Project impacts to Waters of the U.S. and Waters of the State, under the jurisdiction of the USACE and RWQCB are addressed in Section 5.8, *Biological Resources*.

5.9.2.3 Significance of Impacts

The project storm drain system would be designed to accommodate storm flows per applicable City requirements, and runoff leaving the site would be regulated by the proposed detention/water quality basins such that no net increase in off-site peak 100-year storm flow rates or amounts would result from project development. Accordingly, potential impacts from project implementation related to runoff rates/amounts and associated potential storm drain capacity, flooding, erosion/ sedimentation, and hydromodification effects would be less than significant (with additional discussion of potential erosion/sedimentation effects provided below in Section 5.9.5).

Because implementation of the project would retain extensive on-site pervious areas and shallow permanent groundwater aquifers are not present, associated groundwater recharge capacity would not be substantially decreased and related potential impacts would be less than significant.

5.9.2.4 Mitigation, Monitoring and Reporting

Because potential project-related impacts associated with runoff rates/amounts, storm drain system capacity, hydromodification, impervious surfaces, and groundwater recharge would be less than significant, no mitigation measures are required.

5.9.3 Impact 2: Potential for Drainage Alteration

Issue 1: Would the Project result in a substantial alteration to on- and off-site drainage patterns due to changes in runoff flow rates or volumes?

5.9.3.1 Impact Thresholds

The City *Significance Determination Thresholds* (2016a) identify potentially significant impacts related to drainage alteration if a project would:

- Grade, clear, or grub more than 1.0 acre of land, especially into slopes over a 25 percent grade and drain into a sensitive water body or stream, causing uncontrolled runoff that results in erosion and subsequent sedimentation of downstream water bodies; or

- Modify existing drainage patterns such that environmental resources, including biological communities or archaeological sites, would be adversely affected.

5.9.3.2 Impact Analysis

As described in Section 5.9.1.1, existing drainage within the project site moves generally south, with some variation related to local topographic conditions. There are four existing drainage outlets from the site, with two along the eastern boundary (Nodes 306 and 406) discharging to existing City storm drain facilities (which flow into a Caltrans drainage ditch and/or Chicarita Creek), and runoff from the two outlets along the southern boundary (Nodes 106 and 206) flowing overland for short distances before entering storm drain structures. All of the described existing flows leaving the site (including the previously noted run-on from the west) continue generally south for approximately 2.3 miles and enter Peñasquitos Creek before continuing west and ultimately reaching Peñasquitos Lagoon. Project implementation would result in some modifications to the described existing on-site drainage patterns and directions through proposed grading and construction, with the project design including a series of storm drain facilities to capture, regulate and convey flows within and through the site.

The described modifications would not substantially alter the overall described on- and off-site drainage patterns, however, with post-development flows within and from the site continuing to drain primarily south. That is, the proposed storm drain system would be appropriately designed and located to retain the overall existing drainage features, including the use of similar outlet points for flows discharged from the site (refer to the Existing and Proposed Drainage Maps included as Appendix 1 of Hunsaker 2019a, EIR Appendix G1). Specifically, the two outlet points along the eastern site boundary (Nodes 306 and 406) would be retained in their current general locations under the proposed storm drain system and redesignated as post-development outlet Nodes 4030 and 5130. The northernmost of the two existing outlets along the southern site boundary (Node 106) would also be retained in its current general location and redesignated as post-development outlet Node 8151, with minor flows (approximately 4 cfs) from the southernmost existing outlet (Node 206) to be redirected to combine with the described flows discharged from proposed outlet Node 8151. As a result, the overall post-development drainage patterns and directions both within and from the project site would largely mimic existing conditions (including peak 100-year storm runoff rates and amounts, as outlined above in Section 5.9.1), and off-site flows

would continue to drain generally south to Peñasquitos Creek and ultimately west to Peñasquitos Lagoon. Based on the described considerations, overall post-development on- and off-site drainage patterns would not be substantially altered from implementation of the project.

5.9.3.3 Significance of Impacts

The project design and storm drain system would be designed to retain the current overall drainage patterns, and runoff leaving the site would be regulated by proposed detention facilities such that no net increase in off-site peak 100-year storm flow rates or amounts would result from project development. Accordingly, potential impacts from project implementation related to drainage alteration would be less than significant.

5.9.3.4 Mitigation, Monitoring and Reporting

Because potential project-related impacts associated with drainage alteration would be less than significant, no mitigation measures are required.

5.9.4 Impact 3: Flood Hazards

Issue 1: Would the proposal develop wholly or partially within the 100-year floodplain identified in the FEMA maps or impose flood hazards on other properties?

5.9.4.1 Impact Thresholds

The City *Significance Determination Thresholds* (2016a) identify potentially significant impacts related to drainage alteration if a project proposes to develop wholly or partially within the 100-year floodplain identified in FEMA maps and/or impose flood hazards on other properties.

5.9.4.2 Impact Analysis

As described above in Sections 5.9.1 and 5.9.2, the project site is located entirely outside of identified 100-year floodplains as determined by FEMA (FEMA 2012), and would not result in a net increase in off-site peak 100-year storm flow rates or volumes to other properties. As a result, project implementation would not result in any flood-related hazards either within the site or on any other properties.

5.9.4.3 Significance of Impacts

Because no on- or off-site flood hazards would result from implementation of the project, any associated impacts would be less than significant.

5.9.4.4 Mitigation, Monitoring and Reporting

Because no significant project-related impacts were identified in association with on- or off-site flood hazards, no mitigation measures are required.

5.9.5 Impact 4: Potential for Pollutant Discharge and Water Quality

Issue 1: Would the proposal result in an increase in pollutant discharge to receiving waters during or following construction, or 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, and what types of pre- and post-construction BMPs would be incorporated into the proposal to preclude impacts to regional and local water quality?

5.9.5.1 Impact Thresholds

The City *Significance Determination Thresholds* (2016a) note that compliance with applicable City (and related) water quality standards is assured through permit conditions provided by LDR Engineering. Adherence to the City storm water standards is thus considered adequate to preclude surface water quality impacts, unless substantial evidence supports a fair argument that a significant impact will occur. Because the project does not involve activities that could directly affect groundwater quality (e.g., underground fuel storage tanks or septic systems), potential impacts to groundwater quality are limited to the percolation of project-related surface runoff and associated pollutants (e.g., in pervious areas). Accordingly, conformance with the City storm water standards is the applicable threshold for both surface and groundwater water resources.

5.9.5.2 Impact Analysis

Potential project-related pollutant discharge and water quality impacts are associated with both short-term construction activities and long-term operation and maintenance, as described below.

Short-term Construction Impacts

Potential pollutant discharge/water quality impacts related to project construction include erosion/ sedimentation, the use and storage of construction-related hazardous materials (e.g., fuels, etc.), generation of debris from demolition activities, and disposal of extracted groundwater (if required), as described below.

Erosion and Sedimentation

Project-related excavation, grading, and construction activities could potentially result in associated erosion and sedimentation effects. Specifically, project activities would involve the removal of surface stabilizing features such as structures and vegetation, excavation of existing compacted materials from cut areas, redeposition of excavated (and/or imported) material as fill in development areas, and potential erosion from disposal of extracted groundwater (if required). Project-related erosion could result in the influx of sediment into downstream receiving waters, including water bodies with identified impairments related to sedimentation/siltation (refer to Section 5.9.1.1), with associated water quality effects such as turbidity and transport of other pollutants that tend to adhere to sediment particles (e.g., hydrocarbons).

While graded, excavated, and filled areas associated with construction activities would be stabilized through efforts such as compaction and installation of hardscape and landscaping, erosion potential would be higher in the short-term than for existing conditions. Proposed development areas would be especially susceptible to erosion between the beginning of grading/construction and the installation of structures/pavement or establishment of permanent cover in landscaped areas. Erosion and sedimentation are not considered to be significant long-term concerns for the project, as developed areas would be stabilized through installation of hardscape or landscaping as noted. The project would also incorporate long-term water quality controls pursuant to City and NPDES guidelines, including (among other efforts) measures that would avoid or reduce off-site sediment transport. This would include efforts such as the use of flow regulation/water quality (detention and biofiltration) facilities and drainage facility maintenance (e.g., to remove accumulated sediment).

Short-term water quality effects from project-related erosion and sedimentation could potentially affect downstream waters and associated WILDs. These potential impacts would be addressed through conformance with City storm water standards and the related NPDES Construction General Permit, as described above in Section 5.9.1.2. This would include implementing an authorized SWPPP for proposed construction, including (but not limited to) erosion and sedimentation BMPs. While project-specific BMPs would be determined during the SWPPP process based on site characteristics (soils, slopes, etc.), they would include standard industry measures and guidelines from the City Storm Water Manual and NPDES Construction General Permit, as well as the additional sources identified in Section 5.9.1.2. Typical erosion and sediment control BMPs that may be required in the project SWPPP include: (1) seasonal grading restrictions during the rainy season; (2) preparation and implementation of a CSMP and, if applicable, a REAP to provide enhanced erosion and sediment control measures prior to predicted storm events; (3) use of erosion control/ stabilizing measures such as geotextiles, mats, fiber rolls, or soil binders; (4) use of sediment controls to protect the site perimeter and prevent off-site sediment transport, including measures such as inlet protection, silt fencing, fiber rolls, gravel bags, temporary sediment basins, street sweeping, stabilized construction access points and sediment stockpiles, and use of properly fitted covers for sediment transport vehicles; (5) compliance with local dust control measures; (6) appropriate BMP performance monitoring and as-needed maintenance; and (7) implementation of additional BMPs as necessary to ensure adequate erosion/sediment control and regulatory conformance.

Construction-related Hazardous Materials

Project construction would involve the on-site use and/or storage of hazardous materials such as fuels, lubricants, solvents, concrete, paint, and portable septic system wastes. The accidental discharge of such materials during construction could potentially result in significant impacts if these pollutants reach downstream receiving waters, particularly materials such as petroleum compounds that are potentially toxic to aquatic species in low concentrations. As described in Section 5.9.1.1, identified impairments in downstream receiving waters include toxicity and metals, with pollutants affecting these impairments to potentially be generated during construction from sources such as vehicle and equipment operations. Implementation of a SWPPP would be required under City and NPDES guidelines as previously described, and would include detailed measures to avoid or mitigate potential impacts related to the use and potential discharge of construction-related hazardous materials.

As noted above under the discussion of erosion and sedimentation, detailed BMPs would be determined as part of the NPDES/SWPPP process based on project-specific parameters, although they are likely to include standard industry measures and guidelines from the previously identified sources. Typical BMPs associated with construction-related hazardous materials that may be required in the project SWPPP include the following: (1) minimizing and properly locating (e.g., away from drainages/storm drains) hazardous material use/storage areas; (2) providing appropriate covers/enclosures, secondary containment (e.g., berms), monitoring/maintenance, and inventory control (e.g., delivery logs/labeling) for hazardous material use/storage areas; (3) restricting paving operations during wet weather and providing appropriate sediment control downstream of paving activities; (4) utilizing properly designed and contained washout areas for materials including concrete, drywall, and paint; (5) properly maintaining all construction equipment and vehicles, and providing appropriate containment for associated fueling and maintenance operations; (6) providing training for applicable construction employees on the proper use, handling, storage, disposal, and notification/cleanup procedures for construction-related hazardous materials; (7) storing appropriate types and quantities of containment and cleanup materials on site; (8) implementing appropriate solid waste containment, disposal, and recycling efforts; and (9) properly locating, maintaining, and containing portable wastewater facilities. These BMPs are designed to prevent pollutants, including sediment, from coming into contact with storm water and/or from moving off site into receiving waters.

Demolition-related Debris Generation

Implementation of the project would involve the demolition of existing on-site facilities, including structures and pavement. These activities would generate construction debris, potentially including particulates (e.g., from pavement removal), concrete, asphalt, glass, metal, drywall, paint, insulation, fabric, and wood. The introduction of demolition-related debris into local drainages or storm drain systems could result in downstream water quality impacts, potentially including pollutants contributing to identified downstream water quality impairments.

Project construction would be subject to a number of regulatory controls related to demolition, including City storm water standards and related NPDES/SWPPP requirements as previously described. While detailed BMPs would be determined as part of the NPDES/SWPPP process based on project-specific parameters, they are likely to include the following types of standard industry measures and guidelines from the previously noted sources: (1) recycle appropriate (i.e., non-hazardous) construction debris for on- or off-site use whenever feasible; (2) properly contain and dispose of construction debris to avoid contact with storm water; (3) use dust-control measures such as watering to reduce particulate generation for pertinent locations/activities (e.g., concrete removal); and (4) implement appropriate erosion prevention and sediment control measures downstream of all demolition activities.

Disposal of Extracted Groundwater

While shallow permanent groundwater is not expected to occur in the project site and vicinity, due to the absence of a permanent groundwater aquifer, construction dewatering may be required during construction in association with locally perched aquifers (refer to Section 5.9.1.1). In the event that groundwater is encountered during construction, the discharge of groundwater produced during dewatering would be either directly discharged to the sewer system or treated on site and discharged to the storm drain system that leads to Los Peñasquitos Creek. Disposal of groundwater

extracted during construction activities into local drainages and/or storm drain facilities could potentially generate significant water quality impacts through erosion/sedimentation or the possible occurrence of pollutants in local aquifers (including pollutants associated with impaired waters). Project construction would require conformance with NPDES Groundwater Permit criteria prior to disposal of extracted groundwater. While specific BMPs to address potential water quality concerns from disposal of extracted groundwater would be determined based on site-specific parameters, they would likely include the types of standard measures outlined in Section 5.9.1.2. If discharged to the sewer system, groundwater discharges would be required to obtain a Groundwater Permit under the City's Industrial Wastewater Program, which regulates the quantity and quality of construction dewatering discharges to the sewer system.

Long-term Operation and Maintenance Impacts

Based on analysis in the project SWQMP, the project is identified as a Priority Development Project. As a result, project development would require the implementation of applicable pollutant (structural) and hydromodification control BMPs, in addition to site design and source control BMPs (which are required for both Standard Projects and Priority Development Projects).

Urban pollutants accumulate in areas such as streets, parking areas, and drainage facilities, and are picked up in runoff during storm events. Runoff within the project site would be generated from construction of impervious surfaces as previously described, with corresponding pollutant loading potential. Accordingly, project implementation could result in long-term on- and off-site transport of urban pollutants and associated effects per current regulatory standards, including increased turbidity, oxygen depletion, and toxicity to attendant species in downstream receiving waters. As a result, and based on the described conditions and related CWA Section 303(d) impaired water listings outlined in Section 5.9.1.1, project implementation could potentially result in long-term water quality impacts under current regulatory standards. The project SWQMP identifies measures to address potential long-term pollutant generation from proposed development, based on procedures identified in the City storm water standards and related NPDES Municipal Permit. Specifically, the project design would conform to applicable City and NPDES storm water standards to address these concerns, with such conformance to include the use of appropriate post-construction LID site design, source control, pollutant (structural) control, and hydromodification management BMPs. Specific proposed BMPs are identified in the project SWQMP (Appendix G2) and include applicable requirements from the City Storm Water Manual and the NPDES Municipal Permit. These measures are summarized below, followed by a discussion of associated monitoring and maintenance activities.

LID Site Design BMPs

LID site design BMPs are intended to avoid, minimize, and/or control post-development runoff, erosion potential, and pollutant generation to the MEP by mimicking the natural hydrologic regime. The LID process employs design practices and techniques to effectively capture, filter, store, evaporate, detain, and infiltrate runoff close to its source. Specific LID site design BMPs are identified in the project SWQMP, based on requirements in the City Storm Water Standards Manual. These strategies/measures include efforts to maintain natural drainage/hydrologic features, minimize and disperse impervious areas throughout the site, minimize soil compaction, collect and convey runoff to detention/water quality basins, and use native and/or drought-tolerant landscaping. All of the proposed LID site design BMPs would help reduce long-term urban pollutant

generation by minimizing runoff rates and amounts, retaining permeable areas, increasing on-site filtering, and reducing erosion/sedimentation potential.

Source Control BMPs

Source control BMPs are intended to avoid or minimize the introduction of pollutants into storm drains and natural drainages to the MEP by reducing on-site pollutant generation and off-site pollutant transport. Specific source control BMPs are identified in the project SWQMP, based on requirements in the City Storm Water Standards Manual. These include efforts to prevent illicit discharges (e.g., through use of educational materials); provide appropriate "no dumping" signs/ stencils at storm drain system inlets/catch basins (and other applicable locations); properly design/ contain outdoor trash/material storage and work areas (e.g., by precluding rainfall/run-on contact), protect storm drain inlets; provide interior parking structures; and implement non-chemical pest control measures (and restrict chemical use appropriately when necessary). All of the proposed source control BMPs would help to improve long-term water quality within and downstream from the project site by avoiding or minimizing pollutant generation and exposure to storm flows at the source.

Pollutant Control BMPs

Pollutant control (or structural) BMPs are designed to remove pollutants from urban runoff for a design storm event to the MEP through means such as filtering or treatment. Pollutant control BMPs are required to address applicable pollutants of concern for Priority Development Projects, and must be designed in conformance with applicable requirements in the City Storm Water Standards Manual to provide long term pollutant removal that is "reasonably equivalent" to retention of the design capture volume (DCV, with retention facilities typically providing the highest level of treatment). Because the existing on-site soils exhibit low infiltration rates (Hydrologic Soil Groups C and D), full infiltration is not proposed, and pursuant to Chapter 5 of the City Storm Water Standards Manual (Part 1), preliminary pollutant control BMPs identified in the project SWQMP include the use of three biofiltration (BF) system facilities and one proprietary biofiltration device (modular wetland unit). The selection and design of the proposed BMPs was based on applicable site-specific conditions and City requirements, including the noted soil conditions and treatment/DCV criteria, as well as identification of associated Drainage Management Areas (DMAs) within the site, as well as off site. Specifically, four DMAs were identified on site, with related descriptions as follows (and DMAs and associated biofiltration basin locations shown on the DMA Map in Attachment 1a of the project SWQMP, Hunsaker 2019b in EIR Appendix G2): (1) DMA 1 includes approximately 29.75 acres in the southern and southwestern portions of the site, and would drain to detention/biofiltration basin 1; (2) DMA 2 includes approximately 0.90 acre of road improvements in the southernmost portion of the site, and would drain to proprietary biofiltration device 2; (3) DMA 3 includes approximately 9.34 acres in the south-central portion of the site, and would drain to detention/biofiltration basin 3; and (4) DMA 4 includes approximately 60.29 acres in the east-central, western and northern portions of the site, and would drain to detention/biofiltration basin 4. The proposed detention/ biofiltration basins and proprietary biofiltration device would treat 1.5 times the 85th percentile DCV (per City requirements), and would operate as part of a "treatment train" in concert with the LID site design and source control BMPs described above. This "treatment train" system would provide effective pollutant control in conformance with all applicable regulatory requirements (Hunsaker 2019b).

Hydromodification Management Facilities

As outlined above in Section 5.9.2.2, the proposed detention/biofiltration basins would also be designed to provide flow regulation, and would address associated requirements related to potential hydromodification impacts. Specifically, discharge from the detention/biofiltration basins would be regulated to meet applicable hydromodification requirements, prior to off-site discharge. As a result, the project would comply with applicable hydromodification requirements and, as previously noted, would result in no net increase in the rate and amount of peak 100-year storm runoff leaving the site.

Off-site Improvements Within Public Right-of-Way

The project also consists of Public frontage improvements to Peñasquitos Drive and Carmel Mountain Road. The proposed widening, medians, intersection improvements and landscape features actually provide a net decrease in impervious area, and therefore no new BMPs are required.

Post-construction BMP Monitoring/Maintenance Schedules and Responsibilities

Identified BMPs include physical structures such as detention/biofiltration basins and signs/stencils that require ongoing monitoring and maintenance. Pursuant to requirements in the City Storm Water Standards Manual and the related NPDES Municipal Permit (as outlined in Attachment 3 of the project SWQMP, Hunsaker 2019b in EIR Appendix G2), the Applicant would be required to enter into a written Maintenance Agreement with the City for applicable facilities and implement an associated Operation and Maintenance Plan. Specifically, this process would entail identifying and documenting maintenance responsibilities, funding sources, activities, and schedules to ensure proper BMP function in perpetuity. A summary of typical maintenance procedures for applicable proposed BMPs is provided below, pursuant to direction in the City Storm Water Standards Manual.

Detention/Biofiltration Basins

Inspections are typically conducted every 6 or 12 months and after major storm events to assess/ identify: (1) vegetation conditions; (2) accumulation of sediment, litter, and/or debris; (3) standing water; (4) inlet/outlet obstructions; and (5) damaged structural components. Ongoing maintenance generally includes vegetation trimming/removal, removal (and proper disposal) of accumulated materials (e.g., sediment and debris), elimination of standing water (and causes), clearing of inlet/ outlet structures, as-needed structural repairs, and identification of additional maintenance/cleaning services if applicable.

Signs/Stencils

Inspections are generally conducted annually to ensure legibility, with associated maintenance including as-needed repairs or replacement of faded, vandalized or otherwise illegible signs, stencils, or other labeling facilities.

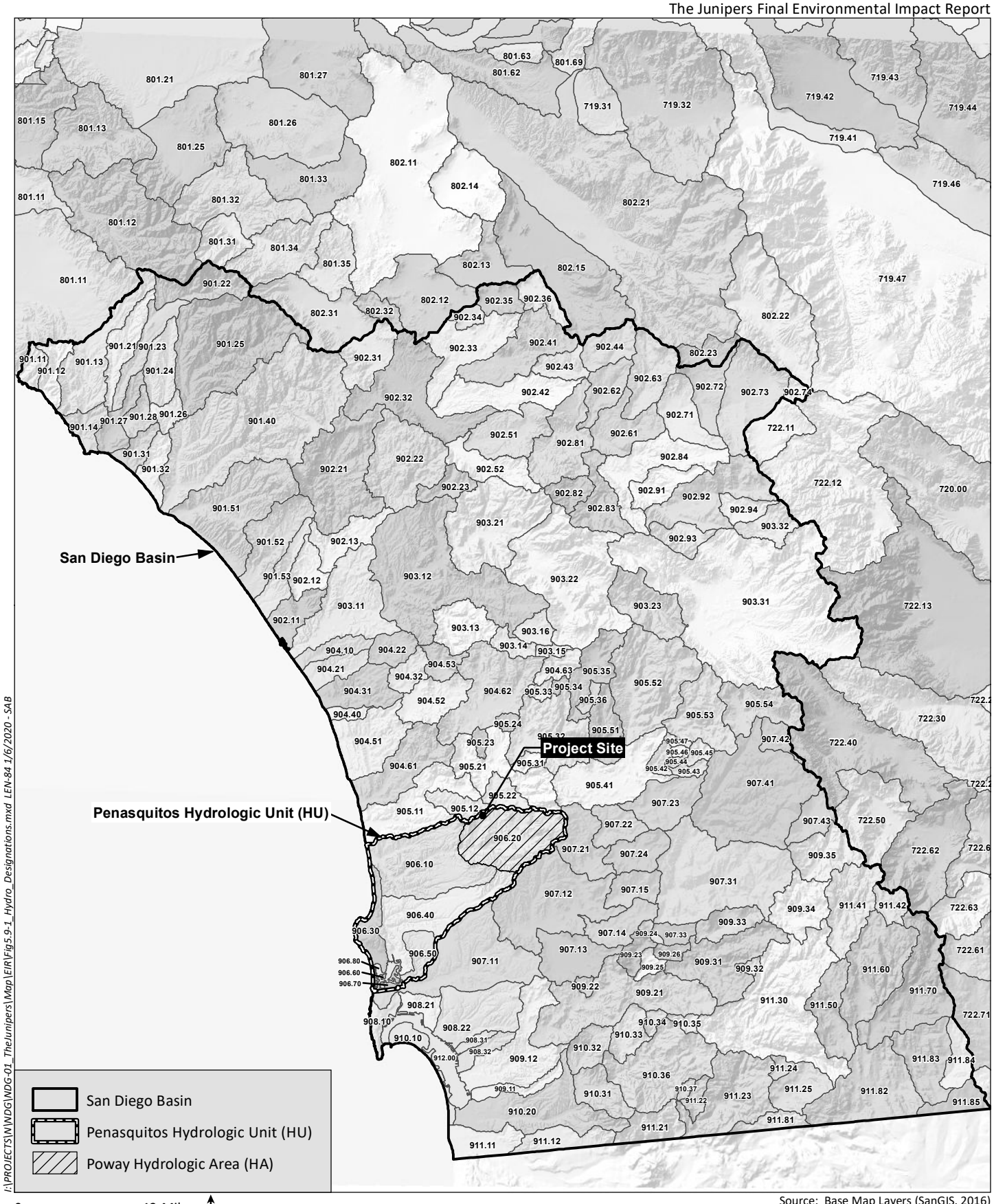
5.9.5.3 Significance of Impacts

Based on the implementation of the project design elements, including construction and post-construction BMPs, related maintenance efforts, and required conformance with City storm water standards and associated requirements (including the NPDES Construction General, Municipal and Groundwater permits), potential construction and long-term project-related pollutant discharge and water quality impacts would be less than significant.

5.9.5.4 Mitigation, Monitoring and Reporting

Because potential project-related impacts associated with pollutant discharge and water quality would be less than significant, no mitigation measures are required.

This page intentionally left blank



Source: Base Map Layers (SanGIS, 2016)

HELIX Environmental Planning

Project Location within Local Hydrologic Designations

Figure 5.9-1

5.10 Geology and Soils

This section addresses potential impacts that the project could have on geologic and seismic issues. It is based on a Preliminary Geotechnical Investigation prepared for a previously proposed iteration of the project by Leighton and Associates, Inc. (Leighton), including test pit soil samples taken throughout the site (Leighton 2014), an Updated Geotechnical Investigation prepared by Geocon, Inc. for the project as currently proposed, including the tennis court area (Geocon 2019a), and the responses to City comments prepared by Geocon in July 2019 (Geocon (2019b). (The Preliminary Geotechnical Investigation encompassed the entire project site except for the recreational area [i.e., tennis courts] in the southwestern corner of the project.) The Geocon report incorporates the results of the earlier Leighton report, and includes the exploratory borings (test pits) log data obtained by Leighton within a dedicated appendix (Appendix D). The results of these documents are summarized below along with other pertinent information, and the complete Geocon report and responses to comments are included as Appendix H of this EIR. While most of this section is based on the 2019 Geocon documents in Appendix H, some references are made below to the 2014 Leighton report in those instances where that report addressed a topic in greater detail.

CEQA requires analysis of a project's effects on the environment. Generally, consideration of the potential effects of a site's environment on a project are outside the scope of required CEQA review (*California Building Industry Association v. Bay Area Air Quality Management District* (2015) 62 Cal. 4th 369). The impacts discussed in this section relate to increased exposure of people or structures to risks associated with seismic occurrences and location of people or structures on unstable geologic units which effects on users of the project and structures in the project of preexisting environmental hazards, and therefore "do not relate to environmental impacts under CEQA and cannot support an argument that the effects of the environment on the project must be analyzed in an EIR." (Id. at p. 474.) Nonetheless, this section analyzes potential effects of geology, seismicity, and soils on the project's implementation as set forth in CEQA Guidelines, Appendix G, Significance Criteria, and the City's adopted CEQA Significance Thresholds (2016a) in order to provide information to the public and decision-makers.

The results and recommendations of the Geotechnical Investigation, along with additional investigation/regulatory requirements and standard remedial measures to address identified concerns, and other requirements of project implementation, are summarized in this section and listed in detail within the above referenced geotechnical investigation for the project. With implementation of recommendations outlined within the report and compliance with the CBC and standard engineering measures, potential impacts would be reduced to an acceptable level of risk. Per the City's Significance Determination Thresholds (2016a), compliance with standard construction measures recommended in geologic reports would not be classified as mitigation.

5.10.1 Existing Conditions

5.10.1.1 Environmental Setting

Geologic Setting

Geology/Topography

The project site is located within the coastal plain portion of the Peninsular Ranges Geomorphic Province (Province), a region characterized by relatively uplifted northwest-trending structural blocks and relatively down-dropped intervening fault zones and alluvial valleys. The Province extends approximately 920 miles from the Los Angeles Basin to the southern tip of Baja California, and varies in width from approximately 30 to 100 miles. Bedrock units in the Province include Jurassic (approximately 144 million to 206 million years old) metavolcanic and metasedimentary rocks, and Cretaceous (approximately 65 to 144 million years old) igneous rocks of the Southern California Batholith (a large igneous intrusive body). The coastal plain area in San Diego County encompasses a series of stair-stepped marine terraces that increase in age from west to east, and typically include a sequence of relatively undisturbed and non-conformable (i.e., not in direct chronologic sequence) upper Cretaceous through Pleistocene (between approximately 11,000 and 2 million years old) marine and non-marine sedimentary strata. These deposits have been dissected by west-flowing drainages to produce the characteristic canyon and mesa topography present today in western San Diego County, as well as deposit surficial materials such as alluvium and topsoil (Leighton 2014).

Surficial and geologic units present (or potentially present) within and adjacent to the project site include fill materials placed during previous development of the golf course (undocumented fill, topsoil/colluvium, and alluvium), Tertiary (between approximately 2 and 65 million years old) Mission Valley Formation, and the Jurassic Santiago Peak Volcanics. Additional description of on-site surficial and formational deposits is provided below under the discussion of Stratigraphy. For the purposes of this analysis, topsoil and colluvial deposits have not been differentiated due to the similar characteristics.

Topographically, the project site consists of gently to moderately sloping terrain. On-site elevations range from approximately 750 feet AMSL in the central western portion of the site to 620 feet AMSL in the central eastern portion of the site. The project site has been graded in the past to create the now-defunct golf course and the existing tennis courts that occupy the site. Artificial fill was placed on site, with sufficient compaction to support these uses. Existing drainage facilities located within the site include several manmade concrete-lined and un-lined channels that convey runoff from the site and adjacent residential areas to the west, with these flows moving generally south through the site before discharging at existing outlet points. All surface flows from the project site ultimately drain to Peñasquitos Creek, which is located approximately 2.3 miles south of the site at its closest point.

Stratigraphy

Geologic and surficial units identified within the project site include topsoil/colluvium, undocumented fill, and alluvium, as well as Tertiary Mission Valley Formation, and Jurassic Santiago Peak Volcanics. These units are described below in order of increasing age and observed on-site

deposits are depicted on Figure 5.10-1, *Geologic Map*. Additional bedrock units may potentially underlie the project site and vicinity at depth, although these rocks are not anticipated to be encountered during proposed development due to the planned depth of grading; these bedrock units are therefore not discussed further in this section.

Topsoil/Colluvium (Not Mapped)

Topsoil and colluvial deposits observed within the project site generally consist of stiff, silty to sandy, plastic clays with a medium to very high expansion potential. Topsoil and colluvial deposits were found in the majority of the exploratory borings and trenches dug at the site, and had a maximum thickness of 8.5 feet at Trench No. T-5 (see Appendix D to the Geotechnical Investigation in Appendix H to this EIR for trench and boring locations). Based on the developed nature of the site and surrounding areas, some topsoils have likely been removed and/or mixed with fill materials.

Undocumented Fill ($Qudf_{1\&2}$)

Two types of undocumented fill soils are present within the project site—fill soils associated with development of the golf course are identified on Figure 5.10-1 as $Qudf_1$ and embankments (slopes) associated with the surrounding residential development are identified as $Qudf_2$. (It should be noted that only those fill deposits estimated to be more than 5 feet thick were mapped on Figure 5.10-1.) The majority of the $Qudf_1$ soils within the interior of the project site were placed as part of the former golf course and are thought to be widespread based on a comparison of the topography of the site before and after golf course development. These soils were found to range in thickness from a thin veneer to approximately 13 feet (Boring No. B-19; refer to Appendix D within the Geotechnical Investigation; Geocon 2019a). The fill materials encountered on site consisted of mixtures of silty to clayey sands to silty to sandy clays, with minor amounts of gravel, cobble, and boulder-size rock fragments. The undocumented fills are considered compressible and would need to be removed during grading from any areas of the site where they could affect building foundations, settlement-sensitive improvements, and/or cut slope stability (Geocon 2019a).

Undocumented fills associated with the surrounding existing housing developments ($Qudf_2$) were found to encroach onto the project site in several areas (refer to Figure 5.10-1).

Alluvium (Qal)

Alluvial soils were found within the low-lying drainage areas throughout the site, with thicknesses ranging from 4.5 to 8.5 feet. As observed, the alluvial deposits consist primarily of stiff, silty, plastic clays with a medium to very high expansion potential.

Mission Valley Formation (Tmv)

The Eocene-aged Mission Valley Formation was encountered throughout the project site and consists of hard claystones and siltstones, and dense sandstones (Figure 5.10-1; Geocon 2019a). The claystones and siltstones on site were found to typically possess a medium to high expansion potential and low shear strength, compared to the sandstone units that have a low expansion potential and higher shear strength properties.

Granitic Rock (Not Mapped)

Cretaceous-age granitic rock was encountered in Boring Nos. B-24 and B-25 underlying the Mission Valley Formation within the southern portion of the project site (Geocon 2019a). The granitic rock on site consists of completely to highly weathered decomposed granite. Based on the limited extent of this unit and relative to the proposed development, excavation within the granitic rock (if encountered at all) is anticipated to be limited to the southern entrance road of the project.

Santiago Peak Volcanics (Jsp)

The Jurassic-age Santiago Peak Volcanics was encountered along the southwestern and northeastern margins of the site (Figure 5.10-1; Geocon 2019a). This formation consists of mildly metamorphosed volcanic and sedimentary rock that is relatively dark colored where it is exposed. The completely weathered, near-surface (saprolite) material typically possesses medium to high expansion potential.

Shallow Groundwater

Perched groundwater and/or seepage was encountered in 10 of the exploratory borings and one of the trench excavations (Geocon 2019a). The seepage varied from slight to heavy and was encountered on relatively impervious layers within the bedrock. A permanent near-surface groundwater table was not observed in the excavations performed in July 2018 during the Geocon study. It is expected, however, that existing perched groundwater levels in alluvial areas will fluctuate seasonally. In addition, during rainy periods groundwater may occur in those areas where perched water or seepage was not encountered during the geotechnical study (Geocon 2019a). Fluctuations in the level of groundwater may occur due to variations in rainfall, irrigation practice, and other factors.

Geologic Hazards

Based on previous investigations, current reconnaissance efforts, and a review of published and other available information including the City Seismic Safety Study (City 2008b), the Geotechnical Investigation provides an overview of potential geologic hazards within the project site and vicinity. Specifically, Map Sheet 44 of the City Seismic Safety Study identifies the following hazard categories within the site: Category 27, landslide-prone formations including Otay, Sweetwater, and other geologic formations; Category 32, low potential for liquefaction, based on fluctuating groundwater and minor drainages; and Category 53, other terrain with low to moderate risk, having level or sloping terrain and/or unfavorable geologic structure. The Seismic Safety Study also identifies two small fault traces located due west, approximately 300 feet from the closest property line of the project site, on the other side of Peñasquitos Drive. These features are designated as "potentially active, inactive, presumed inactive, or activity unknown." Associated potential seismic and non-seismic hazards identified for the site and vicinity in the Geotechnical Investigation are outlined below.

Faulting and Seismicity Hazards

The project site is located within a broad, seismically active region characterized by a series of northwest-trending faults associated with the San Andreas Fault System (Figure 5.10-2, *Regional Fault*

Map). The site is not located directly on any active, potentially active, or inactive fault traces as defined by the California Geological Survey (CGS). No CGS Earthquake Fault Zones are mapped or known to occur within the project site (Geocon 2019a). The closest known active fault structures are associated with the Newport-Inglewood and Rose Canyon faults, approximately 13 miles to the west. The CGS considers a fault seismically active when there is evidence of seismic activity within roughly the last 11,000 years (Holocene era). The CGS earthquake fault zone designations are generally intended to "[r]egulate development near active faults so as to mitigate the hazard of surface fault rupture" (CGS 2007). The closest CGS designations to the project site are located along on-shore segments of the Rose Canyon Fault, with portions of this fault zone identified by CGS as being within an Alquist-Priolo Earthquake Fault Zone.

A number of additional major active faults are located within approximately 50 miles of the site, as shown in Table 5.10-1, *Summary of Regional Fault Locations and Earthquake Magnitudes.* As indicated in the Geotechnical Investigation, the Newport-Inglewood and Rose Canyon Fault Zone are considered the dominant sources of potential ground motion and associated seismic-related hazards at the project site, as outlined below.

Table 5.10-1
SUMMARY OF REGIONAL FAULT LOCATIONS AND EARTHQUAKE MAGNITUDES

Fault Name	Distance from Site (miles)	Direction from Site	Maximum Earthquake Magnitude (g)
Newport-Inglewood	13	W	7.5
Rose Canyon	13	W	6.9
Elsinore	25	NE	7.9
Coronado Bank	26	SW	7.4
Palos Verdes Connected	26	NW	7.7
Earthquake Valley	32	NE	6.8
San Jacinto	46	NE	7.9

Source: Geocon 2019a; CGS 2010
W=West; NW=Northwest; NE=Northeast; g=acceleration due to gravity

Fault Rupture

Based on the fact that no known active faults or CGS Earthquake Fault Zones are located within or adjacent to the project site (City 2008b, Geocon 2019a), the potential for seismic-related ground rupture hazards is generally considered low.

Ground Acceleration (Ground Shaking)

The principal seismic hazard that could affect the project site is ground shaking associated with earthquake events along one or more regional active faults. Ground shaking can affect the integrity of surface and subsurface facilities such as structures, foundations, and utilities, either directly from vibration-related damage to rigid structures, or indirectly through associated hazards including liquefaction (as described below). Seismic design parameters for all new structures in San Diego must be in accordance with current CBC guidelines and related City standards (refer to Section 5.10.1.2, *Regulatory Framework*, below).

Liquefaction and Seismically Induced Settlement

Liquefaction and seismically induced settlement are most commonly caused by seismic ground shaking. Liquefaction typically occurs in areas with cohesionless and granular (low clay/silt content) soils (or silt/clay soils with low plasticity), relative densities of less than approximately 70 percent, and groundwater within 50 feet of the surface. The occurrence of liquefaction under the described conditions results in a rapid pore-water pressure increase and a corresponding loss of shear strength, with affected soils behaving as a viscous liquid. Surface manifestations from these events can include effects such as a loss of bearing capacity for structures/foundations, ground subsidence (settling or shrinking), differential settlement (different degrees of settlement over relatively short distances), and lateral spreading (horizontal displacement on sloped surfaces as a result of underlying liquefaction). While seismically induced settlement can occur whether or not liquefaction potential exists, the Geotechnical Investigation concludes that the potential for on-site liquefaction is negligible based on the dense nature of the underlying formational materials (i.e., not considered liquefiable), recommended remedial grading measures (described further below), and lack of shallow groundwater (with permanent groundwater at the site anticipated to be in excess of 150 feet below the surface, as described in Section 5.9, *Hydrology and Water Quality*). Similarly, the report concludes that there is relatively no potential for seismically induced settlement based on the very low potential for liquefaction at the site.

Tsunamis and Seiches

Tsunamis consist of a series of long-period ocean waves generated by sources such as underwater earthquakes, volcanic eruptions, or slope failures. Associated potential impacts include coastal inundation and water- or debris-related structural damage. Based on hazard mapping conducted by the California Department of Conservation (CDC), the projected tsunami-related inundation zones in San Diego County are limited predominantly to coastal areas (CDC 2017a). Because the project site is located approximately 13 miles inland and at minimum elevations of approximately 620 feet AMSL, the potential for on-site tsunami hazards is negligible.

Seiches are defined as wave-like oscillatory movements in enclosed or semi-enclosed bodies of water such as lakes or reservoirs, and are most typically associated with seismic activity. Seiches can result in flooding damage and related effects (e.g., erosion) in surrounding areas from spilling or sloshing water, as well as increased pressure on containment structures. Because the site is not located near or downstream of surface water bodies susceptible to seiche effects, the associated hazard potential is negligible.

Landslides

The occurrence of landslides and other types of slope failures (e.g., rockfalls and mudslides) is influenced by a number of factors including slope grade, geologic and soil characteristics, moisture levels, and vegetation cover. Landslides can be triggered by one or more potentially destabilizing condition(s) or events, such as gravity, fires, precipitation, grading, and seismic activity. No ancient landslides were identified beneath or adjacent to the site based on a review of historical air photos and the CDC landslide map (1995). Furthermore, the Geotechnical Investigation states that no evidence of landslide deposits was encountered at the site during the site investigation. As noted above, remedial measures may be needed to stabilize proposed on-site manufactured slopes during

project grading. Overall, it is concluded that the potential for significant landslides or large-scale slope instability at the site is considered low.

Settlement

The Geotechnical Investigation concludes that existing potentially compressible surficial soils (undocumented fill deposits, topsoil/colluvium, and alluvium) within the site have a medium to very high expansion potential and need to be removed during grading, otherwise they could potentially affect building foundations, settlement-sensitive improvements, and/or cut slope stability. Potentially compressible and expansive materials could be subject to settlement due to the proposed placement of new compacted fill and structural (building) loading conditions. The magnitude of any such settlement would depend on the amount of fill present below the proposed improvements, if any, as well as the specific loading characteristics from proposed structures. Due to the dense nature of the underlying formational materials that would remain on site following removal of existing fill deposits, topsoil/colluvium, and alluvium, the magnitude of potential settlement in the formational units is expected to be negligible.

Subsidence/Shrinkage

Non-seismic soil subsidence generally consists of a gradual settling or sudden sinking of the ground surface, and is most typically associated with conditions such as aquifer system compaction (e.g., due to groundwater withdrawal), drainage of organic soils, subsurface mining, and natural compaction. Subsidence can result in a loss of support capability within the associated soil or formational materials, potentially resulting in damage to surface and subsurface structures such as buildings, pavement, and utilities. Shrinkage (also known as hydro-consolidation) is the reduction of soil volume resulting from changes in soil water content. Hydro-consolidation is most common in arid and semi-arid areas, with the associated effects generally localized and including settlement and related effects to overlying foundations or other improvements. A number of surficial materials on site may potentially be subject to localized subsidence/compression under loading, including undocumented fill, topsoil/colluvium, and alluvium (each with a medium to very high expansion potential). The potential occurrence of compressible materials and localized subsidence from structural loading could result in hazards such as differential settlement (different degrees of settlement over relatively short distances), with associated potential effects to structures, pavement, foundations/footings, and utilities.

Slope/Soil Instability

With the overall project site gently to moderately sloping as previously described, a few small manufactured slopes are present throughout the property due to its prior development as a golf course. Potential large-scale slope instability hazards are considered low (Leighton 2014). In addition to potential seismically induced landslide/slope failure hazards as noted above, implementation of the project could entail the construction of manufactured (cut/fill) slopes that could be subject to instability and associated slope failure issues. While the potential for manufactured slope instability is generally considered low due to associated regulatory standards improperly designed, constructed or maintained slopes could generate hazards such as undermining adjacent structures/facilities, blocking paths or roadways, and erosion/off-site sediment transport (sedimentation). Extensive analysis was conducted regarding the potential for the project to destabilize existing manufactured slopes along the northern and western site boundaries or cause

settlement of the adjacent properties. The results are described in Appendix H and discussed below under *Impact Analysis*.

Erosion and Sedimentation

Similar to the above discussion of landslides, potential hazards related to erosion and sediment transport (sedimentation) within and from the project site are generally low due to the developed nature of the property and the lack of large or steep slopes. More detailed information is provided in Section 5.9, *Hydrology and Water Quality*, due to the relationship between erosion and storm water/water quality concerns.

Expansive Soils

Expansive (or shrink-swell) behavior is attributable to the water-holding capacity of clay minerals, and can adversely affect the integrity of facilities such as pavement or structure foundations. Based on the site reconnaissance conducted as part of the Geotechnical Investigation for the project, the report concludes that the expansion potential of on-site materials is expected to range from low to very high under applicable (e.g., CBC) criteria (Geocon 2019a). The topsoil/colluvium and alluvium, as well as the siltstone and claystone within the Mission Valley Formation, is anticipated to possess a medium to very high expansion range, whereas the underlying weathered volcanic bedrock material (saprolite) is anticipated to be in the medium to high expansion range. The report suggests that some portions of the site may require deeper remedial grading to provide an adequate surface to support development, and that observations and/or laboratory testing upon completion of the graded pads are recommended to determine the actual expansion potential of finish grade soils.

Corrosive Soils

Surficial and underlying materials can exhibit corrosive properties related to factors such as pH, chloride or soluble sulfate levels, and resistivity values (i.e., the ability to restrict, or resist, electric current). Long-term exposure to corrosive soils can result in effects related to deterioration and eventual failure of concrete (from sulfate) and metal (from pH, chloride, and resistivity) structures, including foundations, reinforcing steel, and subsurface utilities. Laboratory testing conducted on soil samples taken from test pits throughout the site indicate that the soils have a moderate soluble sulfate content, neutral pH, low chloride content, and very corrosive electrical resistivity. Additional testing for soluble sulphate content is customary during finish grading operations. If sulphate is noted as present during finish grading, additional routine design precautions may include standard measures including: (1) removal of unsuitable (corrosive) deposits and replacement with non-corrosive fill; (2) use of corrosion-resistant construction materials (e.g., corrosion-resistant concrete and coated or non-metallic facilities); and (3) installation of cathodic protection devices (e.g., use of a more easily corroded “sacrificial metal” to serve as an anode and draw current away from the structure to be protected) per established regulatory/industry standards (e.g., International Building Code (IBC)/CBC).

Shallow Groundwater

As previously described, a permanent near-surface groundwater table was not observed in the excavations performed at the project site, although local groundwater seepage may potentially occur at shallow depths, particularly during the rainy season. While the presence of shallow

groundwater is not a geologic or geotechnical hazard *per se*, it can contribute to other potential hazards (e.g., liquefaction) as outlined above, and may necessitate temporary dewatering to accommodate development-related grading and excavation.

5.10.1.2 Regulatory Framework

The following discussion identifies regulatory and industry standards related to geology and soils issues that are applicable to the project.

State Standards

California Seismic Hazards Mapping Act

The California Seismic Hazards Mapping Act (PRC Division 2, Chapter 7.8, Section 2690 et seq.) provides a statewide seismic hazard mapping and technical advisory program to assist local governments in protecting public health and safety relative to seismic hazards. The Act provides direction and funding for the State Geologist to compile seismic hazard maps and to make those maps available to local governments. The Act, along with related standards in the Seismic Hazards Mapping Regulations (CCR Title 14, Division 2, Chapter 8, Article 10, Section 3270 et seq.), also directs local governments to require the completion and review of appropriate geotechnical studies prior to approving development projects. These requirements are implemented on a local level through means such as general plan directives and regulatory ordinances (with applicable City standards outlined below).

California Alquist-Priolo Earthquake Fault Zoning Act

The California Alquist-Priolo Act (PRC Section 2621 et seq.) is intended to prevent the construction of buildings used for human occupancy on the surface trace of active faults. The law requires the State Geologist to establish regulatory zones known as Earthquake Fault Zones (previously called Special Studies Zones and Fault-Rupture Hazard Zones) around the surface traces of active faults, and to distribute maps of these zones to all affected cities, counties, and state agencies. The Act also requires completion of a geologic investigation prior to project approval, to demonstrate that applicable structures will not be constructed across active faults and/or that appropriate setbacks from such faults (generally 50 feet) are included in the project design.

California Building Code

The CBC (Part 2 of Title 24 of the California Code of Regulations) is the State building code. The CBC covers grading and other geotechnical issues, building specifications, and non-building structures. Specifically, these include general provisions (Chapter 1); structural design, including soil and seismic loading (Chapters 16/16A); structural tests and special inspections, including seismic resistance (Chapters 17/17A); soils and foundations (Chapters 18/18A); concrete (Chapters 19/19A); masonry (Chapters 21/21A); wood, including consideration of seismic design categories (Chapter 23); construction safeguards (Chapter 33); and grading, including excavation, fill, drainage, and erosion control criteria (Appendix J). The CBC encompasses standards from other applicable sources, including the IBC as outlined below, and the American Society for Testing and Materials (ASTM) International (formerly ASTM), with appropriate amendments and modifications to reflect site-specific conditions and requirements in California. The 2013 CBC and associated SDMC

amendments were adopted by the City on March 22, 2016. Local amendments for the 2016 CBC have been released for public review; however, the 2016 CBC and associated amendments have not yet been adopted by the City.

City Standards

City of San Diego Seismic Safety Study

The previously referenced Seismic Safety Study includes a series of maps identifying potential geologic hazards throughout the City. These maps provide a guide to determine relative risks and identify areas prone to hazards including active fault zones, liquefaction, and landslides/slope stability that require appropriate levels of geotechnical investigation prior to discretionary approvals. Specific requirements related to the nature and level of required geotechnical investigations are outlined in Article 5, Division 18, Section 145.1803 of the SDMC and Appendix D of the City Land Development Manual. Due to the identified geologic hazards for the project site (refer to Section 5.10.1.1 above), a site-specific geotechnical investigation report prepared by a licensed professional is required, according to the Seismic Safety Study, and has been prepared for the project (Geocon 2019a). The purpose of a site-specific geotechnical investigation is to identify seismic and geologic conditions that require project mitigation, such as ground shaking, liquefaction, or soil stability. The City Development Services Department is responsible for reviewing plans, issuing building permits, and conducting field inspections to ensure conformance with the CBC and other City requirements.

City of San Diego General Plan Policies

The Public Facilities, Services and Safety Element of the City General Plan (2008a) identifies a number of applicable policies related to seismic, geologic, and structural considerations. Specifically, Policy PF-Q.1 includes measures regarding conformance with state laws related to seismic and geologic hazards, and conducting/reviewing geotechnical investigations.

Additional City of San Diego Requirements

In addition to the regulatory standards listed above, City requirements related to geologic and geotechnical issues include obtaining a grading permit (per Article 9, Division 6, Section 129.0601 et seq. of the SDMC), and conforming with applicable elements of the City Storm Water Standards Manual and related documents (per Article 3, Division 3, Section 43.0301 et seq. of the SDMC), such as erosion and sediment control through implementation of an approved SWPPP, with storm water standards discussed in more detail in Section 5.9 of this EIR.

Industry Standards

International Building Code

The IBC (which encompasses the former Uniform Building Code) is produced by the International Code Council (formerly the International Conference of Building Officials) to provide standard specifications for engineering and construction activities, including measures to address geologic and soil concerns. Specifically, these measures encompass issues such as seismic loading (e.g., classifying seismic zones and faults), ground motion, engineered fill specifications

(e.g., composition, compaction, and moisture content), expansive soil characteristics, and pavement design. The referenced guidelines, while not comprising formal regulatory requirements per se, are widely accepted by regulatory authorities and are routinely included in related standards such as municipal grading codes. The IBC guidelines are regularly updated to reflect current industry standards and practices, including criteria such as the American Society of Civil Engineers (ASCE) and ASTM International.

5.10.2 Impact 1: Potential for Geologic Instability

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

5.10.2.1 Impact Threshold

Based on the City Significance Determination Thresholds (2016a), impacts related to geology and soils would be significant if a project would be located on a geological unit or soil that is unstable or that would become unstable as a result of the project and potentially result in on-site or off-site landslides, lateral spreading, subsidence, liquefaction, or collapse.

5.10.2.2 Impact Analysis

The Geotechnical Investigation concludes that "No soil or geologic conditions were encountered that…would preclude the development of the property as proposed, provided the recommendations of this report are followed." This conclusion assumes conformance with applicable regulatory/ industry guidelines.

Specifically, all grading should be performed in accordance with the Recommended Grading Specifications (Appendix E to the project Geotechnical Investigation; Geocon 2019a), all earthwork should be observed, and all fills tested for proper compaction. Additional evaluation would include applicable field/laboratory investigations and construction monitoring by an engineering geologist to: (1) provide design and construction recommendations for proposed excavation/grading activities, engineered fill, structures (including seismic loading parameters), foundations/footings, pavement, manufactured slopes, retaining walls, and drainage/landscaping (including potential infiltration of storm water runoff); and (2) review site grading/excavation and construction operations in the field to ensure conformance with applicable requirements/recommendations and/or provide modified criteria as appropriate. The results and recommendations of the Geotechnical Investigation, along with additional investigation/regulatory requirements and standard remedial measures to address identified concerns, are described in the following impact analyses and are requirements of project implementation. With implementation of recommendations outlined within the report and compliance with the CBC and standard engineering measures, potential impacts would be reduced to an acceptable level of risk.

Landslides

As previously described, the project site is gently sloping and adjacent areas are essentially level, although some adjacent homes are at a slightly higher elevation than the project site, and are

supported by embankments that appear to encroach into the project site. Remedial measures may be needed to stabilize these existing off-site manufactured slope embankments during project grading. No landslides or related slope failures are known or anticipated to be present on the project site, and the potential for significant landslides or large-scale slope instability at the site is considered low. Potential slope stability hazards were identified in the Geotechnical Investigation during an evaluation of natural and proposed manufactured slopes using geologic cross-sections. Based on the results of the cross-sections analysis, the project report indicated that buttresses, shear key, and a stability fill will be required to achieve an acceptable factor of safety (i.e., at least 1.5; Geocon 2019a). The report also states that the depth and extent of remedial grading of these areas may need to be modified depending on the conditions observed during site grading.

Based on conformance with the described recommendations in the Geotechnical Investigation, as well as the availability of standard remedial measures to address any potential instabilities (i.e., efforts such as employing applicable slope grade and/or height limitations, providing appropriate slope setbacks and surface treatment/compaction, implementing pertinent landscaping/irrigation design [e.g., use of native/drought-tolerant varieties and precipitation/ pressure shut-off sensors for irrigation systems]), and use of slope drainage controls per established regulatory/industry standards (e.g., IBC/CBC and City standards/codes), associated potential impacts from implementation of the project would be less than significant.

Liquefaction and Seismically Induced Settlement

The Geotechnical Investigation concludes that the potential for liquefaction and seismically induced settlement at the project site is negligible, due to the dense nature of underlying strata and the lack of shallow groundwater, as well as the recommendation for remedial grading on site. The report also states, however, that perched groundwater and/or slight to heavy seepage was encountered in 10 of the exploratory borings and 1 of the trench excavations; seepage was encountered on relatively impervious strata within the bedrock materials. As such, the report concludes that the geologic units on the site have permeability characteristics and/or fracture systems that could be susceptible to groundwater transmission. Based on the potential for continued shallow groundwater seepage and/or transmission to occur on site, the Geotechnical Investigation recommends installation of subdrain systems to intercept and convey seepage migrating along impervious strata. Subdrains and/or other drainage facilities (e.g., infiltration controls) also would be implemented in main drainages, along proposed buttress and stability fill excavations, and possibly where impervious layers are exposed near the ultimate graded surface (Geocon 2019a) to avoid or reduce near-surface saturation. The implementation of these specific recommendations, and other standard measures would reduce the potential for liquefaction and related effects such as settlement and lateral spreading.

Specifically, other standard measures may include remedial efforts such as: (1) removal of unsuitable soils and replacement with engineered fill per applicable regulatory/industry standards (e.g., IBC/CBC); (2) use of efforts such as deep soil mixing (i.e., introducing cement to consolidate loose soils) or subsurface structures (e.g., stone columns or piles) to provide support (i.e., by extending structures into competent underlying units); and (3) designing proposed facilities for potential settlement of liquefiable materials through means such as use of post-tensioned foundations and/or flexible couplings for pipeline connections. Specific measures would be required and approved by the City, pursuant to final grading plans, the Geotechnical Investigation and CBC and SDMC requirements, prior to issuance of a grading permit. Based on the low potential for

liquefaction and related effects at the project site, as well as the availability of the noted specific and other standard remedial measures to address potential instabilities, if identified during further investigation or grading, associated potential impacts from implementation of the project would be less than significant.

Subsidence/Shrinkage

As previously described, the potential for non-seismic soil subsidence and shrinkage (hydro-consolidation) to occur at the project site does exist due to the presence of surficial materials on the site, including undocumented fill, topsoil/colluvium, and alluvium. Such materials may potentially be subject to localized subsidence/compression under loading (Geocon 2019a). The potential occurrence of compressible materials and localized subsidence from structural loading could result in hazards such as differential settlement (different degrees of settlement over relatively short distances), with associated potential effects to structures, pavement, foundations/footings, retaining walls, and utilities. As recommended in the Geotechnical Investigation, remedial grading of the noted surficial materials, which are unusable in their current condition, would reduce potential impacts related to non-seismic soil subsidence and hydro-consolidation (collapse) to less than significant.

Settlement

The Geotechnical Investigation identifies the potential for localized settlement-related instability associated with the placement of proposed structures and new compacted fill in areas underlain with existing potentially compressible surficial soils (i.e., existing undocumented fill deposits, topsoil/ colluvium, and alluvium, each with medium to very high expansion potential). The magnitude of any such settlement would depend on the amount of fill present below the proposed improvements, if any, as well as the specific loading characteristics from proposed structures. If such conditions and associated settlement hazards are identified during grading and/or further site evaluation, they would be addressed through implementation of standard measures to reduce the potential for settlement and related effects.

Specifically, per the project Geotechnical Investigation, the noted materials would be removed to firm natural ground and properly compacted prior to placing additional fill and/or structural loads. Additional remedial efforts may include the use of properly compacted engineered fill, surcharging (i.e., loading prior to construction to induce settlement), and/or settlement monitoring (e.g., through the use of settlement monuments) in appropriate areas (e.g., areas of identified settlement potential).

Based on the availability of standard remedial measures to address such settlement-related instabilities, associated potential impacts from implementation of the project would be less than significant.

Slope/Soil Instability

Potential impacts related to erosion/sedimentation from project implementation would be less than significant (refer to Issue 2 below). The potential for soil instability to occur associated with manufactured slopes within the project site is considered low provided appropriate related design, maintenance, drainage, and landscaping practices are implemented, as outlined in detail above

under the discussions of (1) Landslides and (2) Liquefaction and Seismically Induced Settlement. Extensive analysis was also conducted regarding the potential for the project to destabilize adjacent properties during project grading and the results indicate that with implementation of the recommendations within the Geotechnical Investigation, slope stability will be within acceptable safety parameters. Measures such as slot buttressing would be employed to ensure the stability of existing manufactured slopes along the northern and western site boundaries and to protect the adjacent properties during project grading. Based on the Geotechnical Investigation, Geocon concludes that the proposed development will not destabilize or result in settlement of adjacent properties or City right-of-way, provided the recommendations presented in the referenced report are followed during design and construction (Geocon 2019a and 2019b). Therefore, associated potential impacts from implementation of the project would be less than significant.

Expansive Soils

As noted above, materials ranging from low to very high expansion potential are present at the project site. As a result, project development in applicable areas may be subject to associated impacts. As previously described, however, project development would be required to conform with applicable regulatory/industry and code standards related to expansive soil hazards.

Specifically, this would involve implementation of associated recommendations in the Geotechnical Investigation, as well as pertinent elements of the CBC/IBC and related City criteria, including implementation of associated standard remedial efforts such as: (1) removal/replacement or (if applicable) mixing of unsuitable materials with engineered and non-expansive fill; (2) capping expansive materials with engineered fill in pertinent areas; and (3) the use of appropriate foundation and/or footing design per site-specific geotechnical recommendations.

Based on the required conformance with noted recommendations and regulatory/industry standards, as well as the availability of standard remedial measures to address expansive soil hazards if deemed necessary, associated potential impacts from implementation of the project would be less than significant.

Corrosive Soils

The Update Geotechnical Investigation concludes that the corrosive effects of on-site soils to concrete are expected to be negligible. Additional testing for soluble sulphate content is customary during finish grading operations. If sulphate is noted as present during finish grading, additional design precautions may include standard measures including: (1) removal of unsuitable (corrosive) deposits and replacement with non-corrosive fill; (2) use of corrosion-resistant construction materials (e.g., corrosion-resistant concrete and coated or non-metallic facilities); and (3) installation of cathodic protection devices (e.g., use of a more easily corroded “sacrificial metal” to serve as an anode and draw current away from the structure to be protected) per established regulatory/ industry standards (e.g., IBC/CBC).

Based on the availability of standard remedial measures to address potential soil corrosive effects if identified during further evaluation, associated impacts from implementation of the project would be less than significant.

Shallow Groundwater

In addition to contributing to a minor risk of liquefaction, the presence of shallow groundwater can necessitate temporary dewatering to accommodate development-related grading and excavation. If such dewatering is required during development of the project, it would be subject to associated requirements under the appropriate NPDES Groundwater Permit (as discussed in Section 5.9, *Hydrology and Water Quality*). Based on required conformance with associated regulatory standards, potential impacts related to the presence of shallow groundwater would be less than significant.

5.10.2.3 Significance of Impact

Potential impacts related to geologic instability from implementation of the project would be avoided or reduced below a level of significance through incorporation of required site-specific recommendations from the Geotechnical Investigation, as well as implementation of associated design/construction recommendations, and mandatory conformance with applicable regulatory/ industry standard and codes, including the IBC/CBC and pertinent City criteria.

5.10.2.4 Mitigation, Monitoring and Reporting

Impacts would be less than significant; therefore, no mitigation is required.

5.10.3 Impact 2: Potential for Erosion and Sedimentation

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

5.10.3.1 Impact Threshold

Based on the City Significance Determination Thresholds (2016a), impacts related to geology and soils would be significant if a project would result in a substantial increase in wind or water erosion of soils.

5.10.3.2 Impact Analysis

As previously described, the potential for erosion and sedimentation within the project site is generally low. Potential erosion and sedimentation impacts would be temporarily increased during proposed construction due to activities such as excavation, grading, and removal of surface stabilizing features (e.g., vegetation and pavement), particularly between the beginning of grading/ construction and the installation of pads/pavement, or establishment of permanent cover in landscaped areas. Generally, extensive or prolonged erosion can result in effects such as damaging or destabilizing slopes, soil loss, and deposition of eroded material in roadways or drainage structures. In addition, the off-site transport of sediment can potentially result in effects to downstream receiving water quality, such as increased turbidity and the provision of a transport mechanism for other contaminants that tend to adhere to sediment particles (e.g., hydrocarbons). Additional discussion of potential water quality effects related to erosion and sedimentation is provided in Section 5.9, *Hydrology and Water Quality*. Erosion and sedimentation are not considered

to be significant long-term concerns at the project site because developed areas would be stabilized through installation of structures/hardscape and landscaping as noted.

Short-term erosion and sedimentation impacts would be addressed through conformance with applicable elements of the City storm water program and related NPDES standards. Specifically, this would entail conformance with applicable City regulatory codes as outlined above in Section 5.10.1.2, as well as the NPDES Construction General Permit. Pursuant to the discussion of construction-related water quality concerns in Section 5.9, *Hydrology and Water Quality*, this would entail implementing an approved SWPPP and related plans and BMPs, including appropriate measures to address erosion and sedimentation.

Based on the implementation of appropriate erosion and sediment control BMPs as part of, and in conformance with, an approved SWPPP and related City and NPDES requirements, associated potential erosion and sedimentation impacts from implementation of the project would be less than significant.

5.10.3.3 Significance of Impact

Potential impacts related to erosion and sedimentation from development of the project would be avoided or reduced below a level of significance through implementation of the project design elements, including construction and post-construction BMPs and related maintenance efforts, and mandatory conformance with applicable regulatory/industry standard and codes, including applicable requirements under the City Storm Water Program and the NPDES Construction General Permit as outlined in Section 5.9, *Hydrology and Water Quality*.

5.10.3.4 Mitigation, Monitoring and Reporting

Impacts would be less than significant; therefore, no mitigation is required.

5.10.4 Impact 3: Potential for Geologic Hazards

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

5.10.4.1 Impact Threshold

Based on the City Significance Determination Thresholds, impacts related to geology and soils would be significant if a project would result in the exposure of people or property to geologic hazards such as ground shaking, fault rupture, landslides, mudslides, ground failure, or similar hazards.

5.10.4.2 Impact Analysis

Potential impacts associated with landslides, liquefaction, and related instabilities/hazards (including lateral spreading) are addressed above under Issue 1, with analysis of other potential geologic hazards provided below.

Potential for Hazards from Earthquakes

Surface/Fault Rupture

As previously described, the potential for seismic-related ground rupture hazards is considered low due to the fact that no known active faults or CGS Fault Rupture Hazard Zones are located within or adjacent to the project site. The fault traces that occur several miles to the west of the project site are not known to be associated with active faults or CGS Fault Rupture Zones. Accordingly, potential impacts related to surface/fault rupture hazards from implementation of the project would be less than significant.

Ground Shaking

Project development could potentially be subject to moderate peak ground acceleration (PGA) levels and associated potential effects, as outlined above. All proposed development and related activities, however, would be required to conform with applicable regulatory/industry and code standards related to geologic hazards, including seismic ground shaking.

Specifically, this would include pertinent elements of the Seismic Hazards Mapping Act, CBC/IBC, and related City standards. Associated criteria under the CBC for example, include: (1) applicable seismic loading factors for the design of facilities such as structures, foundations/slabs, pavement, and utilities; (2) remedial grading standards (e.g., removing/replacing and/or reconditioning unsuitable soils); (3) appropriate manufactured slope, retaining wall, and drainage design; and (4) use of properly engineered fill. Implementation of such measures, as described in the site-specific Geotechnical Investigation and in conformance with applicable regulatory/industry standards, would reduce potential impacts related to seismic ground shaking hazards from implementation of the project to a less than significant level of risk.

Tsunamis and Seiches

As previously described, the project site is located approximately 13 miles inland, exhibits minimum surface elevations of approximately 620 feet AMSL, and is not located near or downstream of surface water bodies susceptible to seiche effects. As a result, potential impacts related to tsunami and seiche hazards from implementation of the project would be less than significant.

5.10.4.3 Significance of Impacts

Implementation of project design features including site-specific recommendations in the Geotechnical Investigation and appropriate building design measures per the CBC would reduce the risk of potential effects from geologic hazards. Therefore, impacts would be less than significant.

5.10.4.4 Mitigation, Monitoring and Reporting

Impacts would be less than significant; therefore, no mitigation is required.

This page intentionally left blank

GEOCON LEGEND

Qudf 1 .....UNDOCUMENTED FILL ASSOCIATED WITH GOLF COURSE
(In General, Fills Over 5 Feet Thick Were Mapped)

Qudf 2 .....UNDOCUMENTED FILL ASSOCIATED WITH ADJACENT HOUSING DEVELOPMENT

Qal .....ALLUVIUM

Tmv .....MISSION VALLEY FORMATION

Jsp .....SANTIAGO PEAK VOLCANICS

B-25 .....APPROX. LOCATION OF LARGE DIAMETER BORING

T-9 .....APPROX. LOCATION OF EXPLORATORY TRENCH

T-26 .....APPROX. LOCATION OF EXPLORATORY TRENCH PERFORMED BY LEIGHTON (Aug 2014)

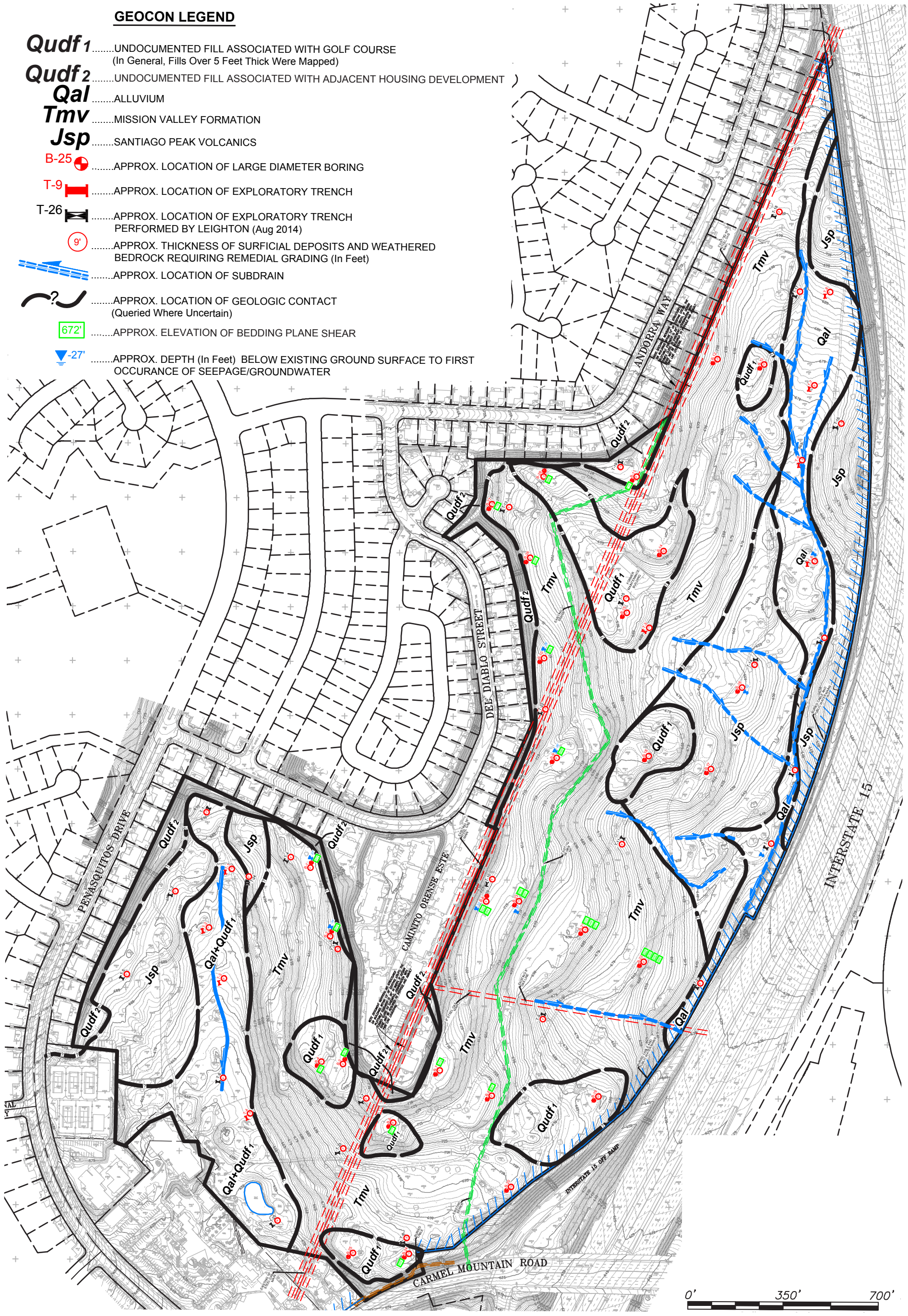
9' .....APPROX. THICKNESS OF SURFICIAL DEPOSITS AND WEATHERED BEDROCK REQUIRING REMEDIAL GRADING (In Feet)

.....APPROX. LOCATION OF SUBDRAIN

.....APPROX. LOCATION OF GEOLOGIC CONTACT (Queried Where Uncertain)

672' .....APPROX. ELEVATION OF BEDDING PLANE SHEAR

-27' .....APPROX. DEPTH (In Feet) BELOW EXISTING GROUND SURFACE TO FIRST OCCURANCE OF SEEPAGE/GROUNDWATER



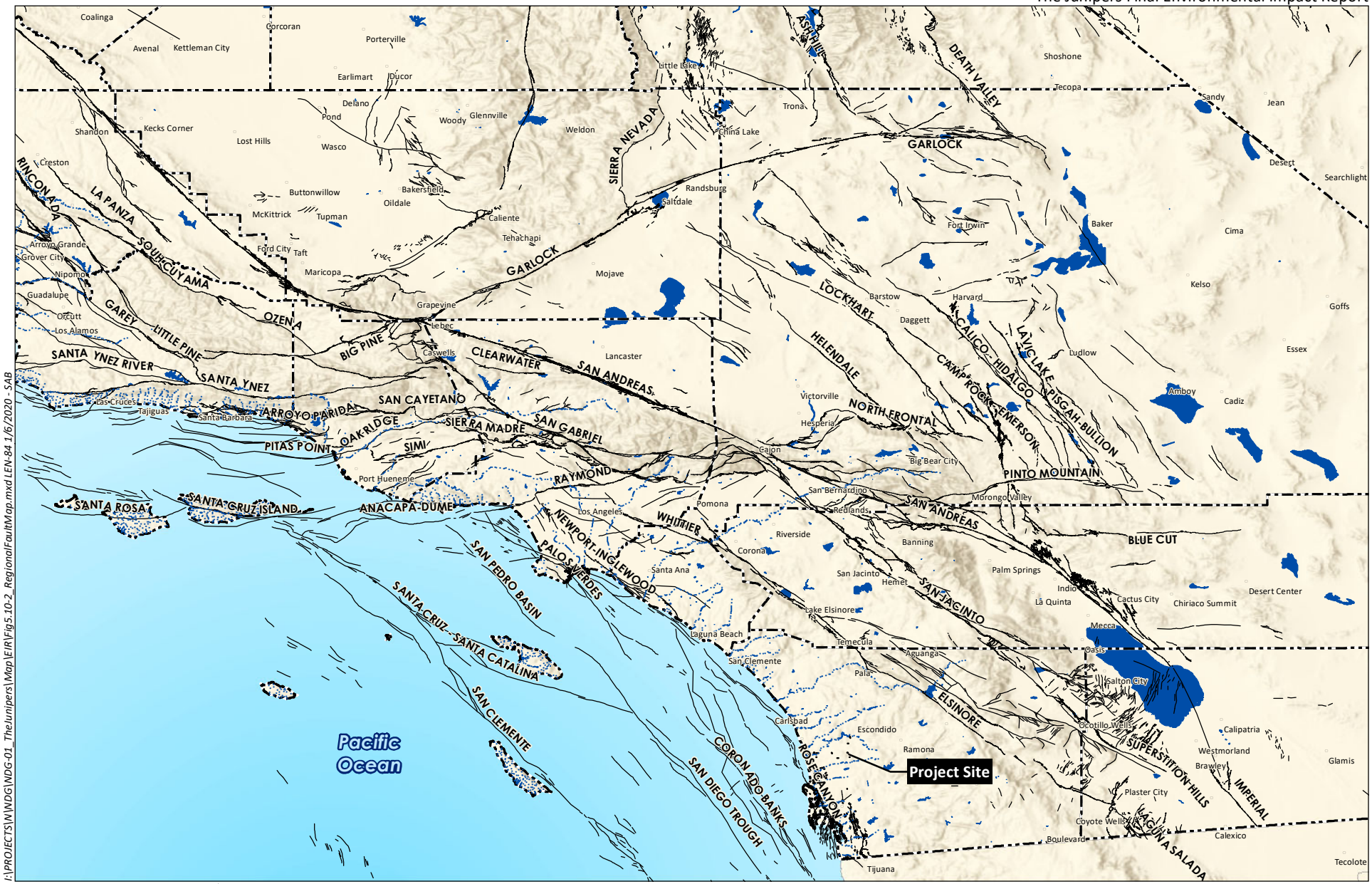
Source: Geocon 12/18

I:\PROJECTS\W\NDG\NDG-01_TheJunipers\Map\EIR\Fig5.10-1_Geology.indd LEN-84 1/6/2020 - SAB

HELIX Environmental Planning

Geologic Map

Figure 5.10-1



Source: Base Map Layers (Esri 2015) Quaternary Faults (USGS 12/2017); Faults (SanGIS 2015)

I:\PROJECTS\N\NDG\NDG-01_TheJunipers\Map\EIR\Fig5.10-2_RegionalFaultMap.mxd LEN-84 1/6/2020 - SAB

HELIX Environmental Planning

Regional Fault Map

Figure 5.10-2

5.11 Historical and Tribal Cultural Resources

This section addresses the impacts that land use changes related to the project would have on historic architectural resources, archaeological resources, and Tribal cultural resources. The section describes existing cultural resources on the project site and in the study area and presents the baseline conditions against which project impacts are measured. Project-specific impacts are presented for the project and mitigation measures are identified. This section is based on a number of studies. An historical resource survey of the subject property was performed by HELIX in March 2018, and an archival search was completed for this report at the South Coastal Information Center (SCIC) in 2016. The results of these efforts are summarized in a technical report (HELIX 2019e) included in Appendix I1 of this EIR. The technical report also included a Sacred Lands File (SLF) search, Native American outreach, a review of historic maps and aerial photographs, an archaeological field survey with a Native American monitor, and archaeological testing to evaluate the significance of a marine shell scatter identified during the survey. In addition, an historic built environment evaluation was performed for the site (Steigler 2017) and found one structure present within the former golf course that is not eligible for listing in the California Register of Historical Resources (CRHR) or any local register (Appendix I2). A second structure was found not to be at least 45 years old, which is the threshold for historic evaluation under CEQA. Due to its recent age, this structure was not addressed in the built environment report; it, too, is not eligible for listing in the CRHR or local register.

For the purposes of the following discussion, historical resources include historic- and prehistoric-aged resources. The City defines “historical resources” as site improvements, buildings, structures, historic districts signs, features, places, place names, interior elements and fixtures designated in conjunction with a property, or other objects of historical, archaeological, scientific, educational, cultural, architectural, aesthetic, or traditional significance to the citizens of the City and the region. Pre-historic or archaeological resources are those associated with the early Native Americans in the region. In addition, pursuant to Section 21074 of the PRC, Tribal cultural resources (TCRs) are addressed. TCRs are defined as either a site, feature, place, or cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is: (1) listed or eligible for listing in the CRHR, or that is listed or eligible for listing in a local register of historical resources; or (2) a resource determined by the lead agency to be significant. Letters associated with the Tribal outreach efforts for the project are provided in Appendix I3.

5.11.1 Existing Conditions

5.11.1.1 Environmental Setting

Regional Setting

Prehistoric Period

The earliest well-documented sites in the San Diego area belong to the San Dieguito Tradition, dating to over 9,000 years ago (Warren 1967; Warren et al. 1998). The San Dieguito Tradition is thought by most researchers to have emphases on big game hunting and coastal resources (Warren 1967). Diagnostic material culture associated with the San Dieguito complex includes scrapers,

scraper planes, choppers, large blades, and large projectile points (Rogers 1939; Warren 1967). In the southern coastal region, the traditional view of San Diego prehistory has the San Dieguito Tradition followed by the Archaic Period, dating from circa 8,600 years Before Present (BP) to circa 1,300 BP (Warren et al. 1998).

A high number of archaeological site assemblages dating to this period have been identified at a range of coastal and inland locations. These assemblages, designated as the La Jolla/Pauma complexes, are considered part of Warren's (1968) "Encinitas tradition" and Wallace's (1955) "Early Milling Stone Horizon." The Encinitas tradition is generally "recognized by millingstone assemblages in shell middens, often near sloughs and lagoons" (Moratto 1984:147) and brings a shift toward a more generalized economy and an increased emphasis on seed resources, small game, and shellfish. The local cultural manifestations of the Archaic period are called the La Jollan complex along the coast and the Pauma complex inland. Pauma complex sites lack the shell that dominates many La Jollan complex site assemblages. Sites dating to the Archaic Period are numerous along the coast, near-coastal valleys, and around estuaries. In the inland areas of San Diego County, sites associated with the Archaic Period are less common relative to the Late Prehistoric complexes that succeed them (Cooley and Barrie 2004; Laylander and Christenson 1988; Raven-Jennings and Smith 1999; True 1970). The La Jolla complex tool assemblage is dominated by rough cobble tools, especially choppers and scrapers (Moriarty 1966). The La Jolla complex tool assemblage includes manos and metates, terrestrial and marine mammal remains, flexed burials, doughnut stones, discoidals, stone balls, plummets, bifacial points, beads, and bone tools (True 1958, 1980).

While there has been considerable debate about whether San Dieguito and La Jollan patterns might represent the same people using different environments and subsistence techniques, or whether they are separate cultural patterns (e.g., Bull 1983; Ezell 1987; Gallegos 1987; Warren et al. 1998), abrupt shifts in subsistence and new tool technologies occurred at the onset of the Late Prehistoric period (1500 BP to AD 1769). The Late Prehistoric period is characterized by higher population densities and intensification of social, political, and technological systems. The Late Prehistoric period is represented by the San Luis Rey complex in the northern portion of San Diego County and the Cuyamaca complex in the southern portion of the County. Late prehistoric artifactual material known for the region is characterized by Tizon Brown Ware pottery, various cobble-based tools (e.g., scrapers, choppers, and hammerstones), arrow shaft straighteners, pendants, manos and metates, and mortars and pestles. The arrow point assemblage is dominated by the Desert Side-notched series, but the Cottonwood series and the Dos Cabezas Serrated type also occur. Subsistence is thought to have been focused on the utilization of acorns and grass seeds, with small game serving as a primary protein resource and big game as a secondary resource. Fish and shellfish were also secondary resources, except immediately adjacent to the coast where they assumed primary importance (Bean and Shipek 1978; Luomala 1978; Sparkman 1908). The settlement system is characterized by seasonal villages where people used a central-based collecting subsistence strategy.

Based on ethnographic data, including the areas defined for the Hokan-based Yuman-speaking peoples at the time of contact, it is now generally accepted that the Cuyamaca complex is associated with the Kumeyaay people, also known as Ipai, Tipai, or Diegueño (named for Mission San Diego de Alcalá). Agua Hedionda Creek is often described as the division between the territories of the Luiseño (Takic Shoshonean-speaking peoples) and the Kumeyaay people (Bean and Shipek 1978;

Luomala 1978), although various archaeologists and ethnographers use slightly different boundaries.

Ethnohistoric Period

The project area is located within the traditional territory of the Kumeyaay people. At the time of Spanish contact, Yuman-speaking Kumeyaay bands occupied southern San Diego and southwestern Imperial counties, and northern Baja California. The Kumeyaay lived in semi-sedentary, politically autonomous villages or rancherias. Most rancherias were the seat of a clan, although it is thought that, aboriginally, some clans had more than one rancheria and some rancherias contained more than one clan, often depending on the season of the year (Luomala 1978). Several sources indicate that large Kumeyaay villages or rancherias were located in river valleys and along the shorelines of coastal estuaries (Bean and Shipek 1978; Brackett 1951; Hoover et al. 1966; Kroeber 1925).

Historic Period

Spanish Period (1769–1821)

While Juan Rodriguez Cabrillo visited San Diego briefly in 1542, the beginning of the historic period in the San Diego area is generally given as 1769. During the mid-eighteenth century, Spain had escalated its involvement in California from exploration to colonization (Weber 1992), and it was that year that the Royal Presidio of San Diego was founded on a hill overlooking the San Diego River. There were three types of settlements in Spanish Alta California: presidial, mission, and civic. San Diego was the first of these and was the presidial type; that is, it was administered by the military based at the presidio (Rolle 1998). Initially, both a mission and a military presidio were located on Presidio Hill overlooking the San Diego River. A small pueblo, now known as Old Town San Diego, developed below the presidio. The Mission San Diego de Alcalá was constructed in its current location five years later.

The economy of Alta California during the Spanish period was based on cattle ranching at the missions and a few Spanish land grant ranchos. A minor amount of agriculture and commerce took place in and around San Diego.

Mexican Period (1821–1848)

Mexico, including Alta California, gained its independence from Spain in 1821, but Spanish culture and influence remained as the missions continued to operate as they had in the past; laws governing the distribution of land were also retained for a period.

Following secularization of the missions in 1834, large ranchos were granted to prominent and well-connected individuals. In 1823, the first Mexican land grant in California, the Rancho de Peñasquitos, was granted to Francisco de Maria Ruiz. In 1825, Ruiz built a small adobe on the property that was expanded in 1862 by George Alonzo Johnson; the house remains the oldest private standing structure in San Diego County. The main highway between San Diego and Yuma passed right by Rancho Peñasquitos and was designated as San Diego's first County Highway and as a segment of the first Transcontinental Mail Route (Friends of Los Peñasquitos Canyon Preserve 2018).

During this period, society made a transition from one dominated by the church and the military to a more civilian focus, with people living on ranchos or in pueblos. With numerous new ranchos, cattle ranching expanded and prevailed over agricultural activities. These ranches put new pressures on California's native populations, as grants were made for inland areas still occupied by the Kumeyaay, forcing them to acculturate or relocate farther into the backcountry. In rare instances, former mission neophytes were able to organize pueblos and attempt to live within the new confines of Mexican governance and culture. The most successful of these was the Pueblo of San Pasqual, located inland along the San Dieguito River Valley, founded by Kumeyaay who were no longer able to live at the Mission San Diego de Alcalá (Carrico 2008; Farris 1994).

American Period (1848–Present)

The Mexican period ended when Mexico ceded California to the United States after the Mexican-American War (1846–1848), which concluded with the signing of the Treaty of Guadalupe Hidalgo. The terms of the Treaty brought about the creation of the Lands Commission in response to the Homestead Act of 1851, which was adopted as a means of validating and settling land ownership claims. A great influx of settlers to California and the San Diego region occurred during the American Period, resulting from several factors including the discovery of gold in the state in 1848, the end of the Civil War, the availability of free land through passage of the Homestead Act, and later, the importance of San Diego County as an agricultural area supported by roads, irrigation systems, and connecting railways. The increase in American and European populations quickly overwhelmed many of the Spanish and Mexican cultural traditions, and greatly increased the rate of population decline among Native American communities.

At the beginning of the American Period, Old Town San Diego remained the center of civic life in the region; however, the San Diego River was prone to major floods, and in the 1870s, what is now downtown San Diego, then known as Horton's Addition, become the urban center (AECOM 2015).

The 1880s saw "boom and bust" cycles that brought thousands of people to San Diego County. By the end of the decade, many had left, although some remained to form the foundations of small communities based on dry farming, orchards, dairies, and livestock ranching. During the late-nineteenth and early-twentieth centuries, rural areas of San Diego County developed small agricultural communities centered on one-room schoolhouses. Such rural farming communities consisted of individuals and families tied together through geographical boundaries, a common schoolhouse, and a church. In 1910, Charles H. Mohnike paid more than $100,000 for the Rancho Peñasquitos and associated grazing areas. He and his family used the ranch as a summer home until 1912, when a fire wiped out many of the buildings on the property (Friends of Los Peñasquitos Canyon Preserve 2018). The 1920s saw the use of nearby Black Mountain for the mining of arsenic, which was used as pesticide for boll weevils, and gold. By 1927, the mine fell into disuse and was abandoned. In 1921, two cattlemen purchased the Peñasquitos Ranch, stocking it with cattle and using the former ranch house as quarters for cowhands and family.

The influence of military development, beginning in 1916 and 1917 (during World War I), moved much of the population away from the ranching and agricultural lifestyles, and the need to fight a two-ocean war during World War II resulted in substantial development in infrastructure and industry to support the military and accommodate soldiers, sailors, and defense industry workers.

By 1962, Rancho Peñasquitos was spread over 14,000 acres and was purchased by San Diego real estate developer Irving Kahn, who planned to develop the property as a golf course and fairway homes, providing housing for up to 150,000 San Diegans. Kahn was responsible for developing major subdivisions in Clairemont, University City, Chula Vista, and La Mesa, as well. Kahn was persuaded by the City and County to sell Rancho Peñasquitos and in 1974, the County obtained the Rancho Peñasquitos Ranch House and began restoration (Friends of Los Peñasquitos Canyon Preserve 2018).

Project Site Setting

Site History

The project is primarily located on the site of the former Carmel Highland Golf Course, which was constructed in the 1960s and began operations in 1967 as the Rancho Peñasquitos Golf Course. Substantial fill was placed on the site for the golf course development. The golf course was closed in 2015, with reduced golf course usage/revenues and higher water costs cited as the reasons for the closure. An additional portion of the site is developed with a maintenance yard and tennis courts previously associated with the Hotel Karlan, which was built in 1989. The tennis courts are being closed.

Records Search and Literature Review

As described above, an archival search was completed for this project at the SCIC in 2016. A total of 15 recorded archaeological/historic sites (sites) and 2 isolated finds not associated with an intact resource deposit (isolates) have been recorded within a 1-mile radius of the project, none of which are located within the project site itself. Sites in proximity to the project include 11 lithic scatters, 2 bedrock milling locations with associated lithics, and a rock cairn with a survey monument. The isolates consist of two flakes and one flake and two core fragments. While none of these finds represents significant resources for the project site, their presence indicates the early use of the project area by the Kumeyaay people.

Native American Consultation

AB 52 (Chapter 532, Statutes of 2014), passed September 25, 2014 and effective July 1, 2015, introduced TCRs as a class of cultural resource and set forth additional considerations relating to Native American consultation into CEQA. AB 52 requires that a lead agency begin consultation with a California Native American tribe if that tribe has requested, in writing, to be kept informed of projects by the lead agency, prior to determination of whether a negative declaration, mitigated negative declaration or EIR will be prepared. In accordance with AB 52, the City notified the following Tribes who had requested notification for projects in this area: Iipay Nation of Santa Ysabel and Jamul Indian Village. The City provided the archaeological survey report for the project as an attachment to the letters. In response to these notifications, both Tribes indicated that they concurred with the findings and mitigation identified for the project, and that no further consultation is required. This documentation is provided in Appendix I3. In addition, the Native American Heritage Commission (NAHC) was contacted for a SLF Check and list of Native American contacts. A Native American Monitor was present during the field survey of the site and the subsequent testing of a potential shell deposit as described below. No Tribal resources were discovered during these investigations.

Survey Results

The project was surveyed for historic built environment resources in November 2017 (Stiegler 2017). The historic built environment study included a visual review of two single-story wood-frame structures on the property to determine if the architectural styles of the buildings were such that archival review to obtain more information on potential significance was necessary. Neither structure resembled any notable architectural style beyond their utilitarian function as maintenance and storage sheds. No character-defining features were found to be present to provide significance for the architecture. Thus, the structures were found to be not eligible for listing in the CRHR or City Register. While the structures maintained integrity of location, their surrounding setting has changed as the golf course they supported is no longer extant. Likewise, no integrity of feeling for the buildings exists, as the golf course they served is no longer in use. No archival research was performed; as such, integrity of design, materials, and workmanship for these structures was not assessed. The historic structures evaluation is in Appendix I2.

During the 2018 archaeological survey of the project site, a sparse scatter of marine shell was identified on the ground surface in the northwestern portion of the site. Five shovel test pits (STPs) were excavated in the area to determine if any intact subsurface cultural deposits were present. The results of excavating the STPs showed that the subsurface soil deposit is highly disturbed and contains construction debris and modern materials. The shell identified during HELIX's survey may be the result of marine sediments being used as fill on the property when the golf course was constructed. The most heavily concentrated areas of shell were found in areas where animal bioturbation has brought buried soils to the surface; the possibility remains that a deeply buried cultural deposit exists under the fill soils. Because of the potential to impact such a resource during the removal of fill soils prior to site development, those impacts are discussed below.

5.11.1.2 Regulatory Framework

Federal

National Register of Historic Places

Federal criteria are those used to determine eligibility for the National Register of Historic Places (NRHP). The NRHP was established by the National Historic Preservation Act (NHPA; 1966). The NRHP is the official lists of sites, buildings, structures, districts, and objects significant in American history, architecture, archaeology, engineering, and culture. The NRHP is administered by the National Park Service. Nominations to the NRHP may come from the various State Historic Preservation Offices, Tribal Historic Preservation Offices, local governments, and from private individuals and organizations.

State

California Register of Historical Resources/California Environmental Quality Act

Similar to the NRHP, the CRHR program encourages public recognition and protection of resources of architectural, historical, archaeological, and cultural significance; identifies resources for planning purposes; determines eligibility of state historic grant funding; and provides certain protections under CEQA. State criteria are those listed in CEQA and used to determine whether an historic

resource qualifies for the CRHR. A resource may be listed in the CRHR if it is significant at the federal, state, or local level under one or more of the following four criteria:

1. Is associated with events that have made a significant contribution to the broad patterns of local or regional history and cultural heritage of California or the United States;

2. Is associated with the lives of persons important to the nation or to California's past;

3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; and/or

4. Has yielded, or may be likely to yield, information important in prehistory or history of the state or nation.

CEQA was amended in 1998 to define "historical resources" as a resource listed in or determined eligible for listing on the CRHR, a resource included in a local register of historical resources or identified as significant in a historical resource survey that meets certain requirements, and any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant.

For the purposes of CEQA, a significant historical resource is one which qualifies for the CRHR or is listed in a local historic register or deemed significant in a historical resource survey, as provided under Section 5024.1(g) of the Public Resources Code. A resource that is not listed in, or determined to be eligible for listing in, the CRHR, not included in a local register of historic resources, or not deemed significant in a historical resource survey may nonetheless be historically significant for purposes of CEQA (Section 15064.5 and CEQA Statutes Section 21083.2).

The City's determination of the significance of impacts on historical and unique archaeological resources is based on the criteria found in Section 15064.5 of the State CEQA Guidelines. Archaeological resources are considered "historical resources" for the purposes of CEQA. Most archaeological sites which qualify for the CRHR do so under criterion 4 (i.e., research potential).

Since resources that are not listed or determined eligible for the state or local registers may still be historically significant, their significance would be determined if they are affected by a development proposal. The significance of an historical resource under criterion 4 rests on its ability to address important research questions.

Native American Involvement

Native American involvement in the development review process is addressed by several state laws. SB 18 includes detailed requirements for local agencies to consult with identified California Native American Tribes early in the planning and/or development process. The California Native American Graves Protection and Repatriation Act (2001) ensures that Native American human remains and cultural items are treated with respect and dignity during all phases of the archaeological evaluation process in accordance with CEQA and any applicable local regulations.

Assembly Bill 52

AB 52 (Chapter 532, Statutes of 2014) was passed on September 25, 2014, and applies to all projects that file a NOP, or Notice of Intent to Adopt a negative declaration, mitigated negative declaration or EIR, on or after July 1, 2015. The bill requires that a lead agency begin consultation with a California Native American tribe if that tribe has requested, in writing, to be kept informed of projects by the lead agency, prior to the determination whether a negative declaration, mitigated negative declaration or EIR will be prepared. The bill also specifies mitigation measures that may be considered to avoid or minimize impacts on TCRs. Additionally, AB 52 directed the Office of Planning and Research to revise Appendix G of the CEQA Guidelines to separate the consideration of TCRs from paleontological resources by July 1, 2016.

Local

Historical Resources Regulations

The Historical Resources Regulations (HRR) are part of the SDMC (Chapter 14, Article 3, Division 2: Purpose of HRR, Sections 143.0201-143.0280). The HRR have been developed to implement applicable local, state, and federal policies and mandates, such as the General Plan, CEQA, and Section 106 of the NHPA of 1966.

Part of the HRR consists of a Development Review Process for all projects in the City. This review process is composed of two parts: implementation of the HRR and a determination of impacts and mitigation under CEQA. The implementation of the HRR begins with the determination of the need for a survey of the project site. The need for a survey is based on historical resource information and the date and results of any previous surveys of a project site. Surveys are required if more than five years have elapsed since the last survey and the potential for resources exists. An historic property (built environment) survey is required if the structure/site is over 45 years old, may meet one or more criteria for designation, and appears to have integrity of setting, design, materials, workmanship, feeling, and association.

Section 143.0212(d) of the Regulations states that if a property-specific survey is required, it must be conducted according to criteria in the Historical Resource Guidelines (HRG). Using the survey results and other available applicable information, the City shall determine whether a historical resource exists, whether it is eligible for designation as a designated historical resource, and precisely where it is located.

Historical resources, in the HRR context, include site improvements, buildings, structures, historic districts, signs, features (including significant trees or other landscaping), places, place names, interior elements and fixtures designated in conjunction with a property, or other objects of historical, archaeological, scientific, educational, cultural, architectural, aesthetic, or traditional significance to the citizens of the city. These include structures, buildings, archaeological sites, objects, districts, or landscapes having physical evidence of human activities. These are usually over 45 years old, and they may have been altered or still be in use (City 2001).

In addition to direct and indirect impacts, cumulative impacts must also be addressed during the CEQA review process. Cumulative impacts are a result of individually minor but collectively significant projects occurring over a period of time. Data recovery may be considered a cumulative

impact due to the loss of a portion of the resource data base. Cumulative impacts also occur in districts when several minor changes to contributing properties, their setting, or landscaping eventually results in a significant loss of integrity (City 2001). If the survey results are negative, the review process is complete, and no mitigation is required.

Historical Resources Guidelines

The City's HRG (amended in April 2001) are designed to implement the HRR (Chapter 14, Division 3, Article 2 of the LDC). If any resources have been recorded on the property, those resources must be evaluated for significance/importance in accordance with criteria listed in the HRG. As compared to CEQA, the City provides a broader set of criteria for eligibility for the City's Historical Resources Register. As stated in the City's Guidelines, "Any improvement, building, structure, sign, interior element and fixture, site, place, district, area, or object may be designated as historic by the City Historical Resources Board if it meets any of the following 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 of a master builder, designer, architect, engineer, landscape architect, interior designer, artist or craftsman;

E. Is listed on 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 California OHP 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.

Resources determined to be significant/important must either be avoided or a data recovery program for important archaeological sites must be developed and approved prior to permit issuance in order to assure adequate mitigation for the recovery of cultural and scientific information related to the resource's significance/importance.

5.11.2 Impact 1: Prehistoric and Historic Resources

Issue 1: Would the project result in an alteration, including the adverse physical or aesthetic effects and/or the destruction of a prehistoric site or historic building (including an architecturally significant building), structure, object, or site?

Issue 2: Would the project result in an impact to existing religious or sacred uses within the potential impact area?

Issue 3: Would the project result in the disturbance of any human remains, including those interred outside of formal cemeteries?

Issue 4: Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(K); or

b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1.

5.11.2.1 Impact Thresholds

In accordance with the City's Significance Determination Thresholds (2016a), historical resource impacts may be significant if the project would result in:

- An 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;
- The disturbance of human remains, including those interred outside of formal cemeteries; and/or
- A substantial adverse change in the significance of a Tribal Cultural Resource.

5.11.2.2 Impact Analysis

As discussed above, there were two structures evaluated within the former golf course:

- A former maintenance shed was present within the central portion of the project site but has since been removed. Appendix I2 describes the structure as "a single-story wood frame structure consisting of an asphalt shingle gable roof, vertical board siding, moderate boxed eaves, and minimal fenestration. Possibly used as a landscaping shed, the long narrow structure contains a row of openings on the southwest elevation that once featured metal roll-up doors, now removed and housed within the structure. A barred aluminum sliding window and standard doorway pierce the southeast elevation. The northwest elevation bears no fenestration and is currently inhabited by a large colony of bees. The northeast elevation contains two barred tripartite aluminum windows with one near the center of the elevation broken."

- The maintenance yard located in the southwestern portion of the property, which is used by the adjacent Hotel Karlan, includes a shade structure to protect the maintenance workers. The shade structure was built in a simple carport style with a metal roof but no walls, windows, or decoration. Based upon a review of historic aerial photographs, the shade structure was built between 1996 and 2002, is less than 45 years old, and was not further evaluated.

The letter report prepared by IS Architecture (Appendix I2) found that the maintenance building that was located in the central portion of the site did not resemble any notable architectural style beyond utilitarian function; and did not appear to contain any character-defining features that could provide significance for architecture. The report further stated that while the structure retained integrity of location; the setting had changed due to the golf course no longer functioning around it. The report concluded that as a supporting outbuilding of the former golf course, the structure no longer retained integrity of feeling and association as there is no longer a golf course to service; and therefore, the landscaping shed is not eligible for listing in the CRHR or any local register (Appendix I2). The structure has since been removed. Because the results were negative, the historical review process for the two structures is complete.

Although no significant prehistoric or historical sites or Native American resources were identified within the project site during record searches and resource surveys, the potential exists for subsurface resources to be uncovered during construction. The project site is located in an alluvial area where subsurface cultural material may be present, and such deposits may be localized. In addition, a number of sites have been documented on the mesa tops and ridges surrounding the project, which may have led to the deposition of cultural remains within the project area by erosion.

As discussed above, 15 cultural resource sites and two isolates have been identified within 1.0 mile of the project site and subsurface cultural deposits have been found at several of these sites. Thus, even though no resources were discovered during the 2018 survey; the potential still exists for such resources to occur on the subject property. Because the project would include grading that could impact soils where buried resources may occur, there is a possibility that unidentified prehistoric or ethnohistoric resources (including Native American resources and remains) may be impacted.

No additional impacts or concerns were identified by the Iipay Nation of Santa Ysabel and Jamul Indian Village, who were consulted regarding this project as part of the AB 52 process.

5.11.2.3 Significance of Impact

Although no surface historical resources were discovered during field surveys, the potential exists for subsurface resources to occur on the subject property. If present and significant in nature, grading associated with the project would result in a significant impact on these resources.

5.11.2.4 Mitigation Monitoring and Reporting

The following mitigation measure would reduce potential project impacts to previously unidentified subsurface historical resources to below a level of significance. The Iipay Nation of Santa Ysabel and Jamul Indian Village have both expressed concurrence with the below mitigation program.

Mitigation Measure HIS-1: The following measure shall be implemented.

ARCHAEOLOGICAL RESOURCES

I. Prior to Permit Issuance

A. Entitlements Plan Check

1. Prior to issuance of any construction permits, including but not limited to, the first Grading Permit, Demolition Plans/Permits and Building Plans/Permits or a Notice to Proceed for Subdivisions, but prior to the first preconstruction meeting, whichever is applicable, the Assistant Deputy Director (ADD) Environmental designee shall verify that the requirements for Archaeological Monitoring and Native American monitoring have been noted on the applicable construction documents through the plan check process.

B. Letters of Qualification have been submitted to ADD

1. The applicant shall submit a letter of verification to Mitigation Monitoring Coordination (MMC) identifying the Principal Investigator (PI) for the project and the names of all persons involved in the archaeological monitoring program, as defined in the City of San Diego Historical Resources Guidelines (HRG). If applicable, individuals involved in the archaeological monitoring program must have completed the 40-hour HAZWOPER training with certification documentation.

2. MMC will provide a letter to the applicant confirming the qualifications of the PI and all persons involved in the archaeological monitoring of the project meet the qualifications established in the HRG.

3. Prior to the start of work, the applicant must obtain written approval from MMC for any personnel changes associated with the monitoring program.

II. Prior to Start of Construction

A. Verification of Records Search

1. The PI shall provide verification to MMC that a site-specific records search (1/4-mile radius) has been completed. Verification includes, but is not limited to a copy of a confirmation letter from South Coastal Information Center, or, if the search was in-house, a letter of verification from the PI stating that the search was completed.

2. The letter shall introduce any pertinent information concerning expectations and probabilities of discovery during trenching and/or grading activities.

3. The PI may submit a detailed letter to MMC requesting a reduction to the 1/4-mile radius.

B. PI Shall Attend Precon Meetings

1. Prior to beginning any work that requires monitoring; the Applicant shall arrange a Precon Meeting that shall include the PI, Native American consultant/monitor (where Native American resources may be impacted), Construction Manager (CM) and/or Grading Contractor, Resident Engineer (RE), Building Inspector (BI), if appropriate, and MMC. The qualified Archaeologist and Native American Monitor shall attend any grading/excavation related Precon Meetings to make comments and/or suggestions concerning the Archaeological Monitoring program with the Construction Manager and/or Grading Contractor.

    a. If the PI is unable to attend the Precon Meeting, the Applicant shall schedule a focused Precon Meeting with MMC, the PI, RE, CM or BI, if appropriate, prior to the start of any work that requires monitoring.

2. Identify Areas to be Monitored

    a. Prior to the start of any work that requires monitoring, the PI shall submit an Archaeological Monitoring Exhibit (AME) (with verification that the AME has been reviewed and approved by the Native American consultant/monitor when Native American resources may be impacted) based on the appropriate construction documents (reduced to 11x17) to MMC identifying the areas to be monitored including the delineation of grading/excavation limits.

    b. The AME shall be based on the results of a site-specific records search as well as information regarding existing known soil conditions (native or formation).

3. When Monitoring Will Occur

    a. Prior to the start of any work, the PI shall also submit a construction schedule to MMC through the RE indicating when and where monitoring will occur.

    b. The PI may submit a detailed letter to MMC prior to the start of work or during construction requesting a modification to the monitoring program. This request shall be based on relevant information such as review of final construction documents which indicate site conditions such as depth of excavation and/or site graded to bedrock, etc., which may reduce or increase the potential for resources to be present.

III. During Construction

A. Monitor(s) Shall be Present During Grading/Excavation/Trenching

1. The Archaeological Monitor shall be present full-time during all soil disturbing and grading/excavation/trenching activities which could result in impacts to archaeological resources as identified on the AME. The Construction Manager is responsible for notifying the RE, PI, and MMC of changes to any construction activities such as in the

case of a potential safety concern within the area being monitored. In certain circumstances OSHA safety requirements may necessitate modification of the AME.

2. The Native American consultant/monitor shall determine the extent of their presence during soil disturbing and grading/excavation/trenching activities based on the AME and provide that information to the PI and MMC. If prehistoric resources are encountered during the Native American consultant/monitor's absence, work shall stop, and the Discovery Notification Process detailed in Section III.B-C and IV.A-D shall commence.

3. The PI may submit a detailed letter to MMC during construction requesting a modification to the monitoring program when a field condition such as modern disturbance post-dating the previous grading/trenching activities, presence of fossil formations, or when native soils are encountered that may reduce or increase the potential for resources to be present.

4. The archaeological and Native American consultant/monitor shall document field activity via the Consultant Site Visit Record (CSVR). The CSVRs shall be faxed by the CM to the RE the first day of monitoring, the last day of monitoring, monthly (Notification of Monitoring Completion), and in the case of ANY discoveries. The RE shall forward copies to MMC.

B. Discovery Notification Process

1. In the event of a discovery, the Archaeological Monitor shall direct the contractor to temporarily divert all soil disturbing activities, including but not limited to digging, trenching, excavating or grading activities in the area of discovery and in the area reasonably suspected to overlay adjacent resources and immediately notify the RE or BI, as appropriate.

2. The Monitor shall immediately notify the PI (unless Monitor is the PI) of the discovery.

3. The PI shall immediately notify MMC by phone of the discovery, and shall also submit written documentation to MMC within 24 hours by fax or email with photos of the resource in context, if possible.

4. No soil shall be exported off-site until a determination can be made regarding the significance of the resource specifically if Native American resources are encountered.

C. Determination of Significance

1. The PI and Native American consultant/monitor, where Native American resources are discovered shall evaluate the significance of the resource. If Human Remains are involved, follow protocol in Section IV below.

    a. The PI shall immediately notify MMC by phone to discuss significance determination and shall also submit a letter to MMC indicating whether additional mitigation is required.

b. If the resource is significant, the PI shall submit an Archaeological Data Recovery Program (ADRP) which has been reviewed by the Native American consultant/monitor and obtain written approval from MMC. Impacts to significant resources must be mitigated before ground disturbing activities in the area of discovery will be allowed to resume. Note: If a unique archaeological site is also an historical resource as defined in CEQA, then the limits on the amount(s) that a project applicant may be required to pay to cover mitigation costs as indicated in CEQA Section 21083.2 shall not apply.

c. If the resource is not significant, the PI shall submit a letter to MMC indicating that artifacts will be collected, curated, and documented in the Final Monitoring Report. The letter shall also indicate that that no further work is required.

IV. Discovery of Human Remains

If human remains are discovered, work shall halt in that area and no soil shall be exported off-site until a determination can be made regarding the provenance of the human remains; and the following procedures as set forth in CEQA Section 15064.5(e), the California Public Resources Code (Sec. 5097.98) and State Health and Safety Code (Sec. 7050.5) shall be undertaken:

A. Notification

1. Archaeological Monitor shall notify the RE or BI as appropriate, MMC, and the PI, if the Monitor is not qualified as a PI. MMC will notify the appropriate Senior Planner in the Environmental Analysis Section (EAS) of the Development Services Department to assist with the discovery notification process.

2. The PI shall notify the Medical Examiner after consultation with the RE, either in person or via telephone.

B. Isolate discovery site

1. Work shall be directed away from the location of the discovery and any nearby area reasonably suspected to overlay adjacent human remains until a determination can be made by the Medical Examiner in consultation with the PI concerning the provenance of the remains.

2. The Medical Examiner, in consultation with the PI, will determine the need for a field examination to determine the provenance.

3. If a field examination is not warranted, the Medical Examiner will determine with input from the PI, if the remains are or are most likely to be of Native American origin.

C. If Human Remains ARE determined to be Native American

1. The Medical Examiner will notify the Native American Heritage Commission (NAHC) within 24 hours. By law, ONLY the Medical Examiner can make this call.

2. NAHC will immediately identify the person or persons determined to be the Most Likely Descendent (MLD) and provide contact information.

3. The MLD will contact the PI within 24 hours or sooner after the Medical Examiner has completed coordination, to begin the consultation process in accordance with CEQA Section 15064.5(e), the California Public Resources and Health & Safety Codes.

4. The MLD will have 48 hours to make recommendations to the property owner or representative, for the treatment or disposition with proper dignity, of the human remains and associated grave goods.

5. Disposition of Native American Human Remains will be determined between the MLD and the PI, and, if:

    a. The NAHC is unable to identify the MLD, OR the MLD failed to make a recommendation within 48 hours after being granted access to the site, OR;

    b. The landowner or authorized representative rejects the recommendation of the MLD and mediation in accordance with PRC 5097.94 (k) by the NAHC fails to provide measures acceptable to the landowner, the landowner shall reinter the human remains and items associated with Native American human remains with appropriate dignity on the property in a location not subject to further and future subsurface disturbance, THEN

    c. To protect these sites, the landowner shall do one or more of the following:

        (1) Record the site with the NAHC;

        (2) Record an open space or conservation easement; or

        (3) Record a document with the County. The document shall be titled "Notice of Reinterment of Native American Remains" and shall include a legal description of the property, the name of the property owner, and the owner's acknowledged signature, in addition to any other information required by PRC 5097.98. The document shall be indexed as a notice under the name of the owner.

V. Night and/or Weekend Work

A. If night and/or weekend work is included in the contract

1. When night and/or weekend work is included in the contract package, the extent and timing shall be presented and discussed at the precon meeting.

2. The following procedures shall be followed.

    a. No Discoveries: In the event that no discoveries were encountered during night and/or weekend work, the PI shall record the information on the CSVR and submit to MMC via fax by 8AM of the next business day.

b. Discoveries: All discoveries shall be processed and documented using the existing procedures detailed in Sections III - During Construction, and IV – Discovery of Human Remains. Discovery of human remains shall always be treated as a significant discovery.

c. Potentially Significant Discoveries: If the PI determines that a potentially significant discovery has been made, the procedures detailed under Section III - During Construction and IV-Discovery of Human Remains shall be followed.

d. The PI shall immediately contact MMC, or by 8AM of the next business day to report and discuss the findings as indicated in Section III-B, unless other specific arrangements have been made.

B. If night and/or weekend work becomes necessary during the course of construction

1. The Construction Manager shall notify the RE, or BI, as appropriate, a minimum of 24 hours before the work is to begin.

2. The RE, or BI, as appropriate, shall notify MMC immediately.

C. All other procedures described above shall apply, as appropriate.

VI. Post Construction

A. Preparation and Submittal of Draft Monitoring Report

1. The PI shall submit two copies of the Draft Monitoring Report (even if negative), prepared in accordance with the Historical Resources Guidelines (Appendix C/D) which describes the results, analysis, and conclusions of all phases of the Archaeological Monitoring Program (with appropriate graphics) to MMC for review and approval within 90 days following the completion of monitoring. It should be noted that if the PI is unable to submit the Draft Monitoring Report within the allotted 90-day timeframe resulting from delays with analysis, special study results or other complex issues, a schedule shall be submitted to MMC establishing agreed due dates and the provision for submittal of monthly status reports until this measure can be met.

a. For significant archaeological resources encountered during monitoring, the Archaeological Data Recovery Program shall be included in the Draft Monitoring Report.

b. Recording Sites with State of California Department of Parks and Recreation. The PI shall be responsible for recording (on the appropriate State of California Department of Park and Recreation forms-DPR 523 A/B) any significant or potentially significant resources encountered during the Archaeological Monitoring Program in accordance with the City's Historical Resources Guidelines, and submittal of such forms to the South Coastal Information Center with the Final Monitoring Report.

2. MMC shall return the Draft Monitoring Report to the PI for revision or, for preparation of the Final Report.

3. The PI shall submit revised Draft Monitoring Report to MMC for approval.

4. MMC shall provide written verification to the PI of the approved report.

5. MMC shall notify the RE or BI, as appropriate, of receipt of all Draft Monitoring Report submittals and approvals.

B. Handling of Artifacts

1. The PI shall be responsible for ensuring that all cultural remains collected are cleaned and catalogued

2. The PI shall be responsible for ensuring that all artifacts are analyzed to identify function and chronology as they relate to the history of the area; that faunal material is identified as to species; and that specialty studies are completed, as appropriate.

3. The cost for curation is the responsibility of the property owner.

C. Curation of artifacts: Accession Agreement and Acceptance Verification

1. The PI shall be responsible for ensuring that all artifacts associated with the survey, testing and/or data recovery for this project are permanently curated with an appropriate institution. This shall be completed in consultation with MMC and the Native American representative, as applicable.

2. The PI shall include the Acceptance Verification from the curation institution in the Final Monitoring Report submitted to the RE or BI and MMC.

3. When applicable to the situation, the PI shall include written verification from the Native American consultant/monitor indicating that Native American resources were treated in accordance with state law and/or applicable agreements. If the resources were reinterred, verification shall be provided to show what protective measures were taken to ensure no further disturbance occurs in accordance with Section IV – Discovery of Human Remains, Subsection 5.

D. Final Monitoring Report(s)

1. The PI shall submit one copy of the approved Final Monitoring Report to the RE or BI as appropriate, and one copy to MMC (even if negative), within 90 days after notification from MMC that the draft report has been approved.

2. The RE shall, in no case, issue the Notice of Completion and/or release of the Performance Bond for grading until receiving a copy of the approved Final Monitoring Report from MMC which includes the Acceptance Verification from the curation institution.

5.12 Public Utilities

This section is based upon a number of technical studies and other utilities research. A WSA was prepared by the City (City 2019a) and can be found in Appendix J1. A Private Water System Analysis was prepared for the project by Dexter Wilson Engineering, Inc. (Dexter Wilson 2019a) and can be found in Appendix J2. A Sewer System Analysis also was prepared for the project by Dexter Wilson (2019b) and can be found in Appendix J3. A Waste Management Plan (WMP) was prepared for the project by HELIX (2019a) and is provided in Appendix J4. In addition, there are SDG&E easements and facilities on the project site that would be affected by the project, as discussed below.

5.12.1 Existing Conditions

5.12.1.1 Environmental Setting

The City provides water, wastewater, and solid waste management services to the project site, as detailed below. In addition, there are existing SDG&E easements and facilities on the project site that could be impacted by the proposed development.

Water

Facilities

Water service to the project site is provided by the City Public Utilities Department (PUD). The PUD serves nearly 1.3 million people populating over 404 square miles, with average deliveries of 200 million gallons per day (mgd). The PUD maintains a complex water system that includes nine surface reservoirs, three drinking water treatment plants, 29 treated water storage facilities, 49 pump stations, and over 3,300 miles of water transmission and distribution pipelines (City 2018h). Potable water lines are located in nearby public streets including Peñasquitos Drive, Janal Way, Del Diablo Street and Del Diablo Way adjacent to the project site.

The PUD has developed a separate recycled water system to offset the demand for potable water. The goal is to reduce the City's dependence on imported water and increase reliability by providing non-potable water supplies. Recycled water service is available through the North City Water Reclamation Plant (northern service area) and the South Bay Water Reclamation Plant (southern service area). Recycled water is approved for use in some construction activities, recreational water bodies, and the irrigation of parks, playgrounds, schoolyards, residential landscaping, common areas, nurseries, freeway landscaping, golf courses, dual plumbed-uses, and cooling towers. Customers can purchase recycled water for approved uses if they are fronting an existing recycled water distribution pipeline. The project site is located within the northern service area, but the nearest recycled water distribution pipelines are located on the other side of the Black Mountain Open Space Park and 2.0 miles south of the site in Scripps Poway Parkway. Neither can be accessed to serve the project (City 2018k).

Supply

The City currently purchases most of its potable water (fresh water) from the SDCWA, a wholesale water agency that provides imported water to its 24 member agencies in San Diego County

(City 2016g). The SDCWA, in turn, purchases much of its water from MWD. Below is a summary of these water supply sources.

The project site was developed as a golf course that was closed in 2015. There is currently no active land use on the site, and the defunct golf course is no longer being watered, with the exception of a few select mature trees. The existing maintenance yard by the tennis courts may have an occasional use of water for equipment washing. Current water usage on site is negligible.

The Metropolitan Water District of Southern California

MWD is a consortium of 26 cities and water districts that provides imported water to nearly 19 million people in parts of Los Angeles, Orange, San Diego, Riverside, San Bernardino, and Ventura counties. MWD currently delivers an average of 1.4 billion gallons of water per day to a 5,200-square-mile service area (MWD 2016). MWD imports its water from three main sources—the Colorado River (via the Colorado River Aqueduct [CRA]) and the Sacramento and San Joaquin Rivers (via the SWP). Together, these sources provide approximately 45 percent of Southern California's water; the remainder comes from various local sources. The CRA is owned and operated by MWD, and extends approximately 242 miles from the Colorado River at Lake Havasu to Lake Mathews in Riverside County. From there, a series of canals, siphons, pipelines, and pump stations moves water west to several MWD reservoirs for local distribution. The principal structure conveying water south through the SWP is the California Aqueduct, which extends approximately 444 miles south from the Sacramento-San Joaquin Delta to Lake Perris in Riverside County (MWD 2016). Additional water sources currently or potentially available to MWD include local supplies, groundwater banking, water transfers, seawater desalination, and water recycling (MWD 2016).

San Diego County Water Authority

The SDCWA is an independent public agency that serves as a wholesale water supplier to its 24 member agencies. The SDCWA supplies approximately 95 percent of the population of San Diego County, in a service area of 951,000 acres (SDCWA 2016a). The SDCWA operates and maintains a regional water delivery system capable of delivering more than 900 mgd of water. This system consists of two major aqueducts and numerous related facilities, including approximately 300 miles of pipeline and over 100 flow control facilities (SDCWA 2016b).

MWD is SDCWA's largest supplier, but SDCWA has pursued strategies over the last two decades to diversify San Diego's regional water supply portfolio and reduce the region's dependence on water deliveries from MWD, including through purchases from the IID and the Carlsbad Desalination Plant. In 1998, the SDCWA entered into a water conservation and transfer agreement with the IID, an agricultural district in neighboring Imperial County that receives Colorado River water. The agreement gave SDCWA a higher priority water right to Colorado River water, and includes strategies to provide SDCWA with a larger share of Colorado River water. These strategies involve voluntary conservation measures by Imperial Valley farmers, a canal lining project on the All American and Coachella Canals, and the transfer of water conserved by these measures directly to SDCWA. This agreement, along with amendments related to the 2003 Quantification Settlement Agreement, is expected to provide over 40 percent of the region's water supply by 2020 (SDCWA 2016c).

In December 2015, SDCWA added desalinated water to its supply portfolio, with the completion of a seawater desalination facility capable of providing 50 mgd of potable water. SDCWA purchases up to 56,000 acre-feet per year of desalinated water from the Carlsbad Desalination Plant (SDCWA 2016a).

By 2013, SDCWA had reduced its dependency on MWD water purchases from 95 percent to 45 percent (SDCWA 2016c). SDCWA continues to pursue strategies for water supply diversification and reliability, such as additional seawater desalination projects, groundwater utilization, increased recycled water use, and the recent dam raise on the San Vicente Reservoir, which doubled its storage capacity. By 2020, SDCWA intends to increase local water resources to approximately 40 percent of total supply (SDCWA 2016c).

In coordination with its 24 member agencies, the SDCWA developed its most recent Urban Water Management Plan (UWMP) to demonstrate regional water supply reliability over the next 25 years (2015 to 2040; SDCWA 2016a). Main components of the plan are the baseline demand forecasts under varying future climate conditions, conservation savings estimates, water demand projections, a water supply assessment for the region, supply reliability analysis, and scenario planning. The SDCWA UWMP also includes water demand associated with accelerated forecasted residential development as part of its municipal and industrial sector demand projections. These housing units were identified by SANDAG's 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. This Accelerated Forecasted Growth (AFG) is intended to account for growth that was originally anticipated to occur between 2040 and 2050, but has the likely potential to occur on an accelerated schedule. The AFG is an additional demand increment that can be used to confirm that water demands would be met for some development projects not currently identified in general land use plans.

City of San Diego Public Utilities Department

In June 2016, the City issued its most recent UWMP (City 2016g), which outlines current and future water supplies and demands in the City's service area. The City is engaged in several strategies to increase water reliability, including the development of local groundwater supplies; increased utilization of recycled water, or potable reuse; continued conservation efforts; and ongoing strategic water resources planning. The UWMP projects water supply reliability for average years, single dry years, and multiple dry years, and concludes that the PUD will have sufficient water supplies to serve the City through the year 2040 (City 2016g).

Conservation

The Water Conservation Program implemented by the PUD aims to reduce water use in San Diego by offering various rebate programs, landscaping classes, education, and free water conservation surveys for property owners and tenants. These programs are credited with achieving over 32.2 mgd of potable water savings (City 2015b). Depending on conditions, these savings can account for as much as 20 percent of raw water purchases annually. Water conservation continues to be a priority throughout California, and water suppliers are tasked with adopting programs and policies designed to promote water conservation practices and implementing comprehensive public information and educational campaigns.

Wastewater

The wastewater branch of the PUD serves residents within the City and extends its service area to 12 neighboring cities and agencies to cover a total area of 450 square miles. Over 2.2 million people are served and nearly 180 million gallons of sewage are collected, treated, and disposed of each day (City 2016c). While some wastewater is treated at the City's reclamation plants and re-used as recycled water, the majority of the wastewater from the entire service area is piped to Pump Station 2 on Harbor Drive, where it is then pumped to the Point Loma Wastewater Treatment Plant (PLWTP) located on the bluffs in Point Loma. The PLWTP has a total treatment capacity of 240 mgd (City 2016c).

The project site is served by existing sewer lines but does not currently generate wastewater, because the previous golf course use of the site ceased in 2015. A 15-inch sewer line in Peñasquitos Drive conveys flow south and east from the streets in the project vicinity to Carmel Mountain Road. Two 8-inch sewer lines currently traverse the project site and connect to the 15-inch line. The western on-site sewer also carries flow from Del Diablo Street and Del Diablo Lane; this sewer has an effective diameter of 7 inches due to re-lining and connects to the 15-inch sewer just south of Janal Way. The eastern on-site sewer also carries flow from streets northwest of the project, including Madrigal Street and Andorra Way; this 8-inch sewer connects to the 15-inch sewer south and east of Carmel Mountain Road.

As described above, the PUD also has a separate recycled water system that treats a portion of the wastewater generated in its service area. Specifically, the North City Water Reclamation Plant is designed to treat up to 30 mgd of wastewater, although annual monitoring reports show that wastewater flows to the plant average about 10 mgd (City 2016b).

Solid Waste Management

Solid waste management in the project area is provided by the City Environmental Services Department (ESD) and private collectors. The City provides refuse collection for residences that are located on dedicated public streets, provide adequate safe space and access for storage and collection, and comply with regulations set forth in the Municipal Code and Waste Management Guidelines. Other customers pay for service by private hauling companies that are franchised by the City. The site currently does not require solid waste service as the golf course is closed. The vegetation on-site is periodically mowed for fire protection purposes and the mowed vegetation material is either mulched on-site or hauled to Miramar Greenery, a City-certified green waste recycling facility.

Refuse collected from the project vicinity is generally taken to the Miramar Landfill, located just north of SR 52, between I-805 and SR 163. According to the Solid Waste Information System (SWIS) database maintained by the California Department of Resources Recycling and Recovery (CalRecycle), the Miramar Landfill had a remaining capacity of approximately 15,527,878 cy of solid waste as of June 30, 2014. Based on the remaining capacity and disposal rates, the Miramar Landfill is expected to close August 31, 2025 (CalRecycle 2016); however, the amount of waste managed at the landfill is expected to decrease while the amount of composting and recycling will increase over time as the City strives to achieve the target 75 percent diversion rate identified in the City's Zero Waste Plan as well as AB 341 and AB 1826 (City 2015d).

Two other landfills, Sycamore Landfill and Otay Landfill, provide disposal capacity within the urbanized region. The Sycamore Landfill is located to the east of MCAS Miramar within the City's boundaries. The Otay Landfill is located within an unincorporated island within the City of Chula Vista. The SWIS database indicates that the Sycamore Landfill has a remaining capacity of 39,608,998 cy as of December 31, 2014, and is expected to close December 31, 2042. The Otay Landfill has a remaining capacity of 24,514,904 cy as of March 31, 2012, and is expected to close February 28, 2028 (CalRecycle 2016).

SDG&E Facilities

An existing 16-inch, high-pressure natural gas transmission main extends north-south along the western side of the project site within a 20-foot wide SDG&E easement. Existing 3- and 6-inch lateral high-pressure natural gas transmission mains extend from the 16-inch main at the western edge of the project site near Caminito Orense Este, easterly across the project site to I-15 and beyond. Refer to Figure 3-15*, Conceptual SDG&E Gas Main Location/Relocation*. Close coordination with SDG&E is required during project planning and construction to avoid adverse effects to these facilities. Facility relocations must be approved by SDG&E.

Other

There is also electricity service available within and adjacent to the project site from which service to the project can be provided. The project's on-site electricity requirements would be offset by proposed on-site solar facilities.

5.12.1.2 Regulatory Framework

A number of state and local regulations focus on sustainable water use and the reduction of solid waste generation. These regulations are summarized below.

State

Senate Bill 610

For certain types of large projects, SB 610 requires that the associated environmental document include a discussion of the availability of water to meet the projected water demands of a project for a 20-year planning horizon, including single and multiple dry years. SB 610 specifies the types and sizes of projects that are subject to the provisions of this law, which includes residential developments of more than 500 units, among other uses. The project includes more than 500 residential units; therefore, it is subject to SB 610.

California Assembly Bill 1881

AB 1881, the Water Conservation in Landscaping Act of 2006, requires the Department of Water Resources to prepare an updated Model Water Efficient Landscaping Ordinance (MWELO) in accordance with specified requirements to conserve water through efficient irrigation and landscaping. By January 1, 2010, local agencies were to adopt either the updated MWELO or a local landscape ordinance that is at least as effective in conserving water as the MWELO. Pursuant to state law, the City amended its Landscape Regulations (SDMC Chapter 14, Article 2, Division 4) and

Landscape Standards in April 2016 to expand water conservation in landscaping. The Landscape Standards implement the requirements of the Landscape Regulations. All landscape plans and installations are required to be in compliance with the Landscape Standards.

Integrated Waste Management Act

The State of California Integrated Waste Management Act (IWMA) of 1989 [California AB 939], which is administered by CalRecycle, requires counties to develop an Integrated WMP (IWMP) that describes local waste diversion and disposal conditions, and lays out realistic programs to achieve the waste diversion goals. IWMPs compile Source Reduction and Recycling Elements (SRREs) that are required to be prepared by each local government, including cities. SRREs analyze the local waste stream to determine where to focus diversion efforts, and provide a framework to meet waste reduction mandates. The goal of the solid waste management efforts is not to increase recycling, but to decrease the amount of waste entering landfills. AB 939 required all cities and counties to divert a minimum 50 percent of all solid waste from landfill disposal. In 2011, the State legislature enacted AB 341 (PRC Section 42649.2), increasing the diversion target to 75 percent statewide. AB 341 also requires the provision of recycling service to commercial and residential facilities that generate 4 cy or more of solid waste per week.

AB 1826

In October 2014, Governor Brown signed AB 1826, Chesbro (Chapter 727, Statutes of 2014), which requires businesses to recycle their organic waste on and after April 1, 2016, depending on the amount of waste they generate per week. Organic waste means food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed in with food waste. For businesses that generate 8 or more cy of organic waste per week, this requirement began April 1, 2016; those that generate 4 cy of organic waste per week began on January 1, 2017. This law also requires that on and after January 1, 2016, local jurisdictions across the state implement an organic waste recycling program to divert organic waste generated by businesses, including multi-family residential dwellings that consist of five or more units. Mandatory recycling of commercial organics would be phased in over time, and an exemption process is available for rural counties.

Local

Drought Restrictions

In July 2016, the City moved from a Level 2 Drought Alert to a Level 1 Drought Watch, lifting some of the water-use restrictions that were put in place to mitigate the multi-year drought that California has been experiencing (City 2016h). A Level 1 Drought Watch includes voluntary water-use restrictions that limit landscape watering and the washing of mobile equipment. Additionally, permanent mandatory water use restrictions are in place, with the goal of promoting water conservation as a way of life in San Diego.

City of San Diego Ordinance 0-17327 (Mandatory Water Reuse Ordinance)

This ordinance, adopted by the City Council in 1989, requires that “recycled water shall be used within the City where feasible and consistent with the legal requirements, preservation of public

health, safety, and welfare, and the environment." All development projects are required to install an additional water pipeline reserved for reclaimed water. Compliance with this ordinance for new development is made a condition of tentative maps, land use permits, etc., based on the project's location within an existing or proposed recycled water service area.

Zero Waste Plan

The City's Zero Waste Plan, a component of the City's CAP, was approved and adopted by City Council on July 13, 2015. The Zero Waste Plan lays out strategies to be implemented by the City to accomplish the following goals:

- Target 75 percent diversion by 2020, 90 percent diversion by 2035, and "zero waste" by 2040 by identifying potential diversion strategies for future action. To increase the City's waste diversion rate to 75 percent will require an estimated additional 332,000 tons per year to be diverted from landfill disposal;
- Demonstrate continuous improvement towards a goal of zero waste to landfills;
- Emphasize education by renewing City public information efforts;
- Promote local policies and ordinances and legislation at the state level that encourage manufacturers, consumers, and waste producers to be responsible for waste;
- Investigate appropriate new technologies; and
- Re-emphasize market development at the local and state level.

The City's ESD estimates that compliance with existing City codes and ordinances alone (including the Refuse and Recyclable Materials Storage Regulations [Municipal Code Chapter 14, Article 2, Division 8], Recycling Ordinance [Municipal Code Chapter 6, Article 6, Division 7], and the C&D Debris Deposit Ordinance [Municipal Code Chapter 6, Article 6, Division 6]) would achieve only an approximate 40 percent diversion rate (City 2013), which is a substantial portion of the current 75 percent diversion level targeted by the state and the goals of the City's Zero Waste Plan.

The Recycling Ordinance requires all single-family, multi-family, and commercial uses to participate in a recycling program by separating recyclable materials from other solid waste and depositing the recyclable materials in the approved recycling containers. The Construction and Demolition Debris Deposit Ordinance requires project applicants to submit a Waste Management Form with the building permit or demolition/removal permit, to provide a general estimate of the total waste generated by the project including how much will be recycled. The code requires a minimum diversion rate of 50 percent for building permits or demolition/removal permits issued within 180 calendar days of the effective date of the ordinance, and a minimum diversion rate of 75 percent for building permits or demolition/removal permits issued after 180 calendar days from the effective date of the ordinance, provided that a certified recycling facility which accepts mixed construction and demolition debris is operating within 25 miles of the City Administrative Building.

5.12.2 Impact 1: Potential Increased Demand on 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: water, sewer, and solid waste management?

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

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

5.12.2.1 Impact Thresholds

According to the City's Significance Determination Thresholds (2016a), public utility impacts may be significant if a project would:

- Use excessive amounts of potable water;
- Use predominantly non-drought resistant landscaping and excessive water usage for irrigation and other purposes;
- Cause a significant increase in demand for public utilities;
- Result in direct impacts from the construction of new or expanded public utilities needed to serve a proposed project; and/or
- Construct, demolish, and/or renovate 1,000,000 SF or more of building space, which would generate approximately 1,500 tons or more of waste. For projects over 1,000,000 SF, a significant direct solid waste impact would result if compliance with the City's ordinances and the WMP fails to reduce the impacts of such projects to below a level of significance and/or if a WMP for the project is not prepared and conceptually approved by the ESD prior to distribution of the draft environmental document for public review.

In addition, the City's Significance Determination Thresholds note the following guidance should be considered in determining whether utility work could have significant environmental effects.

Would removal, construction, and/or relocation of the utility:

- Be compatible with existing and adjacent land uses?
- Change drainage or affect water quality/runoff?
- Affect air quality?
- Have a negative aesthetic affect?
- Increase noise levels to existing receptors?
- Affect biological resources including habitat?

5.12.2.2 Impact Analysis

Water

Facilities

Water service within the project would consist of two separate systems; one would be for private domestic water service and the other would be for private fire protection service.

Water service to the project would be provided by the City's Peñasquitos 920 Pressure Zone public water system. Specifically, the project would install two public water service laterals; one would connect the project to the existing 16-inch public water line in Peñasquitos Drive, and the other would connect the project to the existing 10-inch line in Del Diablo Street (Figure 5.12-1, *Proposed Domestic Water System*). The domestic water system would include a 1-inch service lateral to each unit that supplies domestic and fire sprinkler demands. There is currently an 8-inch water line that extends from Del Diablo Way into the project site. The project would utilize this stub for the private fire main extending through the project and would tie into a proposed 8-inch water stub in Peñasquitos Drive. The project proposes another 8-inch water connection to Peñasquitos Drive via Janal Way and an 8-inch/6-inch water connection to Del Diablo Street to serve the proposed on-site private water system. Alterations to the water infrastructure system at the project site would include installing two new 6-inch turbine-type water meters, each with its own 6-inch reduced pressure principle backflow preventer; one meter would be at Peñasquitos Drive and Janal Way in the southeastern portion of the project site, and the other would be at Del Diablo Street. Alterations also include constructing new private water lines varying in size from 2 to 8 inches in diameter in the private driveways throughout the site.

All fire hydrants within the project would be connected to a private fire protection water system. The private fire protection system for the project would have two connections in order to provide a "looped system." The first connection would be made to the end of the existing 8-inch stub near the northwest corner of the project site, and the second connection would be made to the existing 16-inch public water line in Peñasquitos Drive.

The private fire protection system would include construction of 8-inch backflow preventers at the two connection points, more than 50 private fire hydrants, and 2- to 8-inch diameter pipelines throughout the private driveways of the project. Each of the two connections includes an 8-inch lateral and an 8-inch reduced pressure principal detector check assembly in accordance with City PUD requirements. The Private Water System Analysis (Dexter Wilson 2019a) verified that the fire flow available to the project site would meet the 2,000 gpm, 2,500 gpm, and 3,000 gpm fire flow planning requirements for the proposed single detached units, two-plexes, and six-plexes, respectively. Construction of these improvements would be subject to standard industry measures and the SDMC.

Based on the availability and suitability of existing water infrastructure to serve the project, the project would not result in the need for new public water systems nor would it require substantial alterations to off-site facilities that would result in adverse physical impacts outside of the project footprint.

Supply

The project site is not currently being watered, but golf course use of the property is identified as 4,000 gpd/ac (gallons per day per acre), or 359,200 gpd assuming 89.8 net acres (Dexter Wilson 2019a; Appendix J2). The cost of water to operate the golf course is one of the reasons the course was closed in 2015. Water demand associated with the project is estimated at approximately 281,400 gpd, a reduction of approximately 77,800 gpd.

The calculated water demand for the project is higher than the projected water usage for the project site in the City's UWMP. The AFG in the SDCWA 2015 UWMP can accommodate this additional water demand (City 2019a). The Water Authority has confirmed that the project meets the criteria for the AFG component of the Water Authority's 2015 UWMP, and that its accounting of the remaining AFG component will be adjusted to reflect the additional demand associated with the project. The WSA prepared for the project concludes that the project's water demand would be consistent with regional water resource planning documents of the City, SDCWA, and MWD. Therefore, there would be sufficient planned water supply to serve the project in normal and dry year forecasts during a 20-year projection.

Conservation

Water Conservation Devices

The project would incorporate water conservation measures such as planting native and drought-tolerant landscape materials and plant species, and providing low-flush toilets, low-flow faucets, low-flow sprinkler heads, drip irrigation, and smart irrigation with automatic controllers in irrigation systems to reduce water usage. These items comply with the California Green Building Standards Code and City CAP, and are required project elements that comprise project conditions.

Drought-tolerant Landscaping

The landscape plan for the project includes the use of drought-tolerant ornamental, native and naturalized plants in accordance with the City's LDC and the State of California's MWELO. The irrigation system would be a fully automatic, weather-based system using rain sensor, low flow drip and bubbler distribution, and sprinklers with matched precipitation rate nozzles, designed to provide the minimum amount of water necessary to sustain good plant health. The system would include a master control valve and flow sending capability that would shut part or all of the system if leaks are detected.

Landscaping would be planted in hydrozones to place like-water users together and minimize over-watering. The perimeter of the site would be planted with a palette including native California tree and shrub species, including California sycamore, coast live oak, ~~torrey pine,~~ Western cottonwood, and ~~California sagebrush,~~ toyon~~, and deergrass~~, along with other naturalized or hardy shrubs and ground covers, that are also fire-resistant. All planting areas would receive a 3-inch layer of mulch, which also would minimize rapid evaporation. Landscaping also would include restricted turf areas in some pocket park locales, groundcovers and naturalized ornamental grasses located throughout the project site. Non-vegetative elements also would be used where appropriate (e.g., decomposed granite plazas or meandering concrete sidewalks in pocket parks) to reduce the need for irrigation. The grass areas within the proposed on-site parks would be planted with sod

that would contain dwarf fescue grass/ bullseye Bermuda grass, a low-water, low-maintenance, and hardy variety.

Use of drought-tolerant plants in accordance with the City's LDC, and incorporation of smart irrigation technology and hardscape elements would avoid the need for excessive irrigation. The project would also be required to comply with the mandatory measures associated with the City's Water Conservation Program. Impacts related to water usage for irrigation would therefore be less than significant.

Wastewater

The project proposes to vacate an existing 10-foot wide sewer easement that was recorded in 1969 (File 59386), and would abandon on-site portions of existing public sewer lines. The project would reroute these lines by constructing one public sewer line on the west side of the project and another on the east to allow sewage from the project to flow by gravity. Specifically, the 8-inch public sewer lines proposed for the western portion of the project would make connections south of Del Diablo Street to an existing 8-inch line, and would travel southward (Figure 5.12-2, *Proposed Sewer System*). At the eastern portion of the project, there is an existing 8-inch sewer main that extends into the site from Andorra Way and continues southerly along the property line to a former storage/maintenance area associated with the defunct golf course. The project would construct an 8-inch public sewer line extending from the stub at the former storage/maintenance yard, which would extend southward. The two proposed public sewer lines would converge at the south end of the project at Carmel Mountain Road, and then would continue southward to connect to an existing 15-inch line at Carmel Mountain Road and Peñasquitos Drive.

Average daily sewage flow from the project is conservatively estimated at 141,504 gpd, based on 536 units, an equivalent population of approximately 1,769 people, and average sewage generation of 80 gpd per person. The existing public sewer lines that would receive this additional flow have been evaluated and found to be currently operating under their design capacity (Dexter Wilson 2019b). The additional flow would slightly increase the depth of flow within the off-site pipelines, but the pipelines would still operate within their design capacity (Dexter Wilson 2019b). Therefore, no improvements would be needed to existing off-site sewer pipelines.

Solid Waste Management

The project would not include construction, demolition, or renovation of 1,000,000 SF or more, but would generate more than 1,500 tons of solid waste materials during demolition and construction; therefore, without solid waste diversion measures (WDMs), the project would exceed the City's threshold for direct solid waste impacts. Further, the project proposes construction, demolition, and/or renovation of more than 40,000 SF, thereby also exceeding the City's threshold for cumulative solid waste impacts without implementation of solid WDMs. Pursuant to the City's Significance Determination Thresholds, a WMP was prepared to identify waste reduction, recycling, and WDMs.

The purpose of a WMP is to: (1) identify the potential project-related waste generated and diverted during demolition, construction, and operation; and (2) identify measures to reduce potential impacts associated with management of such waste. The project WMP addresses the grading and construction phase, as well as the post-construction/occupancy phase of the project and identifies

the types and projected amount of waste that would be generated, disposed, salvaged, and recycled, as applicable. The WMP describes the project measures and design features (which would comprise project conditions) that would reduce the amount of waste generated and how waste reduction and recycling goals would be achieved. The following discussion of potential solid waste generation resulting from implementation of the project and related WDMs is based on the WMP (Appendix J4).

Pre-construction Demolition, Clearing/Grubbing, and Grading

Materials generated during pre-construction demolition, clearing/grubbing, and grading that are designated for recycling would be source separated on site during these activities. The City's 2018 Certified C&D Recycling Facility Directory, updated quarterly, states the diversion rate for these materials shall be 100 percent, except mixed C&D debris, which achieves a maximum 83 percent diversion rate at the EDCO CDI Recycling and Buy Back Center (City 2018a). It should be noted that, although the facility directory indicates that drywall and carpet/carpet padding would achieve a 100 percent diversion rate, City staff have indicated that applicable facilities to handle these types of construction debris may not be available and these materials should be assumed to be sent to a mixed debris facility with a 66 percent diversion rate (City 2016i; pers. comm. with Lisa Wood).

Clearing/grubbing of the site would be extensive, as the site is mostly covered in vegetation and only a few existing trees would be retained on-site. It is assumed that vegetation would be processed and recycled at a target rate of 100 percent diversion at Miramar Greenery, a City-certified green waste recycling facility. No removed vegetation is assumed to be reused or mulched on-site. An estimated total of approximately 48,399 tons of vegetation would require removal, all of which would be diverted.

Existing buildings, infrastructure, and pavement on-site would be demolished. The existing development includes an approximately 5,000-SF enclosed parking and storage area near the western edge of the project site, and an approximately 3,500-SF shed in the center of the northern half of the site. A total of 734 tons of building demolition waste is assumed to be generated, all of which except for treated wood, trash, and 30 percent of mixed debris would be diverted. A total of 192 tons of building demolition material is estimated to require disposal, and is expected to be disposed of at the Miramar landfill (the closest facility).

Asphalt and pavement demolition is anticipated to include approximately 4.3 miles of golf cart paths, five tennis courts, and paved storage areas. Based on aerial imagery, approximately 295,152 SF of golf cart paths, 34,500 SF of tennis courts, and 24,500 SF of additional pavement area would be removed. A total of 9,956 tons of pavement waste is assumed to be generated, all of which would be diverted.

Existing on-site utilities estimated to be removed total approximately 22,704 feet of 3-inch-diameter asbestos cement pipeline, and 22,704 feet of 8-inch diameter asbestos cement pipeline. A total of 293 tons of utilities waste is assumed to be generated, all of which would require landfill disposal.

Grading is anticipated to be balanced on site, so no soil or fill is anticipated to require disposal off-site. Although grading is currently anticipated to be balanced on site, it is noted that in the event that material is unusable and must be removed, it would be diverted at a rate of 100 percent to

one of the facilities from the City's 2018 Certified C&D Recycling Facility Directory (Appendix J4; City 2018a; Appendix A).

In all, pre-construction activities would generate 23,083 tons of waste and divert 22,588 tons to an appropriate facility on the City's 2018 Certified C&D Recycling Facility Directory or the Miramar Greenery/Landfill facility. Depending on the material type, 66 to 100 percent of waste generated during demolition, clearing/grubbing, and grading would be diverted, for a total diversion rate of 98 percent.

Construction Waste Management

Materials proposed for construction of the project that would potentially generate waste include metals, concrete, asphalt, brick/masonry, wood, drywall, and carpet/carpet padding. Additionally, cardboard, industrial plastics, and Styrofoam associated with packaging for construction materials, appliances, windows, etc., would generate construction waste.

The rule of thumb used by the City to calculate construction waste is three pounds, or 0.0015 ton, per SF of waste materials generated. Material quantities are based on City guidance as follows:

- Total project SF x each material type = Total quantity of construction materials required
- Total construction material required x 10 percent = Anticipated quantity of construction waste generated

Using this formula, the WMP calculated the total amount of waste each type of construction material would produce for the various components of the project, as well as how much waste would be diverted to an appropriate recycling facility and how much would be taken to the landfill. Construction of the project would generate a total of approximately 1,226 tons of waste, of which approximately 922 tons would be diverted, and 304 tons would be taken to the Miramar Landfill. The overall diversion rate would be 75 percent for construction.

To further minimize waste, the project would utilize recycled content construction materials, where feasible. Given the preliminary nature of the project plans, a minimum target of 5 percent is anticipated. As a project condition, verification of purchase of materials equating to this target would be provided prior to or during the pre-construction meeting.

All C&D-generated waste would be subject to compliance with the source separation and diversion requirements contained in the WMP to divert, recycle, and/or re-use these materials to the maximum degree possible. The required measures during construction include source-separating waste on site and implementing measures such as detailed material estimates, material purchasing requirements, and use of post-consumer content products. Implementation of these measures would be conditions of project approval, and would be implemented by the project-designated Solid Waste Management Coordinator and verified by ESD staff.

Occupancy Waste Management

The project is estimated to generate a total of approximately 643 tons of solid waste per year upon full buildout, based on the number of units and the waste generation factors developed by the City.

A waste generation factor of 1.2 tons per year per unit was used for the project for all unit types. Standard City source-separated recycling efforts would be expected to divert 40 percent of project waste, or approximately 374 tons of waste per year, to an appropriate recycling facility.

As part of an ongoing waste management review program, the City conducted a Waste Characterization Study that evaluated the types and amounts of waste being disposed. The study measured waste from homes and identified the composition of the waste for multi-family residences based on 93 samples taken within the City. The study found that 41.8 percent of waste currently disposed is compostable or potentially compostable, including 20.1 percent of all multi-family residential waste is food material (City 2014; Appendix D, *City of San Diego Waste Characterization Study).*

Part of the project's design features would be to implement an on-site program to collect and compost household food waste. This waste would be collected on site, and following a composting process, it would provide mulch and compost available for the project's residents and for the HOA-maintained landscaped areas. On-site composting would be limited to the kinds of materials allowed (e.g., no dairy, meat or oils), and is anticipated to divert approximately half of household food waste from the landfill. Because food waste comprises approximately 20 percent of multi-family households' waste, this report assumes that 10 percent of the project residences' total solid waste would be composted on site.

The potential for diversion of landscaping waste also was reviewed. The project would include approximately 43.7 acres of landscaped areas that would provide open space, public and private parks, and trails. Those areas would be maintained by the HOA, which would hire landscapers to trim trees, shrubs, and other plants throughout the site. These areas are expected to produce negligible amounts of refuse material as the landscape plan calls for allowing trees to reach natural, full-grown size to eliminate need for excessive pruning or hedging.

The project's landscaping areas would generate approximately 52 tons per year of vegetation organic material. Based on anticipated yearly tonnage, an average generation factor of approximately 200 pounds per acre per month of material was used in this analysis to calculate the weight of anticipated project-related vegetation (HELIX Construction Group 2019). This is based on the drought-tolerant landscaping that would require routine maintenance, the kinds of plant materials expected to be planted, and is expected to be a conservative (less than may occur) estimate. The project would divert green waste from the landfill by composting and mulching of vegetation on site and delivering excess material to the Miramar Greenery or an off-site private composting facility.

Project households combined with landscaping areas would generate 696 tons of solid waste during project occupancy. Of this amount, it is estimated that 54 percent of this waste would be diverted from the landfill.

The City's Storage Ordinance (SDMC Section 142.0801 et. seq.) requires the provision of separate bins for recyclable waste products to be separated from non-recyclable solid waste. To comply with the Storage Ordinance, recycling containers would be provided by the applicant or its designee(s) for individual market rate housing units and at convenient locations throughout the development for the affordable housing units, exceeding the required minimum amounts. Based on the 455 attached and detached market rate residential units and 81 affordable multi-family units, a total of 2,096 SF of

storage area would be provided throughout the project, split evenly between recycling and non-recyclable solid waste storage areas. Market rate and affordable housing developments were calculated separately, with 348 SF of storage area required for the affordable housing development and a total of 1,748 SF of storage area required for the individual market rate units. As a matter of project design and as a project condition, the recycling areas would be readily accessible and contain appropriate signage.

Future residents of the project site would be required to comply with the City's Recycling Ordinance and measures specified in the WMP that would encourage recycling efforts. Required measures include providing recycling areas that are readily accessible and that contain appropriate signage; distributing recycling educational materials; and requiring that green waste generated by ongoing landscaping maintenance be source separated and diverted to Miramar Greenery. These measures would be conditions of project approval, subject to inspection by ESD staff prior to any certificate of occupancy/tentative certificate of occupancy.

SDG&E Facilities

The existing 16-inch, high pressure natural gas transmission main that extends along the western side of the project site and the associated 20-foot wide SDG&E easement will be protected in place. No structures will be placed within the easement and grading activities would be minimal in this area. This gas main and the easement are shown on project plans and pursuant to regulatory requirements would be carefully marked in consultation with SDG&E, and the pipeline would be avoided during project grading and construction.

The existing 3- and 6-inch lateral high-pressure natural gas transmission mains that extend easterly across the project site from the 16-inch main at the western edge of the project site near Caminito Orense Este, would be retained, but realigned into project streets as shown on Figure 3-15. An existing easement for some gas distribution regulating facilities located in the western portion of the project site would also be relocated on site. Pursuant to existing regulations, this work must be approved by SDG&E, and would be completed in conjunction with SDG&E. All impacts would be short-term in nature as the relocated gas lines would be located underground and would not be noticeable after construction. During overall project construction, the entire project site would be disturbed, and the gas line relocation work would not be severable or separately noticeable in the midst of the overall project grading and construction work. The noise, air quality, energy, GHG, traffic, visual, water quality, geology and other construction impacts addressed throughout this EIR would be the same both with or without the gas line relocation work. The potential for a release of natural gas or explosion during construction would be minimized through avoidance of grading at the location and depth of the 16-inch line that is being preserved in place, and careful coordination with SDG&E and compliance with existing regulatory requirements during construction and connection of the new segments of the 3- and 6-inch lines and removal or abandonment in place of the old segments of the 3- and 6-inch lines. The relocated gas line segment would cross under the proposed social loop trail and would be located at the southern end of the proposed realigned drainage ditch. It would reconnect with the existing gas lines within the project site, just west of I-15. The former alignments for the relocated easements would be quitclaimed back to the applicant once the facility relocations are complete.

AT&T Facilities

Existing on-site AT&T easements for underground telecommunication facilities would also be relocated to public streets, in consultation with AT&T.

5.12.2.3 Significance of Impacts

Water

Facilities

The project would connect to existing water lines adjacent to the site, and would not require off-site pipeline upsizing or new water facilities. On-site water infrastructure would be designed and sized to meet the project's water needs in conformance with City standards. Therefore, project impacts to water infrastructure would be less than significant.

Supply

The project would be consistent with regional water resource planning and applicable water supply regulations. There would be sufficient water supply to meet the projected demands of the project; therefore, impacts related to potable water supplies/demand from project implementation would be less than significant.

Conservation

The project would be consistent with applicable water conservation requirements; therefore, less than significant impacts related to water conservation would result from project implementation.

Wastewater

Based on the available capacity of PUD wastewater treatment facilities and the results of the Sewer System Analysis prepared for the project by Dexter Wilson (Appendix J3), the increase in demand associated with wastewater utilities would not be significant and new or expanded sewer services would not be needed to serve the project. Impacts related to wastewater infrastructure would be less than significant.

Solid Waste Management

The project would generate solid waste during both the construction and operational phases. A WMP has been prepared as Appendix J4 to this EIR to address potential project-related waste and identify the actions to reduce landfill contributions. With the combined pre-construction and construction phases, the project would produce 24,308 tons of solid waste and would divert 23,537 tons. This would be an overall diversion rate during pre-construction and construction of 97 percent. During occupancy, it is estimated that the project over both phases would generate approximately 696 tons of waste per year and would divert approximately 374 tons per year to recycling/reuse facilities, resulting in a 54 percent diversion of waste from the landfill. An estimated 322 tons per year (46 percent of occupancy material generated), are would be disposed of as non-recyclable/non-reusable waste at Miramar Landfill. Through compliance with WDMs

summarized above and detailed in the project WMP and included as conditions in the project PDP, the project's direct solid waste impact would be less than significant.

A WMP has been prepared as Appendix J4 to this EIR to address potential project-related waste and identify the actions to reduce landfill contributions.

SDG&E Facilities

No significant impacts would occur from the retention in place of the existing 16-inch, high pressure natural gas transmission main that extends along the western side of the project site and the associated 20-foot wide SDG&E easement, or from relocation of segments of the existing on-site 3- and 6-inch lateral high-pressure natural gas transmission mains. Any potential impacts would be avoided based on compliance with existing regulatory requirements and standard SDG&E procedures and requirements.

5.12.2.4 Mitigation, Monitoring and Reporting

Water

As impacts would be less than significant, no mitigation measures would be required.

Wastewater

As impacts would be less than significant, no mitigation measures would be required.

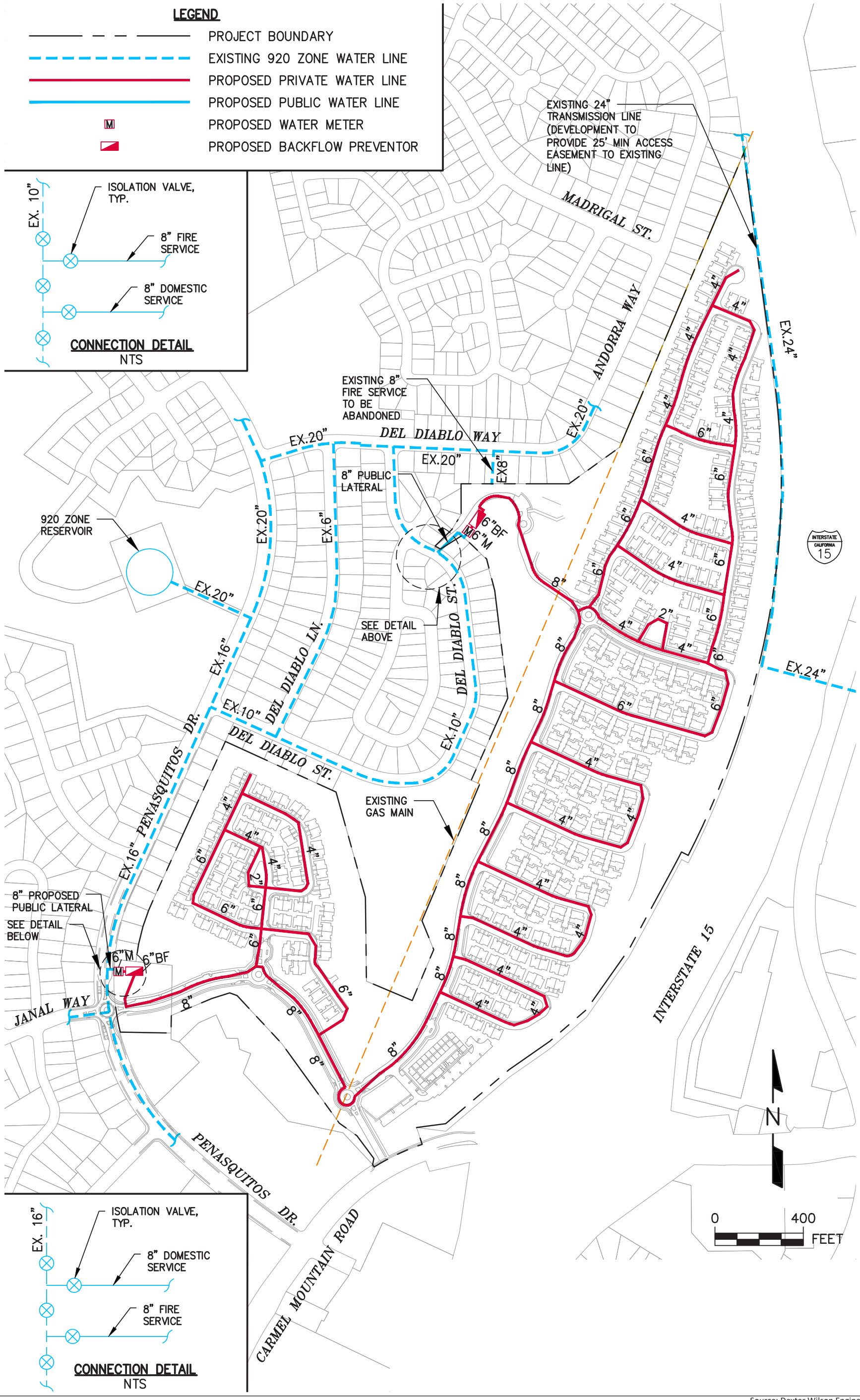
Solid Waste

As the project-specific WMP conditions would be included in the project's PDP, impacts would be less than significant, no mitigation measures would be required.

SDG&E Facilities

As impacts would be less than significant, no mitigation measures would be required.

This page intentionally left blank



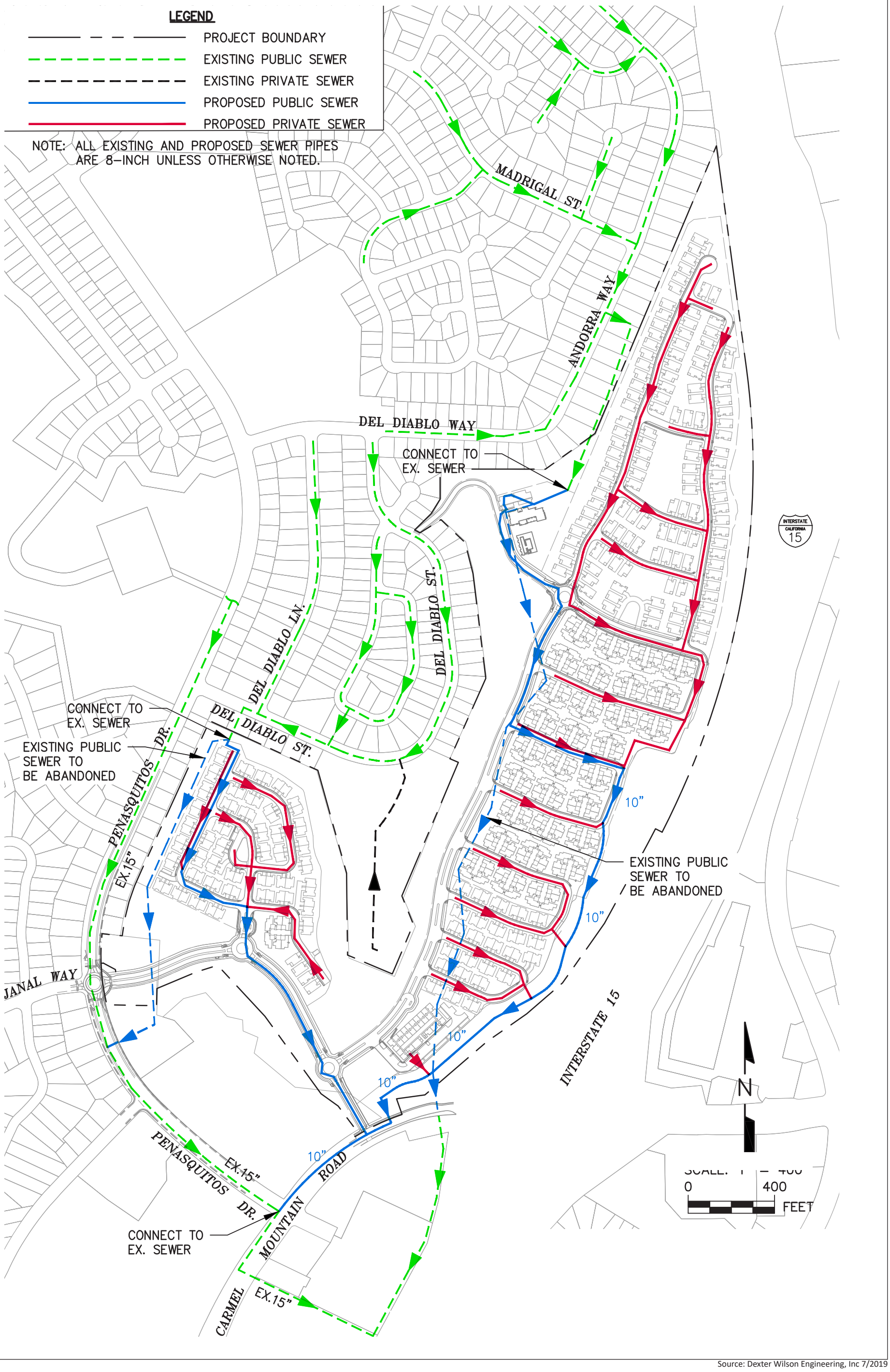
Source: Dexter Wilson Engineering, Inc 8/2019

I:\PROJECTS\W\NDG\NDG-01_TheJunipers\Map\EIR\Fig5.12-1_ProposedWaterSystem.indd LEN-84 1/6/2020 - SAB

HELIX Environmental Planning

Proposed Domestic Water System

Figure 5.12-1



I:\PROJECTS\N\NDG\NDG-01_TheJunipers\Map\EIR\Fig5.12-2_ProposedSewerSystem.indd LEN-84 1/6/2020 - SAB

Source: Dexter Wilson Engineering, Inc 7/2019

HELIX Environmental Planning

Proposed Sewer System

Figure 5.12-2

5.13 Public Services and Facilities/Recreation

Public services are those functions that serve residents on a community-wide basis. These functions include police protection, fire and life protection, libraries, parks and recreation, and schools. The following provides a discussion of these services and facilities as they relate to the project, with the exception of schools. The project would construct age-restricted housing which, with rare exceptions, does not permit residents below age 18; therefore, the project would not contribute to the demand for kindergarten through 12th grade school services. Thus, the topic of schools is addressed in Section 7.1, *Effects Found Not to Be Significant*.

5.13.1 Existing Conditions

5.13.1.1 Police Protection

The SDPD provides police services including patrol, traffic, investigative, records, laboratory, and support services to the City. The project site is patrolled by Beat 233 in the SDPD's Northeastern Division. Beat 233 covers the Rancho Peñasquitos area bounded by I-15 on the east and Torrey Highlands and Carmel Ranch on the west, and by Peñasquitos Canyon Creek on the south to roughly Camino del Norte, Black Mountain Park, and Bernardo Center Drive/Carmel Valley Road on the north.

The Northeastern Division serves the neighborhoods of Carmel Mountain, Miramar, Miramar Ranch North, Mira Mesa, Rancho Bernardo, Rancho Encantada, Rancho Peñasquitos, Sabre Springs, San Pasqual and Scripps Ranch. This service area has a population of 234,394 people and encompasses 103.8 square miles (City 2018g). The Northeastern Division Police Substation is located approximately 2.3 miles southwest of the project site at 13396 Salmon River Road (Figure 5.13-1, *Public Services and Facilities*).

The SDPD has established Community Relations Storefront locations throughout the City. The Northeastern Division has two storefront locations: the Mira Mesa/Scripps Ranch Storefront at 8450 #A Mira Mesa Boulevard, and the Rancho Bernardo Storefront at 17110 Bernardo Center Drive. Additional resources (such as special weapons and tactics [SWAT], canine units, etc.) respond to the Northeastern Division as needed. The SDPD also has mutual aid agreements with all other law enforcement agencies in San Diego County, which provide additional police protection services to assist the Northeastern Division.

The SDPD does not staff individual stations based on population ratios; however, the goal Citywide is to maintain 1.48 officers per 1,000 population. The 2016 Citywide staffing ratio for sworn police officer to population was 1.34 officers per 1,000 population (City 2017a). These ratios do not consider the population increase resulting from non-resident commuters or visitors. The Northeastern Division is currently staffed with 69 sworn personnel and one civilian employee. Using the SDPD recommended staffing guidelines, the Northeastern Division currently deploys a minimum of 9 patrol officers on First Watch (6:00 AM to 4:00 PM), 11 patrol officers on Second Watch (2:00 PM to midnight), and 7 patrol officers on Third Watch (9:00 PM to 7:00 AM).

The SDPD has personnel on duty and available to respond to calls for service seven days a week, 24 hours a day. SDPD currently utilizes a multi-level priority dispatch system, with different

response-time guidelines for different call types, which are provided in the General Plan PF-E2. Calls for service range from level "1 priority," meaning life-threatening/suspicious activity, to level "4 priority" related to non-life-threatening/suspicious activity. Priority E calls, meaning imminent threat to life, receive the highest priority. The SDPD strives to maintain identified response time goals as one of various other measures used to assess the level of service to the community. As indicated below in Table 5.13-1, *Call Priority Response Times*, the average response times for priority E, 1, and 4 level calls for Beat 233 in 2016 slightly exceeded the General Plan response time guidelines; but response time goals were met for Priority 2 and 3 calls.

Table 5.13-1
CALL PRIORITY RESPONSE TIMES

Call Priority	General Plan Response Time Guidelines	Average Response Times (minutes)	
		2016 Beat 233	2016 Citywide
Priority E – Imminent threat to life	Within 7 minutes	7.3	7.0
Priority 1 – Serious crimes in progress	Within 12 minutes	15.4	16.0
Priority 2 – Less serious crimes with no threat to life	Within 30 minutes	31.6	42.5
Priority 3 – Reported after a crime has been committed	Within 70 minutes	72.9	100.9
Priority 4 – Parking complaints and lost and found reports	Within 70 minutes	109.9	150.6

Sources: City 2008a, City 2017a

5.13.1.2 Fire and Life Protection

Fire and life protection services, including emergency medical services (EMS), to the project site are provided by the San Diego Fire-Rescue Department (SDFRD). The SDFRD serves a total area of approximately 331 square miles, including 17 miles of coastline extending 3 miles offshore. The SDFRD has a current total of 48 fire stations and 9 permanent lifeguard stations, and employs 801 uniformed personnel, 338 lifeguards, and 161 civilian personnel for a total of 1,300 personnel. The City's EMS also has ambulances, paramedics, and emergency medical technicians (EMTs) who respond to emergency calls. Ambulances are staffed with one EMT and one paramedic, and first responders have a minimum of one firefighter/paramedic on board (City 2018c).

Fire Station 40, at 13393 Salmon River Road, serves the Rancho Peñasquitos area and is 2.3 miles southwest of the project site. This station is equipped with one engine, one truck and one brush rig (City 2018d) (Figure 5.13-1). Fire Station 42 serves Carmel Mountain Ranch (and its surrounding areas) is located approximately 0.6 mile from the site at 12110 World Trade Drive and is equipped with one engine (City 2018e). Other stations in the vicinity of the project site include Fire Station 33, at 16966 Bernardo Center Drive, and Fire Station 44, at 10011 Black Mountain Road. In 2016, stations 33, 40, 42, and 44 received an average of 8.2, 5.6, 4.3, and 6.1 calls per day, respectively. The average response times of these stations to all calls within their first-response areas are as follows:

- Station 33: 9 minutes 2 seconds
- Station 40: 8 minutes 24 seconds

- Station 42: 8 minutes 5 seconds
- Station 44: 8 minutes 23 seconds

The General Plan response goal is for the first-due fire unit to arrive within 7 minutes and 30 seconds of an incident, 90 percent of the time. This includes dispatch and turnaround time. The travel time goal is five minutes and is defined as when the engine's wheels roll to when the engine arrives at the site. The City does not currently meet this standard for most stations but has plans to close gaps thorough construction of additional stations. The four stations discussed above currently do not meet the response time goal in their service areas (Dudek ~~2019b~~2020b).

The General Plan states that fire stations should be sited on lots that are at least 0.75 acre with room for expansion, within 2 to 2.5 miles apart, and be staffed and equipped to respond to calls within their established standards. The SDFRD staffing goal is one firefighter per 1,000 citizens.

5.13.1.3 Libraries

Library services for the project site and surrounding areas are primarily provided by the City Library System. The planned service area for a library is generally 2 miles, although the area served depends on the proximity and access to residential, commercial, and civic uses, as well as roadways and transit. There are two San Diego Public Library branch libraries within close proximity to the project site, including the 20,650 SF Rancho Peñasquitos Library, built in 1992 and located at 13330 Salmon River Road (2.3 miles away), and the Carmel Mountain Ranch Library, which was built in 1997 and is located at 12095 World Trade Drive (0.6 mile away) (Figure 5.13-1, *Public Services and Facilities*). These local branches are part of the City library system, which allows residents to use any branch or main library. Therefore, residents at times use other libraries that are more convenient to them, such as one near work or school, and not necessarily the library located closest to their home.

The City's General Plan establishes a minimum size of 15,000 SF of dedicated library space for branch libraries and a target resident population of 30,000 people per library. Based on this requirement, the 20,650 SF Rancho Peñasquitos Branch Library exceeds the minimum library size. The Carmel Mountain Ranch Library is currently 13,102 SF and is planned for expansion to 15,000 SF. Thus, the two libraries serving the project site can serve an estimated 60,000 people, especially once the planned expansion of the Carmel Mountain Ranch Library takes place. The current household population in the RPCP area is approximately 43,682 and for the Carmel Mountain Ranch Community Plan (CMRCP) area the population is estimated at 12,976, for a combined population of these two areas of 56,658 (SANDAG 2018a). This excludes people residing in group quarters, such as those in hospitals, nursing facilities, and certain kinds of student housing. Upon RPCP and CMRCP buildout in 2035, the populations of these planning areas are projected to increase to approximately 46,347 and 13,339, respectively, for a total of 59,686 (SANDAG 2018a).

5.13.1.4 Parks and Recreation Areas

The Rancho Peñasquitos community is served by a number of recreational facilities. The closest park is the 5-acre Rolling Hills Park, located approximately 1/3 of a mile north of the site at 11165 Almazon Street (Figure 5.13-1, *Public Services and Facilities*). The Rolling Hills Park is a joint-use facility with the neighboring Rolling Hills Elementary School. This facility contains multiple

playgrounds, basketball courts, and a baseball field. Additional recreation and park facilities within a 3-mile radius include:

- Highland Ranch Park
- Rolling Hills Park
- Adobe Ridge Neighborhood Park
- Silverset Neighborhood Park
- Arbolitos mini-park
- Starridge Neighborhood Park
- Poway Community Park
- Aubrey Park
- Veterans Park
- Poway Oaks Neighborhood Park
- The Pond
- Bette Bendixen Park
- South Creek Park
- Sun Ridge Vista mini-park
- Peñasquitos Skate Park
- Peñasquitos Town Center Park
- Adobe Bluffs Park
- Old Poway Park and Railroad
- Hilleary Park
- Views West Park
- Valle Verde Neighborhood Park

The General Plan population-based standard for parks is 2.8 useable acres per 1,000 residents, which can be achieved through a combination of neighborhood and community park acreages and park equivalencies. The current household population of 44,626 people (SANDAG 2019) in the RPCP area warrants 124.95 acres of population-based parks. The community has 92.04 usable acres of population-based and joint-use parks (City 2011), resulting in a total current deficiency of 32.91 useable acres of population-based parks. According to SANDAG Series 13 forecasting, the RPCP area population will be 46,039 in 2050, a population-based park requirement of 128.91 acres to meet General Plan standards.

While the City does not factor regional parks or county open space areas into their calculations for population-based parks, it should be noted that there are several large regionally sized parks and open space areas in the vicinity. These include the Sabre Springs and Carmel Mountain Ranch open space areas, open space within 4S Ranch, and the Black Mountain Open Space Park, which is within close proximity to the project site. The 2,352-acre Black Mountain Open Space Park is owned and managed by the City and includes four separate trailheads and walking trails which allow access to various parts of the open space area. Primary access to the 1,554-foot summit is provided by a 2.5-mile dirt road that begins near Hilltop Community Park located at 9711 Oviedo Way.

The project site was previously used as a private golf course. The golf course was closed in 2015 and since then has not served as a recreational resource within the project area. It is currently fenced off and is not available for any public use. The site also includes the existing private tennis courts previously associated with the Hotel Karlan, which are being closed.

5.13.1.5 Regulatory Framework

State Regulations

California Mutual Aid Plan

The California Mutual Aid Plan establishes policies, procedures, and responsibilities for requesting and providing inter- and intra-agency assistance in emergencies. The plan directs local agencies to develop automatic or mutual aid agreements, or to enter into agreements for assistance by hire (e.g., Schedule A contracts) where local needs are not met by the framework established by the Mutual Aid Plan.

Quimby Act and Assembly Bill 1359

Cities and counties have been authorized since the passage of the 1975 Quimby Act (Government Code Section 66477) to pass ordinances requiring that developers set aside land, donate conservation easements, or pay fees for park improvements. Revenues generated through the Quimby Act cannot be used for the operation and maintenance of park facilities. The dedicated land or fees may only be used for the development or rehabilitation of neighborhood or community parks or recreational facilities in the subdivision for which they were provided, according to AB 1359 (Chapter 412, Statutes of 2013), unless certain requirements are met and an exception is made. The goal of the Quimby Act is to require developers to help mitigate the impacts of property improvements. The act gives authority for passage of land dedication ordinances only to cities and counties. Special districts must work with cities and/or counties to receive parkland dedication and/or in-lieu fees. The fees must be paid, and land conveyed directly to the local public agencies that provide park and recreation services communitywide.

Local Regulations

City of San Diego General Plan

The City's General Plan contains a Public Facilities, Services, and Safety Element to address publicly managed and provided facilities and services. This element provides policies for financing, prioritization, developer, and City funding responsibilities for public facilities in San Diego, with service targets for police protection included in the discussion of facilities in Section 5.13.1.1.

Fire Hazard Severity Zones

Wildland fire protection in California is the responsibility of the state, local, or federal government. The California Department of Forestry and Fire Protection (CAL FIRE) adopted Fire Hazard Severity Zone maps for State Responsibility Areas in 2007, as well as recommended maps for Very High Fire Hazard Severity Zones in Local Responsibility Areas. Local Responsibility Areas include incorporated cities, cultivated agriculture lands, and portions of the desert. The CAL FIRE recommendations are not the same as actual zones, which do not go into effect unless adopted by local agencies (CAL FIRE 2012). In San Diego County, CAL FIRE has made recommendations on 13 cities, including the City. The County of San Diego Wildland Hazard Map tool provides local designations based on CAL FIRE's recommendations. Fire Hazard Severity Zones are based on increasing fire hazard and are designated as "No Designation," "Moderate," "High," or "Very High." The westernmost portion of

the project site is within a Very High fire severity zone due to its proximity to the Black Mountain Open Space Preserve (City 2009).

Fire Services Deployment

Simply stated, SDFRD deployment is about the speed and weight of attack. "Speed" calls for first-due, all-risk intervention units (engines, trucks, and/or rescue ambulances) strategically located across a community to respond in an effective travel time. These units are tasked with controlling moderate emergencies without the incident escalating to second alarm or greater size, which unnecessarily depletes departmental resources as multiple requests for service occur. "Weight" is about multiple-unit response for serious emergencies such as a room and contents structure fire, a multiple-patient incident, a vehicle accident with extrication required, or a heavy rescue incident. In these situations, enough firefighters must be assembled within a reasonable timeframe to safely control the emergency, thereby keeping it from escalating to greater alarms. The science of fire crew deployment is to spread crews out across a community for quick response to keep emergencies small with positive outcomes, without spreading the crews so far apart that they cannot amass together quickly enough to be effective in major emergencies (Citygate 2017).

In 2011, the City retained Citygate Associates, LLC to conduct a Fire Services deployment planning study to:

1. Further refine the findings of the Regional Fire Service Deployment Study that Citygate conducted for the County of San Diego that pertained to Fire-Rescue deployment within the City;

2. Analyze whether the SDFRD's performance measures are appropriate and achievable given the risks, topography, and special hazards to be protected in the City; and

3. Review existing SDFRD deployment and staffing models for efficiency and effectiveness and determine how and where alternative deployment and staffing models could be beneficial to address current and projected needs (Citygate 2011).

Prior to this study, the SDFRD used the National Fire Protection Association (NFPA) Standard 1710 for the Organization and Deployment of Fire Suppression Operations to determine adequate response times. According to the standards, initial fire suppression resources shall be deployed to provide for the arrival of an engine company within a four-minute travel time to 90 percent of incidents. The study concluded that additional fire-rescue resources were needed to meet these service delivery goals. In response, the SDFRD adopted the recommendations of the study and set new deployment standards. The updated deployment standards and fire station planning measures are described below.

Distribution of Fire Stations

To treat medical patients and control small fires, the first responding unit should arrive within seven minutes and 30 seconds from the time of the 9-1-1 call receipt in fire dispatch. This equates to a one-minute dispatch time, one minute and 30 seconds for company turnout time, and a five-minute drive time in the most populated areas (Citygate 2017).

Multiple-Unit Effective Response Force for Serious Emergencies

To confine fires near the room of origin, to confine wildland fires to fewer than 3 acres when noticed promptly, or to treat up to five medical patients at once, the goal is for a multiple-unit response of at least 17 personnel to arrive within 10.5 minutes from the time of the 9-1-1 call receipt in fire dispatch, 90 percent of the time. This equates to a 1-minute dispatch time, 1.5 minutes for company turnout time, and an 8-minute drive time spacing for multiple units in the most populated areas (Citygate 2017).

Adopted Fire Station Location Measures

To direct fire station location timing and crew size planning as the community grows, the adopted fire unit deployment performance measures based on population density zones are listed in the General Plan. Structure fires in urban areas having over 1,000 people per square mile would require a response standard of 5 minutes for first due travel time, 7.5 minutes for total reflex time, 8 minutes for first alarm travel time, and 10.5 minutes for first alarm total reflex. Reflex time is the total time from receipt of a 9-1-1 call to arrival of the required number of emergency units (Citygate 2017).

Aggregate Population Definitions

Standards listed in the General Plan guide the determination of response time measures and the need for fire stations. The first-due unit travel time goal for metropolitan areas of over 200,000 people is four minutes. Urban-suburban areas of less than 200,000 people would require a goal of five minutes (Citygate 2017).

5.13.2 Impact 1: Potential for Inadequate Public Service Facilities

Issue 1: Would the project have an effect upon, or result in the need for new or altered governmental services in any of the following areas?

- *Police Protection*
- *Fire and Life Protection*
- *Libraries*
- *Parks and Recreation Facilities*

5.13.2.1 Impact Thresholds

Per the City's Significance Determination Thresholds, impacts to public services and facilities would be significant if a project would result in the need for new or expanded public service facilities, the construction of which would cause direct, adverse physical environmental impacts in order to maintain acceptable service ratios, response times, or other performance objectives.

5.13.2.2 Impact Analysis

Additional development resulting from implementation of the project would increase demand for public services and facilities, as described below. The project is required to pay development impact

fees at time of building permit issuance. The fee amount will be according to the current fee schedules in effect on the date the fees are paid.

Police Protection

The project proposes the addition of up to 536 residential units, which would increase police protection demand at the project site. Pursuant to the density factor of 3.0 persons per household unit based on the Demographic and Socioeconomic Estimates for the RPCP from SANDAG (SANDAG 2018a) the project would increase the area's population by up to 1,608 persons. The project is a multi-family, age-restricted development, however, and a factor of 1.7 persons per household is more appropriate, based on the American Housing Survey (American Association of Retired Persons [AARP], 2011). Therefore, the population for the project's 536 housing units is estimated to be 911 persons.

The increased demand on police services would be minimized by consistency with the City's Crime Prevention Through Environmental Design concepts and measures for land development (City 2015c). For example, the project includes on-site parks, shaded seating areas, multi-use trails, and recreation areas which would encourage activity in various on-site locations throughout the day. All exterior areas that people would use during the evening/nighttime hours would be well lit and visually accessible. Specifically for the project's 455 units within gated areas where routine drive-by activities by law enforcement may be less frequent, it is noted that buildings would be oriented to provide good visibility of the street, parking lots, and other buildings. Design features including materials, lighting, and structures would be utilized to define and differentiate public, semi-public/private, and private spaces. The presence of users with various degrees of ownership in these public and private spaces would contribute "eyes on the street" to discourage crime.

As shown in Table 5.13-1, the average response times for Beat 233 were longer than the General Plan goals for Priority Calls E, 1, and 4 in 2016. Project gates would be equipped with Knox key switches and Opticom that enable law enforcement to open the gates. as necessary. Bollards would also be removable by law enforcement personnel, as appropriate. Police response times in this community would increase with the project.

Ongoing funding for police services is provided by the City's General Fund. Police protection is ordinarily extended to newly developed areas and funded as a function of the increased tax base. For the incremental increase of approximately 911 residents in this largely gated community, it is not expected that new facilities or improvements to existing facilities would be required. The project would add to the tax base and General Fund, thereby contributing to the funding of additional police positions consistent with City planning. Therefore, project impacts to police protection services would be less than significant.

Fire and Life Protection

As noted above, project gates would be equipped with Knox key switches and Opticom that enable fire personnel to open all project gates, and they would also be equipped to remove bollards as necessary. The project would result in an additional 536 residential units, and up to 911 residents, at the project site, which would increase the demand for fire protection services within the service area. Based on the per capita call volume for SDFRD in 2016 of 0.115, the estimated call volume generation for the project is 105 calls per year, or approximately 0.3 call per day (Dudek

~~2019b~~2020b). Although elderly persons may utilize emergency services at higher rates, it is assumed that those over 85, who have the highest usage, would no longer be living independently within The Junipers Project housing. Those over 65, who have higher rates than younger persons, could account for higher call volumes, but the increase is not considered to be substantially higher than the conservative estimate of 105 calls. Neither of these groups was excluded from call modeling, which was based on City-wide per capita call volumes. These City-wide volumes include a variety of neighborhood densities and activity centers, including dense urban city center areas, which tend to have much higher call volumes than suburban, gated neighborhoods such as the project. It was also assumed that all residents would be present on site at all times, so that all calls requiring emergency response would initiate only from the project locale. As a result of these assumptions, projections are considered conservative (assuming more, rather than fewer, calls). The project would be primarily served by existing Fire Station 42. In 2016, Fire Station 42 responded to 1,584 calls, for an average of 4.3 calls per day. The addition of 0.4 call per day is not considered significant and the station's capacity to respond to the additional calls is available. For perspective, a busy urban fire station runs 10 or more calls per day and an average station runs about 5 calls per day (Dudek 2019b).

The project's primary entrance would be 1.48 miles driving distance from Fire Station 42 and the project's furthest point would be an additional 1.08 miles driving distance. An emergency response analysis from the existing fire stations to the project site was conducted as part of the project's FPP to determine estimated response coverage. Emergency travel time for first arriving engines from each station are provided in Table 5.13-2, *SDFRD Emergency Response Times*.

Table 5.13-2
SDFRD EMERGENCY RESPONSE TIMES

Fire Station	Driving Distance to Project (Primary Entrance/Furthest Structure)	Estimated Response Travel Time	
		Primary Entrance	Furthest Structure
33	4.20/5.28	7′47″	9′38″
40	3.93/5.01	7′19″	9′10″
42	1.48/2.56	3′10″	5′0″
44	6.85/7.93	12′17″	14′8″

Sources: Dudek ~~2019b~~ 2020b
Notes: minutes (′); seconds (″)

As shown in Table 5.13-2, the first arriving engine from Fire Station 42 would achieve a travel time of 3 minutes 10 seconds to the primary entrance and 5 minutes to the furthest structure within the project site. Thus, although Fire Station 42 currently does not meet the City's average response time goal of 7 minutes 30 seconds, 90 percent of the time, it would meet the response goal for the project.

The project would be constructed per the recommendations/requirements of the project-specific ~~FFP~~ FPP related to site access, structural material, and fire protection systems. The project would also be constructed per applicable California Building and Fire codes and NFPA codes. The SDFRD has facilities and staffing in the project area to adequately serve the project. Although the project would result in increases in fire calls for service, the increases would be incremental and no new facilities or improvements to existing facilities would be required as a result of the project. The project would add to the City tax base and contribute to the General Fund that is used to hire and

sustain SDFRD staffing levels. Therefore, project impacts to community fire protection services would be less than significant. Please refer to Section 5.14, *Health and Safety*, for additional discussion of fire hazards/emergency evacuation.

Libraries

The project would result in an additional 536 residential units at the project site, which would increase the demand for library services within the service area. While there would be a population increase projected to be generated by the project, as discussed above, there are two large branch libraries within close proximity to the project site that have capacity to serve 60,000 residents. As noted above, upon RPCP and CMRCP buildout in 2035, the populations of these planning areas are projected to increase to approximately 46,347 and 13,339, respectively, for a total of 59,686 (SANDAG 2018a). With a current household population of approximately 56,658 people being served by these libraries and an expected project population of 911 residents, the project would result in a small exceedance (0.00995) percent of the population size expected to be served by two libraries. It is not anticipated that this small percentage increase over total population planned to be served, would result in a need for new or expanded facilities beyond those already existing/planned (i.e., it would not overburden the libraries), and a portion of future residents' property and sales taxes would go toward library funding. Impacts would therefore be less than significant.

Parks and Recreation Facilities

As discussed above, the RPCP has a current deficit of 32.91 usable acres and is projected to have a 2050 deficit of 37.87 useable acres, calculated on the basis of population. The previous golf course use of the site provided a private open space recreational use and the RPCP encouraged the preservation of that use, although the golf course did not count toward the City population-based, parkland acreage. Since the golf course closed in 2015, the site has been fenced and the landscape has not been watered or maintained, other than watering of selected mature trees to be retained, ~~and conducting~~ as well as vegetation mowing and removal of dead plant material/debris to reduce fire risk~~brush management activities~~. The project site is, therefore, not currently serving any direct or indirect park or recreational purposes, and the conversion of the site to residential use would not result in a loss of any existing park or recreational use within the community. The project is not anticipated to require an amendment to a PFFP. Final assessment will be made after the CPA has been finalized.

Implementation of the project would, however, create an additional demand for parkland within the RPCP area given that residential development was not anticipated on the site. Based on the General Plan standard of 2.8 acres of parkland per 1,000 population, and the assumption of approximately 911 residents in this age-controlled community, the population associated with the project would generate an additional demand for 2.55 acres of useable parkland. The project would construct a public park, sited south and north of the Janal Way entry road to the project. This public park would total approximately 3.23 gross acres of area within park boundaries, and 2.87 useable acres. This park would satisfy and exceed the project's 2.55-acre public park requirement. The land set aside for public park (total gross acreages) would be dedicated to the City, and would be maintained by the City. The public park concept has been reviewed through a GDP process to collect public input and design ideas for this community facility. The plan that has received approval through the Rancho Peñasquitos Recreation Advisory Group is shown in Figure 3-10b, Junipers Public Park General Development Plan. It includes a dog run area south of Private Driveway A, children's play areas and

picnic and game areas north of Private Driveway A, bike racks near the center of the park just west of the children's playgrounds, and additional picnic areas and a large turf area in the northern portion of the park.

In addition to the public park, the project would provide a 0.52-acre privately owned park, with a public recreation easement, in the southeastern portion of the project site that will incorporate sports courts; mobility features such as bike racks, tethered bike tools, transit and bike route informational signage, and a rideshare pick up/dropoff location; and pedestrian paths, shaded areas, and benches. The project is also installing an approximately 2.75-mile long social loop trail trending around the development perimeter, which will be HOA-owned and maintained with a public recreation easement to allow public access. This project feature is for the use of both project residents and community members, and would provide an off-street option for walking/bike riding. These HOA-owned and maintained features, which are not counted toward the park-acreage requirement, would enhance the park and recreation offerings within the community.

Additionally, the project would provide nine private park areas (OS-1 through OS-9) within the market rate portion of the community, including a pool, fire pit, sport courts, outdoor cooking areas, game tables, a dog park, an outdoor classroom/amphitheater, garden/orchard areas, a community library, seating areas and shade structures, and greenhouse amenities. Although not open to the public, the private park areas would be expected to additionally minimize potential use of nearby public parks within the community planning area, since the private park facilities would be located closer to many of the 455 market-rate units than any public parks, including the new public park included in the project.

Residents of the affordable housing also would enjoy the public park and social loop trail amenities, and OS-11 and -12, totaling 0.32 acre, which is greater than the 0.23 acre of common usable open space that is required. Proposed amenities include vegetable and pollinator gardens, a fire pit with lounge chairs, a meditative rock garden and an outdoor dining area with a trellis. Residents of the project also variously would have private outside areas such as patios, enclosed yards or balconies. As detailed in Section 3.0, all proposed common usable open space and private open space provided to residential units would meet and exceed City requirements.

Based on the provision of on-site public park acreage exceeding the required acreage, and payment of required development impact fees and fees for the project's contribution toward aquatic facilities and recreation center facilities, the project impacts on park and recreation facilities would be less than significant.

5.13.2.3 Significance of Impacts

Police Protection

Any changes to police staffing or facilities would be dependent on division and Citywide needs as determined by the SDPD, and funded through the General Fund, to which project residents' taxes would contribute. The project would result in increases in police calls for service, but no new facilities or improvements to existing facilities would be required as a result of the project. A portion of future residents' property and sales taxes would go toward police funding. Project impacts to police protection services would be less than significant.

Fire and Life Protection

The project would result in increases in calls for service, but no new facilities or improvements to existing facilities would be required as a result of the project. Furthermore, the project would pay development impact fees as required by the City, and a portion of future residents' property and sales taxes would go toward fire and life protection funding. Project impacts to community fire/life protection services would be less than significant.

Libraries

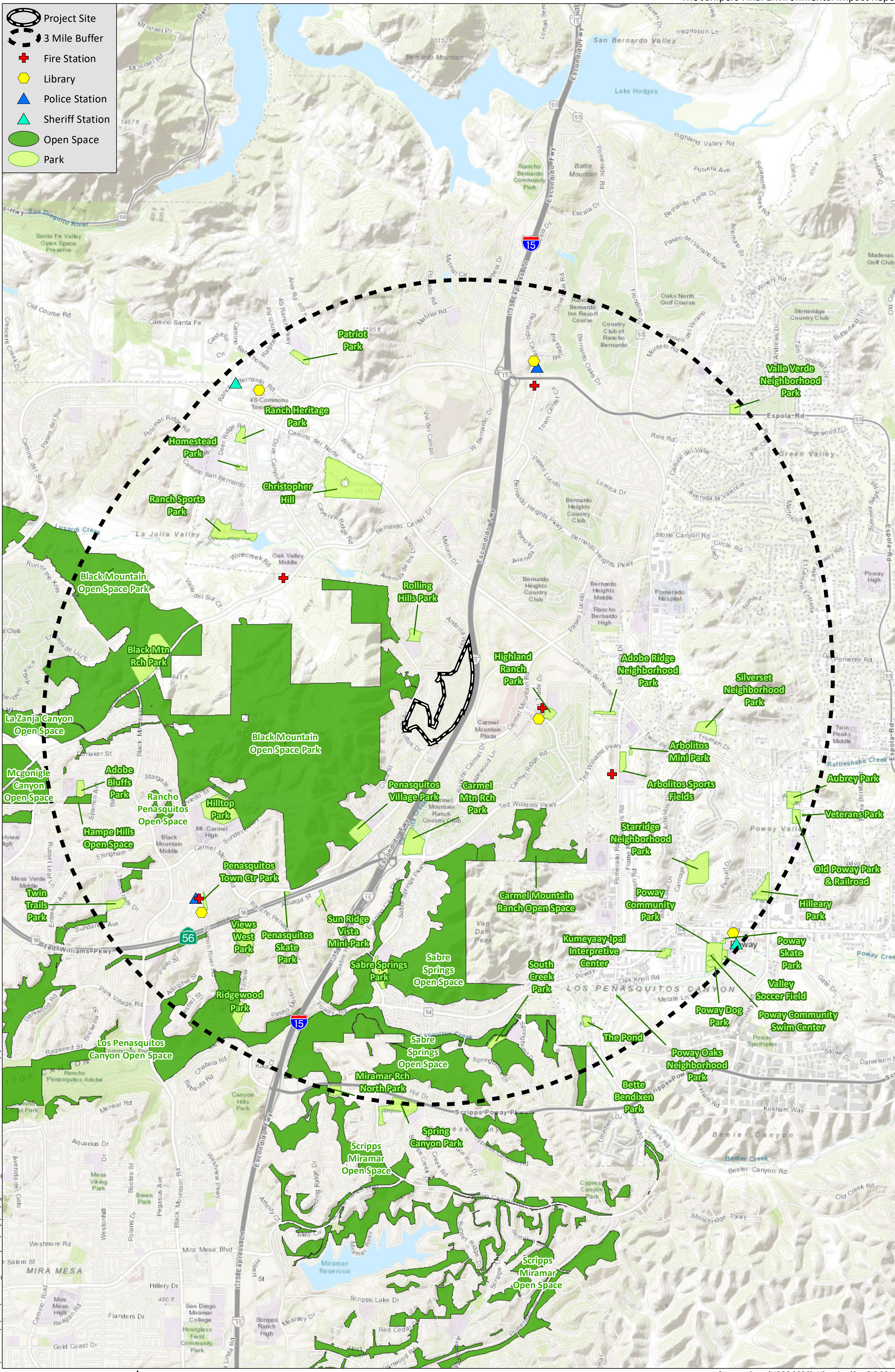
As analyzed, the small exceedance of 0.00995 percent of the population size expected to be served by area libraries is not expected to result in a need for new or expanded facilities beyond those already existing/planned. Therefore, the project would not significantly impact existing library facilities.

Parks and Recreation Facilities

The addition of residential uses to the project site would incrementally increase the demand for park and recreational facilities. Based on the provision of on-site public park acreage in excess of the amount required and payment of required development impact fees, as well as fees for the project's contribution toward aquatic facilities and recreation center facilities, the project impacts on park and recreation facilities would be less than significant. The provision of additional privately owned but publicly accessible parkland and the social loop trail, as well as internal private usable open space areas would further reduce this less than significant impact.

5.13.2.4 Mitigation, Monitoring and Reporting

As no significant impacts would occur, no mitigation is required.



0 4,000 Feet

Source: Base (USGS 2006); Libraries (SanGIS 2014); Law Enforcement (SanGIS 2017); Fire Stations & Parks (SanGIS 2018)

I:\PROJECTS\N\NDG\NDG-01_TheJunipers\Map\EIR\Fig5.13-1_PublicServicesFacilities.mxd LEN-84 1/6/2020 - SAB

HELIX Environmental Planning

Public Services and Facilities

Figure 5.13-1

5.14 Health and Safety

This section describes potential impacts to people relative to hazardous materials, toxic substances, wildfire, and other potentially hazardous conditions such as airport overflights, together with mitigation measures, as appropriate. The following analysis is based on: two Phase I Environmental Site Assessments (ESAs; Hillmann Consulting 2016 and 2018b) and an Asbestos and Lead-Based Paint Investigation (Hillmann Consulting 2018a), provided as Appendices K1 through K3, respectively, to this EIR; a Wildland Fire Evacuation Plan (Dudek ~~2019~~2020a) and a Fire Protection Plan (Dudek ~~2019~~2020b) provided as Appendices K4 and K5, respectively; and the City CEQA Significance Determination Thresholds (2016a).

5.14.1 Existing Conditions

5.14.1.1 Environmental Setting

Current and Historical Development

The site, which is currently occupied by a golf course that is no longer being used, also includes two vehicle maintenance areas and five tennis courts previously associated with the Hotel Karlan. On-site conditions were assessed in the ESAs (Hillmann Consulting 2016 and 2018b) through review of historical documents and site reconnaissance. As determined by a review of historic aerial photographs and topographic maps, the property appears to have first been developed with its current golf course beginning circa 1964. By 1967, the golf course appeared operational. One building was developed circa 1967 on the northern portion of the property and a second building was developed on the southwestern portion by 1989. The potential for the buildings and maintenance areas to contain asbestos-containing materials (ACM) or lead-based paint (LBP) was evaluated by Hillman Consulting (2018a).

A site reconnaissance was conducted on May 25, 2016. The site was described in the ESA as having one approximately 3,465-square foot building set on a slab-on-grade foundation in the central portion of the site (this shed has since been removed), and one large covered shed area on the southwestern portion of the property adjacent to the tennis courts (previously associated with Hotel Karlan). The exterior parking area adjacent to the prior structure in the central portion of the property has two concrete bermed areas which previously acted as secondary containment for two aboveground storage tanks (ASTs) that stored diesel and gasoline and are no longer present. The shed area in the southwestern portion of the site was observed to store a large amount of paint in the manufacturer's containers, and an empty 55-gallon drum marked as cleaning solvent was observed within the former maintenance building.

The project site is located in a suburban developed area characterized by a mix of single-family homes, multi-family homes, commercial properties, and shopping centers. The properties adjoining the project site appear to have been undeveloped until circa 1967, when the abutting properties to the west began development as single-family homes and the property to the south was developed with the resort portion of the golf course and a separate commercial building across Carmel Mountain Road. By 1979, the adjoining residential developments appear to have been completed. I-15 was built in this area in the 1970s, separating the project site from the adjoining properties to the east. By 1985, the properties to the northeast across I-15 began development of commercial

buildings. By 1996, the properties to the east across I-15 were developed with a commercial shopping center (Carmel Mountain Plaza) and a large U.S. Postal Service facility. The nearby property to the south (just across Carmel Mountain Road) is listed with a drycleaner between 2006 and 2013.

Current development adjacent to the project site includes residential to the north and west; a U.S. Post Office Processing and Distribution Center, large retail, and commercial office buildings to the east of the freeway; and the Hotel Karlan with other retail businesses such as a 7-Eleven, Jack in the Box, and Office Depot to the south.

Sensitive Receptors and Areas

No schools or hospitals are located within 0.25 mile of the project site. Rolling Hills Elementary School at 15255 Peñasquitos Drive, over 0.3 mile from the project site. Los Peñasquitos Elementary School at 14125 Cuca Street is approximately 0.63 mile from the project site. Scripps Clinic Rancho Bernardo at 15004 Innovation Drive is approximately 0.3 mile from the northernmost portion of the project site. Pomerado Hospital at 15615 Pomerado Road is 1.7 miles from the northernmost point of the project site. The Center for Healthcare Medical Associates clinic at 17190 Bernardo Center Drive is 2.3 miles from the northernmost point of the project site.

Hazardous Materials Database Search

A computerized search of federal, state, regional, and local environmental regulatory agency databases was performed by Environmental Data Resources of Shelton, CT for the ESAs (see Appendices K1 and K2 of this ~~Draft~~ EIR for a detailed discussion of the databases searched and the search results). The databases document facilities permitted to use or store hazardous materials or generate hazardous wastes, and properties documented as being associated with unauthorized releases of hazardous materials or wastes (i.e., contaminated properties).

Project Site Listings

The project site has been listed on numerous regulatory databases due to its handling and disposal of hazardous materials. Specific database listings for the property are the following:

- California Hazardous Materials Information Reporting System (CHMIRS) – This listing indicates that plant roots caused a sewage main to break, resulting in 525 gallons of sewage to spill in October 2000. The site is also listed as experiencing a grease blockage in January 2010 that caused 2,130 gallons of sewage to spill. Both spills were cleaned up by the property owner.

- Facility Index System (FINDS), Enforcement and Compliance History Online (ECHO) – The FINDS listing indicates the site is registered on the State Master Database. The ECHO listing did not provide any relevant information.

- AST, San Diego County Hazardous Materials Management Division (HMMD) – These listings indicate that the property has 2,300 gallons of aboveground storage, that regulated hazardous materials are handled and generated on the site, and that two 1,000-gallon diesel and gasoline underground storage tanks (USTs) were previously installed on the site. As noted above, although the berms remained, the ASTs in this location were not present

during site reconnaissance. In addition, all County records for hazardous materials storage were reviewed. There were no other references to these above ground features, which would have been sited within paved areas and not on permeable dirt. The property received various violations with regards to its handling of hazardous materials including hazmat containers not repackaged, improper container handling, unlabeled containers, exceeding allowed generating accumulation, poor condition of containers, and paperwork violations. The site is also on the San Diego County HMMD list under another Peñasquitos Drive address as handling or generating the following materials: oxygen gas, unspecified aqueous solution, fertilizers, waste and mixed oil, Naiad liquid wetting agent, diesel fuel, unspecified solvent mixture, used batteries, gasoline, and used oil filters. Under this listing, the property received a violation for not maintaining their EPA ID number. The USTs were removed and received closure in 1992.

- List of hazardous waste manifests collected by the Department of Toxic Substances Control (DTSC; HAZNET) – This listing indicates the site generated the following hazardous materials between 2004 and 2014: aqueous solution with total organic residues of 10 percent or more, other organic solids, and hydrocarbon solvents. Another listing indicates that the off-specification, aged, or surplus organics were disposed of in 2001.

- Statewide Environmental Evaluation and Planning System UST (SWEEP UST) – This listing indicates the site had two 1,000-gallon USTs storing gasoline and diesel. These tanks were removed in 1992 with a fire agency present and the site received a No Further Action determination.

- Historical UST (HIST UST) – This historical listing indicates the site had one 500-gallon UST and one 1,000-gallon UST as of 1988.

Adjacent/Nearby Properties Listings

Facilities in the project vicinity that were identified in the database search include the following:

- Sammis Mobil Mechanic at 11239 Del Diablo Street, adjacent to and west of the project site – On the EDR Historical Auto Station database as present between 2001 and 2004.

- U.S. Postal Service at 11251 Rancho Carmel Drive, 0.13 mile east of the site across I-15 and up gradient from the project site – On the UST, AST, San Diego County HMMD lists as having two 12,000-gallon USTs storing diesel fuel and 5,750 gallons of ASTs, and as handling or generating various hazardous materials including propane, brake fluid, motor oil, and organic liquids with metals. The facility has received some violations detailed in the ESA.

- Carwash of America at 11030 Rancho Carmel Drive, 0.3 mile southeast and down gradient from the project site – On the State/Tribal Hazardous Waste Site list with no contaminants of concern.

- Chevron at 11095 Carmel Mountain Road, 0.1 mile south and down gradient from the project site – On the State/Tribal Leaking Underground Storage Tank (LUST) list for a gasoline leak that affected groundwater; the case was closed as of October 16, 2014. This gas station is also on the San Diego Site Assessment and Mitigation (SAM) list indicating that the site is under preliminary assessment and only soils have been impacted.

- Marston Cleaners at 11040 Rancho Carmel Drive, 0.3 mile southeast and down gradient from the project site – On the Spills, Leaks, Investigations, and Cleanups (SLIC) list for having groundwater, soil, and soil vapor contaminated with perchloroethylene (PCE) in a plume extending to the west; the status is "Open-Remediation."

Potential Airport Hazards

The MCAS Miramar runway is approximately 7.5 miles from the project site. The ALUC has the discretion to review the project for consistency with the ALUCP. As discussed in Section 5.1, *Land Use*, the project site is located within Review Area 2 of the MCAS Miramar ALUCP, which encompasses the airspace protection surfaces and overflight areas. Limits on the heights of structures, particularly in areas of high terrain, are the only restrictions on land uses within Review Area 2. Any proposed development that includes an object over 200 feet above the ground level or that penetrates the 100:1 slope extending 20,000 feet away from the nearest runway must be submitted to FAA for obstruction evaluation, as well as notifying SDCRAA and MCAS Miramar.

Fire Hazards

The majority of the project site was previously developed as a golf course, which has been closed since 2015. The property is now fenced and closed to the public. The property is no longer watered and is mowed on a regular basis for ~~brush~~ fire-related vegetation maintenance/control purposes.

According to the "Official Very High Fire Hazard Severity Zone Map" prepared by SDFRD, a small portion of the southwestern corner of the project site is mapped as being within the Very High Fire Hazard Severity Zone (VHFHSZ) ~~and 300-foot Brush Management Buffer area~~ associated with the Black Mountain Open Space Preserve. This means that it is an area identified by CAL FIRE as having the factors (fuel, slope, and fire weather) to result in severe risk of fire hazard. This part of the site would be developed with irrigated perimeter landscaping and new homes designed to be fire-resistive. It is also separated from the BMOS by existing homes and Peñasquitos Drive hardscape. As noted in Sections 6.4.1, 6.6.1, and 6.6.2 of the project FPP, although the great majority of the project site has not been placed into a VHFHSZ, the FPP recommends that all structures be built to the Chapter 7A (CFC) ignition resistant standards and that the project incorporate fire-resistive landscaping.

5.14.1.2 Regulatory Framework

Federal

Existing federal legislation to protect the public from potential impacts from the use of hazardous materials includes: the Clean Air Act; the Clean Water Act; the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA); the Resource Conservation and Recovery Act

(RCRA); and the Toxic Substances Control Act (TSCA). These laws are administered by the USEPA in coordination with state, local, and tribal governments.

Clean Air Act

The Clean Air Act was enacted in 1963 and amended most recently in 1990 to address issues such as acid rain, ozone depletion, and toxic air pollution. It regulates air emissions from stationary and mobile sources.

Clean Water Act

The CWA was enacted in 1972 and amended in 1977 and 1987. Its purposes include preventing point and nonpoint pollution sources, providing assistance to publicly owned treatment works for the improvement of wastewater treatment, and maintaining the integrity of wetlands.

CERCLA

The 1980 CERCLA, commonly known as Superfund, provides federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. Federal actions related to CERCLA are limited to sites on the National Priorities List (NPL) for cleanup activities, with NPL listings based on the USEPA Hazard Ranking System (HRS). The HRS is a numerical ranking system used to screen potential sites based on criteria such as the likelihood and nature of the hazardous material release, and the potential to affect people or environmental resources. CERCLA was amended by the Superfund Amendments and Reauthorization Act (SARA) in 1986 as outlined below.

Resource Conservation and Recovery Act

Federal hazardous waste laws are largely promulgated under the RCRA (CFR Title 40, Part 260), as amended by the Hazardous and Solid Waste Amendments of 1984 (which are primarily intended to prevent releases from facilities such as LUSTs). These laws provide for the “cradle to grave” regulation of hazardous wastes. Specifically, under RCRA, any business, institution, or other entity that generates hazardous waste is required to identify and track its hazardous waste from the point of generation until it is recycled, reused, or disposed of. The USEPA has the primary responsibility for implementing RCRA, although individual states can obtain authorization to implement some or all RCRA provisions.

Superfund Amendments and Reauthorization Act

The SARA is primarily intended to address the emergency management of accidental releases, and to establish state and local emergency planning committees responsible for collecting hazardous material inventory, handling, and transportation data. Specifically, under Title III of SARA, a nationwide emergency planning and response program established reporting requirements for businesses that store, handle, or produce significant quantities of hazardous or acutely toxic substances as defined under federal laws. Title III of SARA also requires each state to implement a comprehensive system to inform federal authorities, local agencies, and the public when significant quantities of hazardous or acutely toxic substances are stored or handled at a facility. These data

are made available to the community at large under the “right-to-know” provision, with SARA also requiring annual reporting of continuous emissions and accidental releases of specified compounds.

Toxic Substances Control Act

The TSCA was enacted in 1976, and requires the EPA to protect the public from "unreasonable risk of injury to health or the environment" by regulating the manufacture and sale of chemicals. Its three main objectives are: to assess and regulate new commercial chemicals before they enter the market; to regulate chemicals already existing in 1976 that posed an "unreasonable risk to health or to the environment" (for example polychlorinated biphenyls [PCBs], lead, mercury, and radon); and to regulate the distribution and use of these chemicals. This act does not address wastes produced as byproducts of manufacturing (see the federal CWA and CAA). Instead, the TSCA directs government control over which types of chemicals could and could not be used in actual use and production. For example, the use of chlorofluorocarbons in manufacturing is now strictly prohibited in all manufacturing processes in the United States, even if no chlorofluorocarbons are released into the atmosphere as a result.

State

California regulates hazardous materials, waste, and substances under the authority of the California Health and Safety Code (CHSC) and is authorized by the federal government to implement RCRA in the state. California law also addresses specific handling, storage, transportation, disposal, treatment, reduction, and cleanup of hazardous waste.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act restricts the disposal of wastes and requires cleanup of wastes that are below hazardous waste concentrations but could impact ground and surface water quality. California regulations that address waste management and prevention and cleanup of contamination include CCR Title 22 Division 4.5 Environmental Health Standards for the Management of Hazardous Waste, CCR Title 23 Waters, and CCR Title 27 Environmental Protection.

California Code of Regulations

Most state and federal regulations and requirements that apply to generators of hazardous waste are codified in CCR Title 22, Division 4.5. Title 22 contains detailed compliance requirements for hazardous waste generation, transportation, treatment, storage, and disposal facilities. Because California is a fully authorized state under the RCRA, most RCRA regulations are integrated into Title 22. The California Environmental Protection Agency (CalEPA)/DTSC regulates hazardous waste more stringently than the USEPA through Title 22, which does not include as many exemptions or exclusions as the equivalent federal regulations. Similar to the CHSC (as outlined below), Title 22 also regulates a wider range of waste types and waste management activities than RCRA. The state has compiled a number of additional regulations from various CCR titles related to hazardous materials, wastes, and toxics into CCR Title 26 (Toxics), and provides additional related guidance in Titles 23 (Waters) and 27 (Environmental Protection).[1]

[1] Despite these additional CCR titles, California hazardous waste regulations are still commonly referred to as “Title 22.”

Title 24 of the CCR provides a number of requirements related to fire safety, including applicable elements of Part 2, the CBC; Part 2.5, the California Residential Code (CRC); and Part 9, the California Fire Code (CFC). Specifically, CBC Chapter 7 (Fire and Smoke Protection Features) includes standards related to building materials, systems, and assembly methods to provide fire resistance and prevent the internal and external spreading of fire and smoke (such as the use of non-combustible materials and fire/ember/smoke barriers). CBC Chapter 9 (Fire Protection Systems) provides standards regarding when fire protection systems (such as alarms and automatic sprinklers) are required, as well as criteria for their design, installation, and operation. Section R327 of the CRC includes measures to identify Fire Hazard Severity Zones and assign agency responsibility (i.e., Federal, State, and Local Responsibility Areas [FRAs, SRAs, and LRAs, respectively]), and provides fire-related standards for building design, materials, and treatments. The CFC establishes minimum standards to safeguard public health and safety from hazards, including fire, in new and existing structures. Specifically, this includes requirements related to fire hazards from building use/occupancy (e.g., access for fire-fighting equipment/personnel and the provision of water supplies), the installation or alteration/removal of fire suppression or alarm systems, and the management of vegetative fuels and the provision of defensible space.

California Health and Safety Code

The CalEPA/DTSC established rules governing the use of hazardous materials and the management of hazardous wastes. CHSC Section 25531, et seq., incorporates the requirements of SARA and the CAA as they pertain to hazardous materials. Under the California Accidental Release Prevention Program (CalARP, CHSC Sections 25531 to 25545.3), certain businesses that store or handle more than 500 pounds, 55 gallons, or 200 cubic feet (for gases) of acutely hazardous materials at their facilities are required to develop and submit a Risk Management Plan (RMP) to the appropriate local authorities, the designated local administering agency, and the USEPA for review and approval. The RMP is intended to satisfy federal “right-to-know” requirements and provide basic information to regulators and first responders, including identification/quantification of regulated substances used or stored on site, operational and safety mechanisms in place (including employee training), and potential on- and off-site consequences of release and emergency response provisions.

Under CHSC Sections 25500-25532, businesses handling or storing certain amounts of hazardous materials are required to prepare a Hazardous Materials Business Emergency Plan (HMBEP), which includes an inventory of hazardous materials stored on site (above specified quantities), an emergency response plan, and an employee training program. HMBEPs are also required to include a written set of procedures and information created to help minimize the effects and extent of a release or threatened release of a hazardous material; and must be prepared prior to facility operation (with updates and amendments required for appropriate circumstances such as changes in business location, ownership, or operations).

Pursuant to CHSC Chapter 6.11, CalEPA established the Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Unified Program), which consolidated a number of existing state programs related to hazards and hazardous materials. The Unified Program also allows the designation of Certified Unified Program Agencies (CUPAs) to implement associated state regulations within their jurisdiction. For businesses within the City, applicable hazardous materials plans (such as RMPs and HMBEPs) are submitted to and approved by the San Diego County Department of Environmental Health (DEH)/Hazardous Materials Division (HMD), which is the local CUPA as outlined below under County requirements.

Division 12 (Fires and Fire Protection) of the CHSC provides a number of standards related to fire protection methods, including requirements for the management of vegetation comprising a potential fire hazard under Part 5, Chapters 1 through 3.

Investigation and Cleanup of Contaminated Sites

The oversight of hazardous materials release sites often involves several different agencies that may have overlapping authority and jurisdiction. The DTSC and the RWQCBs are the two primary state agencies responsible for issues pertaining to hazardous material release sites. Investigation and remediation activities that would involve potential disturbance or release of hazardous materials must comply with applicable federal, state, and local hazardous materials laws and regulations. DTSC has developed standards for the investigation of sites where hazardous materials contamination has been identified or could exist based on current or past uses. These regulations would be applied during grading activities if, for example, previously unknown underground tanks or other potential contaminant sources were uncovered.

Hazardous Materials Transportation

The California Highway Patrol (CHP) and Caltrans are the state agencies with primary responsibility for enforcing federal and state regulations and responding to hazardous materials transportation emergencies. These agencies also govern permitting for hazardous materials transportation within the state.

California Department of Forestry and Fire Protection - State Responsibility Areas System

Legislative mandates passed in 1981 (SB 81) and 1982 (SB 1916) require CAL FIRE to develop and implement a system to rank fire hazards in California. Areas are rated as moderate, high, or very high based primarily on the assessment of different fuel types. CAL FIRE also identifies responsibility areas for fire protection, including FRAs, SRAs, and LRAs.

Local

County Standards

As noted above, the County DEH/HMD is the local CUPA, and has jurisdiction over hazardous materials plans in the City. The County DEH/HMD requires businesses that handle reportable quantities of hazardous materials, hazardous wastes, or extremely hazardous substances to submit a Hazardous Materials Business Plan (HMBP), which includes detailed information on the storage of regulated substances. The County DEH/HMD provides guidelines for the preparation and implementation of HMBPs, including direction on submittal requirements, covered materials, inspections, and compliance.

The DEH/HMD is also the administering agency for the San Diego County Operational Area Hazardous Materials Area Plan (San Diego County DEH/HMD 2017). This Plan identifies the system and procedures used within the County to address hazardous materials emergencies, and provides guidelines for topics such as transportation (including international crossings/inspections), industry/ agency coordination, planning, training, public safety, and emergency response/evacuation.

The County Office of Emergency Services (OES) and Unified Disaster Council administer the Multi-jurisdictional Hazard Mitigation Plan (MHMP), as outlined in Section 5.8.1.5 of the San Diego County Operational Area Hazardous Materials Area Plan. This Plan is generally intended to promote and provide a multi-jurisdictional approach to compliance with applicable regulatory requirements. The OES also administers the Emergency Operations Plan (EOP; San Diego County OES 2018), which provides guidance for responding to major emergencies and disasters.

City Standards

SDFRD implements the City Hazardous Materials Program (City 2018f), which requires applicable uses/processes related to hazardous materials to provide disclosure through submittal of a Hazardous Material Information Form and acquisition of an associated permit. The Hazardous Materials Program also includes guidelines and requirements for topics such as education, code enforcement, and safe business practices related to hazardous processes and the use/storage of hazardous materials.

The City's Local Enforcement Agency (LEA) enforces state minimum standards on public and private solid waste services within the City, including waste collection/disposal, illegal solid waste dumping, and hazardous solid waste sites requiring remediation. The City's ESD carries out federal, state, and local waste management requirements, including requirements in the California Public Resources Code, such as AB 939, AB 341, and AB 1862, as well as requirements in the SDMC, including the People's Ordinance (collection), the Recycling Ordinance, the Construction and Demolition Debris Ordinance, and the Storage Ordinance. The City's ESD also works to move the City toward compliance with its Zero Waste Plan, which is part of its CAP.

The SDMC includes general hazardous materials regulations in Chapter 4 (Health and Sanitation), Sections 42.0801, 42.0901, et seq.; and Chapter 5 (Public Safety, Morals and Welfare), Section 54.0701; as well as regulations regarding specific hazardous materials such as explosives (Chapter 5, Section 55.3301).

Chapter 14 (General Regulations) of the SDMC also includes the requirements pertaining to fire hazard concerns, such as ~~brush management (Section 142.0412),~~ adequate fire flow (Section 144.0240)~~,~~ and construction materials for development near open space (Section 145.0701 et seq.).

Emergency Response Plans

The City is a participating jurisdiction in the San Diego County MHMP, a Countywide plan to identify risks and minimize damage from natural and man-made disasters (County 2010, as amended through 2017). The primary goals of the MHMP include:

- Goal 1: Promote public understanding, support, and demand for hazard mitigation;
- Goal 2: Improve hazard mitigation coordination and communication with federal, state, local, and tribal governments;

- Goal 3: Reduce the possibility of damage and losses to people, critical facilities/ infrastructure, and state-owned facilities, due to wildfire/structural fire, coastal storms/ erosion/tsunami, landslide, hazardous materials, and other manmade hazards;

- Goal 4: Reduce the possibility of damage and losses to people, critical facilities/infrastructure and state-owned facilities due to severe weather (e.g., El Niño storms, thunderstorms, lightning, tsunami, and extreme heat and drought);

- Goal 5: Reduce the possibility of damage and losses to people, critical facilities/infrastructure and state-owned facilities due to earthquake and dam failure; and

- Goal 6: Reduce the high probability of damage and losses to people, critical facilities/ infrastructure, and state-owned facilities due to floods.

The San Diego Office of Homeland Security (SD-OHS) oversees the City's Homeland Security, Disaster Preparedness, Emergency Management, and Recovery/Mitigation Programs. The primary focus of this effort is to ensure comprehensive emergency preparedness, training, response, recovery, and mitigation services for disaster-related effects. The SD-OHS also maintains the City Emergency Operations Center (EOC) and an alternate EOC in a ready-to-activate status, ensures that assigned staff are fully trained and capable of carrying out their responsibilities during activations, and manages the EOC during responses to multi-department and Citywide emergencies to support incident response activities and maintain Citywide response capabilities (County 2010).

Emergency Evacuation Plans

As noted above, the City is a participating agency in the County's Unified San Diego County Emergency Services Organization and County of San Diego Operational Area EOP (County 2014), which addresses emergency issues including evacuation. Specifically, Annex Q (Evacuation) of the Plan notes that: "Primary evacuation routes consist of major interstates, highways and prime arterials within San Diego County…," with I-15 and SR-56 identified as the primary evacuation routes in the project vicinity.

5.14.2 Impact 1: Health Hazards

Issue 1: Would the project expose people or sensitive receptors to potential health hazards?

5.14.2.1 Impact Thresholds

Based on the City Significance Determination Thresholds (2016a), impacts related to human health/ public safety could be significant if the project would:

- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or environment;

- Result in potential hazards from construction and operation of the project, including the potential for hazardous material release from routine use or from accident conditions;

- Result in hazardous emissions or handle acutely hazardous materials, substances, or waste within a quarter-mile of an existing or proposed school; or

- Expose people to toxic substances, such as pesticides and herbicides, some of which have long-lasting ability.

5.14.2.2 Impact Analysis

CEQA requires analysis of a project's effects on the environment. Generally, consideration of the potential effects of a site's environment on a project are outside the scope of required CEQA review (*California Building Industry Association v. Bay Area Air Quality Management District* (2015) 62 Cal. 4th 369). Some of the impacts discussed in this section relate to increased exposure of people to risks associated with existing conditions which would not be exacerbated by the project, and therefore do not constitute an impact of the project on the environment; rather these represent the effects of the existing environment on the project. Such effects "do not relate to environmental impacts under CEQA and cannot support an argument that the effects of the environment on the project must be analyzed in an EIR" (*Id*. at p. 474). Nonetheless, this section analyzes both the impacts of the project on the environment and the potential effects of existing hazardous conditions on the project's implementation as set forth in CEQA Guidelines, Appendix G, Significance Criteria, in order to provide this information to the public and decision-makers.

ESA Conclusions

The two project ESAs (Appendices K1 and K2) evaluated conditions on the site that may qualify as existing Recognized Environmental Conditions (RECs). RECs are defined as the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to a release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. In addition, the studies evaluated the potential for herbicides and pesticides, which were likely used by the former golf course operators, to still be present in on-site soils and pose a health hazard to existing surrounding residents or future residents of the project, during project grading or future occupation of the site by residents.

The ESAs concluded that the documented past violations regarding handling of hazardous materials and petroleum products on the property are considered to constitute an existing REC in connection with the project site.

The adjoining property to the south listed with a drycleaner between 2006 and 2013 has no reported releases and is at a lower elevation relative to the project property. Therefore, this site was not considered to be a REC in the ESAs.

The ESAs conducted preliminary evaluations of certain environmental issues beyond the requirements of ASTM E1527-13 standards. These include radon and mold. Their findings include the following:

- The site is in an area with a low potential for radon concentrations, and is classified as a Zone 3 or "low risk" area for radon by the County of San Diego; and

- No obvious evidence of excessive or amplified mold growth, or conditions favorable for mold growth was observed during the site assessment.

Potential Hazards during Construction

Based on the ESAs in Appendices K1 and K2, the project site encompasses an area where the previous handling of hazardous materials and petroleum products constitutes an environmental condition that could create a significant hazard to the public or environment as the ground is disturbed and structures/built materials are removed during construction. The site has a history of containing USTs and ASTs, as well as a noted potential for asbestos-containing materials in golf course pipes and the on-site sheds (one of which has been removed), as well as handling or generating hazardous materials including fertilizers, pesticides/herbicides, waste and mixed oil, diesel fuel, solvents, and gasoline, during its use as a golf course site. The potential asbestos-lined pipes are considered most likely, if present, to be associated with the main drain/sewer from the golf course (Terwiliger 2018: pers. comm.). Based on this historical use, the applicant would be conditioned to implement a soil management plan (SMP) to address any potentially contaminated soils during demolition or grading activities in the focused areas where these maintenance activities were completed and to evaluate and dispose of piping exposed during grading (Hillmann Consulting 2016 and 2018b). An SMP routinely accompanies efforts where any prior controlled use is identified on site, and would contain worker health and safety controls, soils excavation and monitoring, management of any identified contaminated or potentially contaminated materials, and on-site re-use or (if required) off-site disposal. Part of the SMP would address potential for testing and disposal of any asbestos-containing piping identified during project grading.

As noted above, the ACM/LBP investigation performed for the project determined that there was no danger to workers with respect to surficial uses of LBP; however, ACM were present within the roofing materials for the former maintenance shed and are present within the tennis courts equipment shed (refer to Appendix K3). As detailed in the ACM/LBP report, the removal of ACM during demolition of any remaining structures on site would be performed by a licensed contractor according to all federal, state, and local laws governing asbestos. Where prior structures have been removed, remaining foundations and the ground surface will be addressed as part of the SMP.

If any of the listed hazardous materials associated with the former golf course operation are in the soil on the site, excavation and other construction activities could release them into the air and water, and expose workers and surrounding residents to such emissions. These issues would constitute significant hazardous materials/public safety impacts under the City Significance Determination Thresholds listed above. This issue was addressed, however, by an earlier Phase II ESA prepared by Leighton and Associates in 2014 which is appended to the ACM/LBP report. As discussed in the Phase II ESA, site soils were tested for arsenic, mercury, and organochlorine pesticides (OCPs). Leighton determined that only trace amounts of historical pesticide levels that are below the thresholds for significance were present in the soils. Therefore, historic pesticide applications at the golf course did not significantly impact the soils and pesticide use is not a REC for the site (Hillmann Consulting 2016 and 2018b).

Project construction would involve the on-site use and/or storage of hazardous materials such as fuels, lubricants, solvents, concrete, paint, and portable septic system wastes. The location of material storage and construction staging areas would be dictated by the project SWPPP, which includes such measures as regular maintenance of construction equipment, and storage criteria for

oil, gasoline, and other potential contaminants that commonly occur during construction activities. Based on compliance with such regulatory requirements, potential impacts from construction-related hazardous materials would be effectively avoided or addressed (refer to Section 5.9, *Hydrology and Water Quality*, for additional information). Construction activities that could result in the accidental release of hazardous materials would include refueling and maintenance of on-site construction equipment, which could lead to minor fuel and oil spills, posing risks to receptors on and off site that would be considered potentially significant.

Several properties within 2,000 feet (0.38 mile) of the project site have been subject to corrective action, including the Post Office facility at 11251 Rancho Carmel Drive, the Chevron at 11095 Carmel Mountain Road, and Marston Cleaners at 11040 Rancho Carmel Drive. However, the ESAs did not identify any of these nearby properties as RECs for the project site, and those properties would not be disturbed during project construction.

There are no schools within 0.25 mile of the project site. Due to the lack of school presence, there is no potential for a related health or safety impact from the project.

Potential Hazards during Operation

While proposed on-site uses would not typically require large-scale handling of hazardous materials, chemicals for routine maintenance and operation of the project would be used intermittently and stored and transported on site in limited amounts. These chemicals may include cleaning and maintenance chemicals (e.g., paints, solvents, and polishes) and materials used for general maintenance of the grounds (e.g., pesticides/herbicides and fuels used for landscape equipment). Absent specific handling requirements, use of these substances could result in a potential safety hazard for people residing or working in the project area. Routine use and handling of hazardous materials, however, is regulated by local, state, and federal standards, including California Occupational Health and Safety Administration (CalOSHA) requirements. Based on compliance with these regulatory requirements, potential exposure of people to impacts from on-site hazardous materials would be effectively avoided or addressed during operations.

5.14.2.3 Significance of Impacts

Construction

As discussed above, there are no listed hazardous materials sites on the project site or in the vicinity that could pose a threat to human health or safety. Residual pesticide concentrations in on-site soils from the prior golf course use would not cause a threat to public health. Impacts associated with the potential presence and removal of ACM within existing on-site structures to be demolished would be addressed through compliance with existing regulations for the testing, removal and disposal of asbestos. Thus, no significant impacts are anticipated with respect to listed hazardous materials sites, or on-site pesticide residue or ACM.

During construction, the project would result in potentially significant impacts related to disturbance of soils, slabs, and pavements within the two on-site maintenance areas. Residue from the previous handling and storage of hazardous materials within these areas could result in health hazards to workers during construction. These impacts would be reduced to less than significant through implementation of a project SMP (HAZ-1) and mandatory conformance with applicable

regulatory/industry standards and codes. Based on compliance with such regulatory requirements, potential impacts from construction-related hazardous materials would be effectively avoided or addressed.

Operation

Routine on-site storage and use of hazardous materials would occur in compliance with local, state, and federal standards. Compliance with these regulatory requirements would ensure that potential exposure of people to on-site hazardous materials would be less than significant.

5.14.2.4 Mitigation, Monitoring and Reporting

HAZ-1: Soil Management Plan

Prior to the initiation of demolition and construction activities at the site, the Construction Manager and/or Grading Contractor shall submit a soil management plan (SMP) for approval by the City. The SMP shall outline the procedures for the contractor to identify, segregate, and dispose of any impacted soils discovered in the existing/previous maintenance areas of the subject site during the demolition, grubbing, and grading phases of project construction. The City Mitigation Monitoring Coordinator shall verify implementation of the SMP.

5.14.3 Impact 2: Fire Risk

Issue 2: Would the project expose people or structures to a significant risk of loss, injury, or death involving fire?

Fire hazards exist where highly flammable vegetation and/or litter is located adjacent to development. The EIR shall discuss the human and public safety impacts from the potential fire hazards within and adjacent to the project.

5.14.3.1 Impact Thresholds

Under the City threshold/Initial Study Checklist question, impacts related to fire risk would be significant if a project would expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including when wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

5.14.3.2 Impact Analysis

Because a portion of the project site is located within the VHFHSZ associated with the Black Mountain Open Space Preserve to the west, a Fire Protection Plan (FPP) was prepared for the project (Dudek ~~2019b~~2020b; EIR Appendix K5). While the project site is not immediately adjacent to this wildland area, it is within the potential influence area of a wildfire from this open space preserve. As demonstrated in the FPP, the project would be in compliance with applicable regulatory requirements pertaining to fire hazards and prevention, including ~~Section 142.0412~~applicable sections ~~(Brush Management)~~ of the City Municipal Code and the 2016 CFC. The project would incorporate fire-related design elements such as fire-resistant building materials, Class A roof systems, fire/ember/smoke barriers, ember resistant openings, automatic alarm and sprinkler

systems, and provision of adequate fire flow and emergency access. Ignition resistant landscaping would occur throughout the site. ~~Fuel modification~~Landscape vegetation management would be provided within the project boundaries and would involve removing flammable vegetation and ensuring that remaining vegetation does not have the ability to transmit fire to structures. On-site landscaping would consist of less-flammable plants that would be sufficiently hydrated via an automatic irrigation system. Landscaped open space lots along the project perimeter would include ignition resistant landscapes that receive ongoing vegetation management and maintenance funded by the HOA to ensure compliance with fire-safe plant palettes, planting densities and spacing. The riparian mitigation area along the I-15 would include a relocated drainage feature primarily supporting wetland habitats having a higher internal moisture content and subsequent ignition resistance. Allowable maintenance would include removal of dead and dying plant material and debris as needed. Overall, the project would convert the site from fire-prone weeds and grasses to fire-resistant structures and landscaping. Through compliance with applicable regulatory requirements and implementation of the recommendations included in the project-specific FPP, hazards associated with wildfires would be substantially reduced.

The project also would improve accessibility for emergency vehicles to/from the site and surrounding Glens neighborhood through provision of additional or upgraded travel routes, to be used by project and area residents as well as emergency vehicles (Dudek ~~2019b~~2020b). Details as to roadway upgrades are provided in Section 3.0, and additionally discussed in Section 5.14.4, below. It is also noted that the provision of an irrigated and managed landscape on the project site, with structures built to current fire-resistive standards, would not only provide project residents with defensible living space, but also could deter fire moving east to west. This would provide a shielding benefit to the older Glens homes, constructed prior to many of the current fire safety standards.

5.14.3.3 Significance of Impact

Potential impacts related to wildfire hazards from implementation of the project would be less than significant, based on required compliance with applicable State and City standards associated with fire hazards and prevention, as well as through implementation of FPP recommendations.

5.14.3.4 Mitigation, Monitoring and Reporting

Impacts would be less than significant; therefore, no mitigation is required.

5.14.4 Impact 3: Emergency Response/Evacuation

Issue 3: Would the project impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan?

5.14.4.1 Impact Thresholds

Under the Initial Study Checklist question, public safety impacts would be significant if the project would impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan.

5.14.4.2 Impact Analysis

Construction

Construction of the project could require temporary detours and/or lane closures that could temporarily disrupt travel along existing roadways for periods of time within the construction zone. Emergency access to all surrounding properties, however, would be maintained throughout the construction period. In addition, a traffic control plan and haul route plan would be prepared and implemented as a standard City requirement during project construction, as discussed in Section 5.2, *Transportation/Circulation*. With implementation of these plans, the project would not impede access to publicly or privately owned land and would not interfere with emergency response during construction. Therefore, no significant public safety impacts related to emergency services would occur during construction.

Operation

Fire Emergency Access

The project would provide adequate emergency access within the site. Access for emergency vehicles would be provided at the main project entry along Peñasquitos Drive and along Carmel Mountain Road. Secondary access, for emergencies only, would be provided at Del Diablo Street where there is an existing curb cut and gated access. Internal roadways and a fire emergency lane within the project site would be provided per the City Fire Marshal's standards connecting the two site access points and extending along the entire perimeter of the site as well. Project gates would be equipped with Knox key switches and Opticom that enable law enforcement and fire personnel to open the gates. Internal project bollards also would be removable by fire/law enforcement. (An off-site improvement to the north is also described in Section 3.0 and addressed below.) A SDFRD-approved roundabout would be provided along Peñasquitos Drive at Janal Way, as well as at three locations within the project site. Roundabouts allow for efficient emergency access and improve response times by eliminating or minimizing delays. A traffic signal would also be provided at the intersection of Peñasquitos Drive/Cuca Street/Hotel Karlan driveway. Additional emergency requirements, such as fire hydrants, fire hydrant markers (i.e., blue reflectors installed in the roadway), adequate vertical clearances, adequate turning radii, and fire ladder clearances, would be provided in accordance with City requirements. Proposed buildings would be constructed with fire-resistant construction materials and would include a protective system of fire sprinklers.

Evacuation

Because of the potential influence of the nearby wildland urban interface upon the project, and the ~~its proximity to~~inclusion of portions of the project site within the VHFHSZ associated with the Black Mountain Open Space Park to the west and the associated influence of the nearby wildland urban interface, a Wildland Fire Evacuation Plan was prepared for the project (EIR Appendix K4). As discussed in this evacuation plan, wildfire emergencies that would be most likely to require an evacuation of the project area would be either a large wildfire approaching from the Black Mountain Open Space Park which is west, northwest, and southwest of the project site, or a large wildfire approaching from the north/northeast with potential to spot into the project or the adjacent Black Mountain Open Space Park. Large wildfires are often wind driven and occur during declared Red Flag Warning days where low humidity and high winds facilitate fire ignition and spread. If a fire

starts in the Black Mountain Open Space Park and is fanned by Santa Ana winds out of the northeast, the fire likely would tend to blow away from the project site toward the southwest, west or south. Local winds may result in fire that burns toward the site, but terrain does not support aggressive runs at the community, which is separated from the open space by developed areas.

Fires occurring on typical (non-extreme) fire weather days, when humidity is higher and winds are not as high or gusty, have been very successfully controlled at small sizes within minutes of ignition and would not typically trigger a need to evacuate the project or surrounding area. Partial evacuation of some neighborhoods could be an option in these cases. Currently, the only viable evacuation route is Peñasquitos Drive to the south, which provides access to other primary evacuation routes (i.e., Carmel Mountain Road) that intersect with I-15 and SR-56 on-ramps. To the north of the project site, Andorra Way connects to Corte Raposo via an emergency vehicle access route that provides egress to Camino Del Norte and I-15, but is currently inaccessible. In the existing condition, the evacuation travel timeframe for the Glen's community is estimated at 8.3 hours once notification has been provided.

Upon implementation of the project and its associated improvements, residents of the project would evacuate the area via the following routes, depending on the nature of the emergency (see Figure 14 of the Wildland Fire Evacuation Plan in Appendix K4, which depicts access/egress and evacuation time for the community with project implementation):

- **Egress to the south (and west) via Peñasquitos Drive –** This is and would continue to be the primary evacuation route for the project and for the Glen's community. Peñasquitos Drive connects with Carmel Mountain Road, which offers travel options to the east into Carmel Mountain Ranch and Poway, and connects to I-15 and SR-56.

- **Southeastern project site egress to Carmel Mountain Road –** This ~~secondary~~ emergency access road would provide direct access from the project site to Carmel Mountain Road via proposed Private Driveway "V." This additional egress would be available to residents of the Glens community as well as the project during an emergency and would include a mountable median with bollards, enabling law enforcement-controlled egress to the east or west along Carmel Mountain Road. This additional emergency egress route would provide an important alternative should Peñasquitos Drive become congested or impassible during an emergency. This egress route would effectively reduce the time needed to evacuate the Glens community by 30 to 35 percent (Dudek ~~2019a~~2020a).

- **Western project site egress to Del Diablo Street –** This proposed emergency-egress-only road would connect the project site with Del Diablo Street. Del Diablo Street connects to Del Diablo Way then to Peñasquitos Drive, which offers egress to the south.

- **Egress to the north via enhanced Andorra Way route –** Enhancement of the egress route that connects Andorra Way to Corte Raposo, but is currently inaccessible, is proposed as part of the project and would provide an evacuation route in the northerly portion of the Glens community where no egress currently exists. Enhancements would include removing inoperable bollards, installing an automatic gate to SDFRD requirements, resurfacing the road to carry the imposed load of fire apparatus, and ~~ongoing brush management~~regular vegetation maintenance. Egress from the project site via this enhanced route would involve

travel along Del Diablo Way, Andorra Way, Corte Raposo, Paseo Montanoso, and Camino Del Norte.

In the proposed condition, which includes the additional egress routes and access route enhancements proposed by the project, the evacuation travel timeframe for the Glen's community and the future project residents is estimated at 3.5 hours, once notification has been provided. If the northerly emergency evacuation routes to Del Diablo Street and Andorra Way are not used, this would increase the evacuation time to 5.2 hours. This is in comparison to the estimated current evacuation time for The Glens community (without the additional evacuation routes provided by The Junipers) of 8.3 hours (Dudek ~~2019a~~2020a). Therefore, the project would reduce evacuation travel time within the project area and would not impair implementation of, or physically interfere with, the current San Diego County EOP or MHMP. Additionally, the project is subject to review by the SDF<u>R</u>D and the SDPD to ensure compliance with applicable safety standards.

5.14.4.3 Significance of Impact

Construction

City emergency safety standards and requirements pursuant to local regulations and standards are incorporated into the project design, including standard implementation of a traffic control plan during the construction period. As a result, no significant construction-period impacts related to fire hazards are identified.

Operation

The project Wildland Fire Evacuation Plan demonstrates that timely evacuation of the site is feasible and would be improved by the additional roadway and emergency egress connections provided by the project. Potential impacts related to impairment of or interference with adopted emergency response and evacuation plans (the 2014 Unified San Diego County Emergency Services Organization and County of San Diego Operational Area EOP) from implementation of the project would therefore be less than significant. Emergency safety standards and requirements relevant to structure design, road width, etc. required by the City pursuant to local regulations and standards are incorporated into the project design. As a result, no significant impacts are anticipated with respect to fire-related issues.

5.14.4.4 Mitigation, Monitoring and Reporting

Impacts would be less than significant; therefore, no mitigation is required.

5.14.5 Impact 4: Airport Hazards

Issue 4: Would the project result in a safety hazard for people residing or working in a designated airport influence area or within two miles of a private airstrip or heliport facility that is not covered by an adopted ALUCP?

5.14.5.1 Impact Thresholds

Based on the City Significance Determination Thresholds (2016a), impacts related to airport safety would be significant if the project would result in a safety hazard for people residing or working in a designated airport influence area or within 2.0 miles of a private airstrip or heliport facility that is not covered by an adopted ALUCP.

5.14.5.2 Impact Analysis

The nearest airport/air base to the project site is MCAS Miramar. The project is approximately 6.5 miles north of the designated accident potential zones associated with MCAS Miramar (which extend in a roughly east-west orientation rather than north-south), and is not subject to crash hazards from that facility. The project is not expected to construct any buildings that would be over 200 feet above the ground level or that would penetrate the 100:1 slope extending 20,000 feet away from the MCAS Miramar runway, which is approximately 7.5 miles away. No inconsistencies with the ALUCP are anticipated.

5.14.5.3 Significance of Impact

Based on the project's compliance with the MCAS Miramar ALUCP and its location outside of the Safety Zones associated with MCAS Miramar, impacts related to airport safety hazards would be less than significant.

5.14.5.4 Mitigation, Monitoring and Reporting

Impacts would be less than significant; therefore, no mitigation is required.

This page intentionally left blank

6.0 CUMULATIVE IMPACTS

Section 15130 of the CEQA Guidelines requires that an EIR address cumulative impacts of a project when its incremental effect would be cumulatively considerable. As defined in Section 15335, a cumulative impact consists of an impact which is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts. Cumulatively considerable means that the incremental effects of an individual project would be considerable when viewed in connection with the effects of past, current, or probable future, projects.

According to Section 15130 of the State CEQA Guidelines, the discussion of cumulative effects "… need not provide as great detail as is provided of the effects attributable to the project alone. The discussion should be guided by the standards of practicality and reasonableness." The evaluation of cumulative impacts is to be based on either:

(A) A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency, or

(B) A summary of projections contained in an adopted local, regional, or statewide , planning document…such plans may include a general plan…A summary of projections may also be contained in a adopted or certified prior environmental document which has been adopted or certified, for such a plan. Any such document shall be referenced and made available to the public at a location specified by the Lead Agency.

The basis and geographic area for the analysis of cumulative impacts is dependent on the nature of the issue and the project. In some cases, regional planning addresses cumulative impacts, while in other cases, the analysis takes into consideration more localized effects. For the analysis of cumulative impacts which are localized (e.g., traffic and noise), a list of past, approved, and pending (i.e., active applications) projects within the project area was identified by City staff based on their ability to contribute to and/or compound impacts with those of the project. The location of these cumulative projects is illustrated on Figure 6-1, *Cumulative Projects*. Table 6-1, *Cumulative Projects*, contains a brief description of the development associated with these projects (with the numbers in the list corresponding to the locations on the figure. For other topics, like air quality, the cumulative setting is the region, and analysis is instead based on regional planning documents.

Table 6-1
CUMULATIVE PROJECTS

Project Name	Type of Development	Project Size	Status
1. Pacific Village	Residential	601 Units – Mix of single-family, tri-plexes, row homes, and apartments	Approved
2. Merge 56	Mixed Use Community	525,000 SF Commercial/Office + 242 Residential Units (mix of single- family, townhomes, and multi-family, including 47 affordable units)	Approved
3. The Preserve at Torrey Highlands	Commercial/ Office	450,000 SF Commercial/Office	Under Review PTS# 442880

6.1 Cumulative Effects Found to be Significant

None of the project effects addressed within Section 5.0 was found to be cumulatively significant. Please refer to discussions under Section 6.2, for analyses of effects found to be less than significant, with or without mitigation.

6.2 Cumulative Effects Found Not to be Significant

6.2.1 Land Use

The geographic scope for the land use cumulative analysis includes the RPCP area, primarily focused on The Glens neighborhood (see Figure 6-1). Land uses and development patterns are typically established in local land use planning documents specific to jurisdictions, but can have implications on surrounding areas.

Cumulative projects within the RPCP area would be required to comply with the General Plan and RPCP. Projects that are not consistent with existing land use designations would require implementation of a CPA and/or GPA, as applicable. Projects that require a GPA and/or CPA are required to demonstrate conformance with pertinent goals, policies, and recommendations. Through implementation of a CPA/GPA, rezone, and PDP, as well as rescission of CUP 87-0346 for the prior golf course use, the project would be consistent with the General Plan and RPCP as is demonstrated for the project in Section 5.1, *Land Use.* This includes a change to policies showing a preference for retention of an existing golf course. Such retention is not possible, as there is no longer a golf course on site in the existing condition. Given the existing condition and approval of the GPA/CPA, the project would not contribute to a significant cumulative impact due to an inconsistency or conflict with an adopted land use plan, land use designation, or policy. Furthermore, with implementation of the proposed CPIOZ, future development densities would not be permitted to exceed those proposed by the project; development would be limited to a total of 536 residential units.

The analysis of land use-noise compatibility is based on future cumulative conditions (e.g., including cumulative traffic conditions). As detailed in Sections 3.0 and 5.1.3, the project would install noise attenuation features to address cumulative traffic noise conditions to avoid any potential inconsistency with the standards established in the General Plan's Noise Element as part of project design. The project would be required to obtain several deviations. These are focused items related to private exterior open space barrier height, length of lot frontage on public streets for multi-family residential, and setbacks within the RM-1-1 zone. These would be specific to the interior of the project, and would not significantly affect off-site users. In particular, the potential to increase barrier heights protecting private outdoor use areas for homes along I-15 would be largely shielded from sight for viewers from I-15. See discussion in Section 5.3, *Visual Effects/Neighborhood Character*, of this EIR. Potential additions to multi-family structure height for a focused design element related to affordable housing on Lot 5 would be generally screened from adjacent roadway viewers (for the brief period in which viewers would be passing) by berms associated with I-15 and the Carmel Mountain Road off-ramp at the southern extent of the project, additionally screened by project perimeter landscaping; or viewed from elevated positions, such as from Rancho Carmel Drive east of I-15, which would foreshorten the structure and minimize additional height visual effects from the

rest of the project. They would not be visually notable and would not combine with other structures of three stories in height located among existing development areas. The project would not result in conflicts with the MCAS Miramar ALUCP. As the project would not result in a significant impact related to consistency with applicable planning documents, the project would not result in a cumulatively considerable contribution to a land use compatibility impact.

6.2.2 Transportation/Circulation

The traffic analysis presented in Section 5.2, *Transportation/Circulation*, evaluates cumulative impacts for the Horizon Year (2050) conditions, which considers project traffic and project-implemented roadway improvements to forecasted 2050 conditions, based on the SANDAG Series 12 regional model. The Series 12 model reflects demographic and economic trends, including anticipated regional development pursuant to General Plans and Community Plans.

As detailed in Section 5.2 and summarized below, the project would not result in significant cumulative impacts at the street segments within the project study area as all study area street segments would operate at LOS C or better. Five intersections would operate at LOS E or F during peak hours, including the following:

- Intersection #1 Carmel Mountain Road/Rancho Carmel Drive – LOS E during the AM/PM peak hours
- Intersection #6 Peñasquitos Drive/Cuca Street/Hotel Karlan Driveway – LOS F during the AM peak hour
- Intersection #7 Peñasquitos Drive/Janal Way/Future Project Access – LOS F during the AM peak hour and LOS E during the PM peak hour
- Intersection #10 Rancho Peñasquitos Boulevard/Carmel Mountain Road/SR-56 WB Ramps – LOS E during the AM peak hour
- Intersection #11 Rancho Peñasquitos Boulevard/SR-56 EB Ramps – LOS E/F during the AM/PM peak hours

The increase in delay at Intersections #1, #10, and #11 would not exceed the acceptable delay thresholds and impacts would not be cumulatively significant; however, delay increases at Intersections #6 and #7 would exceed acceptable delay thresholds and mitigation measures would be required. Specifically, cumulative intersection impacts would result at intersection #6 (Peñasquitos Drive/Cuca Street/Hotel Karlan Driveway) and intersection #7 (Peñasquitos Drive/Janal Way/Future Project Access) as the project would contribute more than 1.0 second of delay at two intersections that would each operate at LOS F. Mitigation measures for intersections #6 and #7 are identified as TRA-1 and TRA-2 and include the construction of a traffic signal at intersection #6 and a roundabout at intersection #7, respectively.

The project would not result in significant adverse cumulative impacts with respect to traffic hazards or alternative transportation. Many of the project amenities would benefit other existing development. The project proposes a social loop pedestrian/bicycle trail that covers a 2.75-mile route through the site, which would be HOA-owned and maintained with a public recreation

easement allowing public access. Class II bike lanes would be provided through the project, connecting to existing Class II bike lanes on Carmel Mountain Road and Peñasquitos Drive. These facilities would provide pedestrian and cyclist access through the site, and facilitate more direct, safe connections to the adjacent circulation system and public transit for project residents and adjacent community residents, as demonstrated in the site, local and regional connectivity maps (Figures 3-8a through 3-8c) in Section 3.0. The project would also provide new emergency egress connections to Carmel Mountain Road and Peñasquitos Drive, as well as Via Andorra Way.

6.2.3 Visual Effects/Neighborhood Character

The geographic scope for the visual effects/neighborhood character cumulative analysis includes the RPCP area, primarily focused on the Glens neighborhood, but also the adjacent commercial area across the freeway because it contains a pedestrian/bicycle path with views of the project site. The Glens neighborhood of the RPCP is mostly built-out with residential uses, but there are a hotel and other commercial/retail uses to the south. Additional urban development is likely in the surrounding area due to forecasted population and economic growth. Implementation of the project and identified cumulative projects would continue to add to the sense of an urban community; however, this development would be required to be visually compatible with the surrounding neighborhood character and utilize appropriate architecture, materials, and development patterns as necessary for consistency with the aesthetic goals, principles, and objectives of the RPCP as detailed in Section 5.3, *Visual Effects/Neighborhood Character*.

As detailed in Section 5.3, while the project would not be consistent with the RPCP goal to "preserve golf course use," there is no longer an existing golf course to preserve. The project would be consistent with the current zoning assumption to develop the site with residential uses. As noted in the SDMC, the intent of the proposed multi-family zone is to be similar to single-family zoning. Although the exact format of development would be different (consisting of multi-family residential as opposed to single-family residential assumed under RS-1-14 for the site) visually the property would read as "developed" under either scenario. The development standards for RS-1-14 and the project densities and architectural styles are both consistent with those associated with the existing surrounding mixed development patterns and styles. Immediately adjacent to the site are single- and multi-family residential uses to the west, the hotel to the south, and I-15 to the east. Also very close are the additional multi-family uses (up to three stories in height) along Del Dios Way, and the block two-story multi-family along Cuca Street. Commercial/small business uses are just across Carmel Mountain Road from the project, and large scale (including big box) uses are immediately across I-15. These all combine to create the neighborhood that comprises part of the viewshed. The proposed buildings would have height and bulk compatible with existing development patterns in the Glens neighborhood, and would provide architectural features and treatments consistent with existing development. Since the area surrounding the project consists of a mix of single- and multi-family residential and large scale commercial, the cumulative development would not represent a substantial cumulative degradation in visual quality. While neighborhood character would continue to change over time in accordance with the applicable planning documents, project impacts to neighborhood character as a result of implementation of the project would not be cumulatively considerable.

Screening barriers for private exterior open space associated with homes adjacent to I-15 and retaining walls would be visual elements of the project. Some of these elements would exceed 6 feet

in height. As discussed in detail in Section 5.3, such elements would not result in a disorganized or incompatible appearance, and in many cases these features would be obscured by topography and/or vegetation. Adjacent residential and commercial development and the I-15 freeway have some similar barriers, including a nearby retaining feature along 1-15 at the north end of the project segment that is taller than 6 feet and closer to I-15 viewers than the project barriers would be. The addition of project-built elements to a setting that includes a notable mix of uses, including the industrial transportation facility and notable commercial uses in addition to a mix of residential uses, would not constitute an adverse considerable contribution to the built I-15 corridor, regional visual effects, or community character.

Combining project effects with the cumulative projects results in a similar conclusion. While two of the cumulative projects are located substantially to the west of the project and would not be included within project views, Pacific Village would be located immediately south of the commercial area south of Carmel Mountain Road and the project, located in a narrow area immediately west of I-15. This area could potentially be seen in concert with the project where expansive views are available from elevated and more distant locations. Both projects, as smaller visual elements within these larger views, would combine with other built uses in the immediate vicinity to continue what already visually reads as a developed valley floor adjacent to large open space associated with Black Mountain. The visual impact of project features is notable but less than significant from analyzed public view locations (including Black Mountain Open Space Park).

As noted in Section 5.3.1, there are no designated viewpoints, view corridors, scenic routes, or scenic vistas on site or in the project vicinity identified in the RPCP. With regard to lighting and glare, the RPCP area and Glens neighborhood contain numerous residential (private) lighting sources, as well as street lighting along major roadways, and adjacent commercial development to the south and east. Lighting associated with the project would be in keeping with other residential lighting in the area and would comply with the City's Outdoor Lighting Regulations, just as existing development would have been required to comply with these regulations. As such, the project, combined with other reasonably foreseeable projects in the immediate vicinity, would not result in a cumulatively considerable impact relative to light pollution. The project would not create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area and therefore, when considered with other reasonably foreseeable projects in the vicinity, would not result in a cumulatively considerable contribution to a light and glare impact in the community.

6.2.4 Noise

The geographic scope for this analysis is the Glens neighborhood immediately surrounding the project site and RPCP area roadways that would be used by project vehicles. Generally, noise impacts are limited to the area directly surrounding the noise generator, as noise attenuates with distance and only has the potential to combine with other noise sources in the immediate vicinity.

Construction Noise

The project would have a less than significant impact from construction noise to adjacent residential and park land uses. None of the cumulative projects is located immediately adjacent to the project site or vicinity. Therefore, given the nature of how noise attenuates over distance, it would be unlikely that construction equipment, even if operating simultaneously, could cause cumulative

impacts to NSLUs. Section 5.2, *Transportation and Circulation*, estimates approximately 40 truck trips per day and 200 worker/delivery trips per day. This would be a temporary condition and represents substantially less than the doubling of traffic volumes on either Peñasquitos Drive or Carmel Mountain Road, that would be necessary in order to result in a noticeable difference in traffic noise along these roads (HELIX 2019a). The associated increase in traffic from the project would have a minor impact on noise and temporary increases in ambient noise levels from construction traffic would be less than significant. Therefore, the project's contribution to cumulative construction noise would be a less than significant impact. Similarly, the only construction equipment resulting in a (less than significant) potential impact would be a vibratory roller. Only one would be in use in any particular on-site location, and cumulative projects are local or too great a distance to contribute to this effect. Therefore, the project's contribution to vibration noise would be a less than significant impact.

Operational Noise

The implementation of cumulative development projects could have the potential to increase ambient noise from new operational noise sources (such as HVAC equipment, trash collection, recreational activities, etc.). However, the closest of the three cumulative projects listed above is Pacific Village, located approximately 900 feet away from property line to property line, and south of existing commercial uses. As described in Section 5.4, *Noise*, the project's operational noise, which includes the sources listed above, would not exceed SDMC limits. Operational noise from other projects in the area would also have to comply with these limits. Therefore, given the distance to the nearest cumulative project, and assuming compliance with the SDMC limits; the project's contribution to ambient noise would not be cumulatively considerable.

Traffic Noise

Pursuant to the City's Significance Determination Thresholds, the potential for a cumulative traffic-related noise impact can occur when traffic from multiple projects combines to increase noise levels above thresholds. A significant cumulative exterior impact would occur if:

- Cumulative projects in combination with the project result in the exposure of a single-family residential NSLU, that is exposed to less than 65 CNEL in the Existing Conditions scenario, to an exterior noise level of 65 CNEL or greater in the Year 2050 + Project scenario; or exposure of a multi-family residential NSLU, that is exposed to less than 70 CNEL in the Existing Conditions scenario, to an exterior noise level of 70 CNEL or greater in the Year 2050 + Project scenario; or

- If the NSLU is already exposed to noise levels above the applicable threshold under the Existing Conditions scenario, cumulative projects in combination with the project would expose existing residences to an increase of at least 3 CNEL from the Existing Conditions scenario to the Year 2050 + Project scenario.

As shown in Table 6-2, *Cumulative Project Generated Traffic Noise Levels*, noise levels would not exceed the applicable thresholds along the analyzed off-site roadway segments. Furthermore, the contribution from cumulative projects in combination with the project would not cause an increase in the CNEL level of at least 3 dBA.

Table 6-2
CUMULATIVE PROJECT GENERATED TRAFFIC NOISE LEVELS

Roadway Segment	Distance to Nearest NSLU (feet)[1]	NSLU Type	CNEL at Nearest NSLU						
			Existing	Year 2050 (No Project)	Year 2050 + Project	Change from Existing to Year 2050 + Project	Cumulative Impact?	Change from Year 2050 (No Project) to Year 2050 + Project	Cumulatively Considerable Contribution?
Carmel Mountain Road									
Stoney Peak Drive to Rancho Carmel Drive	100	MF	63.5	64.9	64.9	+1.4	No	+0.0	No
Rancho Carmel Drive to I-15 NB Ramps	220	Hotel	57.3	57.7	57.8	+0.5	No	+0.1	No
Future Driveway to Peñasquitos Drive	65	Hotel	66.7	67.9	68.0	+1.3	No	+0.1	No
Peñasquitos Drive to Cuca Street	70	MF	61.3	62.2	62.3	+1.0	No	+0.1	No
Cuca Street to Paseo Cardiel	65	MF	62.3	63.7	63.8	+1.5	No	+0.1	No
Peñasquitos Drive									
Carmel Mountain Road to Cuca Street	90	SF	59.4	60.0	60.3	+0.9	**Yes**	+0.4	No
Cuca Street to Jamal Way	60	SF	62.3	62.7	63.2	+0.9	No	+0.5	No

[1] Distance measured from roadway centerline.

Note: A significant cumulative exterior impact would occur if cumulative projects (including the project) generate noise exterior levels at single-family residential NSLU to 65 CNEL or greater, or a multi-family residential NSLU to an exterior noise level of 70 CNEL or greater or increase noise levels by 3 CNEL in areas that currently exceed those levels.
A cumulative considerable contribution would occur if the project is responsible for 1 dBA or more increase of an impacted NSLU.
A significant cumulative interior impact would occur if cumulative projects (including the project) either: (1) result in interior noise levels at single-family and multi-family NSLUs in excess of 45 CNEL; or (2) if interior noise levels currently exceed 45 CNEL and cause an increase of at least 3 CNEL compared to existing conditions.
NSLU = Noise Sensitive Land Use; SF = Single-family Residential; MF = Multi-family Residential

A significant cumulative interior impact would occur if cumulative projects in combination with the project meet the following conditions: (1) single- and multi-family residential NSLUs with existing interior noise levels below 45 CNEL experience increased interior noise levels in excess of 45 CNEL; or (2) if NSLUs already exposed to interior noise levels in excess of 45 CNEL, experience an increase of at least 3 CNEL from the Existing Conditions scenario to the Horizon Year 2050 + Project scenario. As typical architectural materials are expected to attenuate noise levels by 15 CNEL, interior noise levels would be 45 CNEL or greater if the noise levels at the building façades exceed 60 CNEL. All analyzed segments except for Peñasquitos Drive from Carmel Mountain Road to Cuca Street and Carmel Mountain Road from Rancho Carmel Drive to I-15 on-ramps exceed 60 CNEL and therefore the NSLUs may currently be exposed to interior noise levels above 45 CNEL. However, as shown Table 6-2, the project in combination with cumulative projects would not cause an increase of 3 CNEL from the Existing Conditions scenario to the Year 2050 + Project scenario. (Furthermore, and as shown on that same table) the analyzed segments that do not currently exceed 60 CNEL would not exceed 60 CNEL in the Year 2050 + Project scenario. In no instance does traffic noise increase by even 1 CNEL. Therefore, traffic-related interior noise impacts from the project would not be cumulatively considerable.

Construction, site operational, and traffic noise associated with the project would not cause significant increases in the cumulative noise environment. Therefore, the project would not result in a cumulatively considerable contribution to impacts related to noise.

6.2.5 Air Quality

The geographic scope for the analysis of cumulative air quality impacts is the SDAB. It is appropriate to consider the entire air basin as air emissions can travel substantial distances and are not confined by jurisdictional boundaries; rather, they are influenced by large-scale climatic and topographical features. While some air quality emissions can be localized, such as a CO hotspots or odor, the overall consideration of cumulative air quality is typically more regional. By its very nature, air pollution is largely a cumulative impact.

The SDAB is a federal nonattainment area for ozone, and a state nonattainment area for PM_{10}, $PM_{2.5}$, and ozone. The nonattainment status of regional pollutants is a result of past and present development within the SDAB, and this regional impact is cumulative rather than attributable to any one source. Cumulative projects in the RPCP area and throughout the air basin would generate construction and operational air pollutant emissions that could contribute to air quality impacts. As discussed in Section 5.5, Threshold 4 (pertaining to criteria pollutants for which the project region is in nonattainment status) is relevant to whether a project's individual emissions would result in a cumulatively considerable incremental contribution to the existing cumulative air quality conditions. This threshold is designed to identify those projects that would result in significant levels of air pollution and to assist the region in attaining the applicable state and federal ambient air quality standards. If a project's emissions would be less than those threshold levels, the project would not be expected to result in a considerable incremental contribution to the significant cumulative impact.

Construction Emissions

It is possible that the project and the other development projects in the SDAB would contribute particulates and the ozone precursors VOC and NO_X to the area during the same (short-term) period of construction. As described in Section 5.5, *Air Quality*, project emissions during construction would not violate any air quality standard or contribute substantially to an existing or projected air quality violation. Construction emissions from the project would be less than the significance thresholds (as shown in Table 5.5-5), which take into consideration the cumulative contributions of a project. The Junipers project and all related cumulative projects in the SDAB would be required to comply with SDAPCD and City requirements to minimize dust generation and construction equipment vehicle emissions. In all cases, construction emissions would be short-term and would not affect the long-term achievement of attainment status and RAQS goals. Based on all of these considerations, the project's construction emissions would not be cumulatively considerable, and the impact would be less than significant.

Operational Emissions

As shown in Table 5.5-6 and discussed in Section 5.5.3, project emissions of all criteria pollutants during operation would be below the daily thresholds. Therefore, direct impacts from criteria pollutants generated during operation would not cause a violation of any air quality standard, contribute substantially to an existing or projected air quality violation, or exceed the particulate matter threshold and thus, impacts would be less than significant. The thresholds in Table 5.5-6 are designed to address both project-level and cumulative contribution of a project. A project that exceeds the thresholds is assessed as also making a significant contribution to the potential or ongoing exceedance of the applicable state and federal ambient air quality standards. Projects that would exceed the thresholds of significance would therefore contribute a considerable amount of criteria air pollutant emissions to the region’s emissions profile and may impede attainment and maintenance of ambient air quality standards.

Since the project would be well below regional thresholds and, therefore, not cumulatively considerable, its emissions would be consistent with assumptions in the Regional Air Quality Strategy and State Implementation Plan, and long-term emissions would not produce a cumulatively significant impact to air quality or human health.

As discussed in Sections 5.5.3 and 5.5.4, no exceedances of the CO standard or substantial generation of TACs would occur. The project also would not result in hotspots or the creation of objectionable odors or health impacts affecting a substantial number of people. These impacts would be less than significant and not cumulatively considerable.

6.2.6 Greenhouse Gas Emissions

The geographic scope of consideration for GHG emissions is global, and as such emissions contribute, on a cumulative basis, to global climate change. By nature, GHG impacts are cumulative as they are the result of combined worldwide emissions over many years, and additional development would incrementally contribute to this cumulative impact. The discussion presented in Section 5.6, *Greenhouse Gas Emissions*, also serves as the project’s cumulative impact analysis.

As detailed in that section, a number of plans, policies, and regulations have been adopted for the purpose of reducing cumulative GHG emissions. The project has incorporated a number of sustainable features into its design to reduce overall emissions, reflecting the types of emissions reduction measures recommended by public agencies to reduce the magnitude of GHG emissions and help California achieve its statewide goals. The project would be consistent with the GHG reduction measures contained in the City's CAP, and would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. As a result, the project would not result in a cumulatively considerable contribution to impacts related to GHG emissions.

6.2.7 Energy

The geographic scope for consideration of cumulative energy impacts is the San Diego region as a whole. Development throughout the region influences the demand for energy supply and can drive the location and need for new or additional energy production and transmission infrastructure. Energy service providers and their distribution systems generally cover large areas and are not necessarily associated with or restricted to specific governmental jurisdictions. Most development or redevelopment projects, such as those included in the cumulative project list, do not independently create substantial impacts on energy production or infrastructure. Rather, the demand for energy is influenced by regionwide development. Thus, many planning documents that forecast energy demand and determine adequate supply and appropriate infrastructure needs and strategies are also on regional scales.

While development projects would result in the demand for additional energy, they also would be subject to federal, state, and local energy conservation and/or alternative energy policies, such as Title 24 and those policies contained within the Conservation Element of the City's General Plan, as addressed in Section 5.1, *Land Use*. This minimizes the potential for unnecessary or wasteful energy use associated with cumulative development or the demand for energy beyond that accounted for in regional supply forecasts and production.

Similar to other cumulative development projects, implementation of the project would result in the consumption of energy during both project construction and operation. The project design features and conservation strategies are intended to ensure that the project's energy consumption would not be wasteful, inefficient, and unnecessary. Based on the estimated project energy demand, it also would not be anticipated to require the construction of new energy facilities or require improvements to local infrastructure (other than the proposed realignment of existing utilities passing through the project site, in order to accommodate the proposed development). The other cumulative projects would be required to implement similar design features and conservation strategies pursuant to Title 24 and other policies. These policies include the CALGreen Code (Part 11 of Title 24) and the Building Energy Efficiency Standards for Residential and Nonresidential Buildings, which currently aim to achieve no net energy use increases by 2020. Therefore, the project would not result in a cumulatively considerable contribution to a significant impact on energy resources.

6.2.8 Biological Resources

The study area for cumulative biological resource impacts is difficult to determine given the extent of the affected biological resources in the region. Therefore, for the purposes of analysis, this discussion is based on the MSCP, which covers sensitive biological resources located within the

City of San Diego as well as portions of the County of San Diego and other cities. The City, USFWS, CDFW, and other local jurisdictions joined together in the late 1990s to develop the MSCP to ensure habitat and species viability throughout the region, while still permitting some level of continued development. Preserve areas identified under the MSCP are designated as MHPA. Because the MSCP establishes which areas within the region are to be preserved and which can be developed, this program takes into account the cumulative impacts to sensitive upland habitats and MSCP-covered species.

As discussed in Section 5.8, *Biological Resources*, with respect to upland impact, the project would impact only Tier IV habitat. Tier IV habitat (i.e., Eucalyptus Woodland, developed/disturbed land, and non-native vegetation) is not a protected habitat type and does not require mitigation.

However, a jurisdictional delineation was conducted and it was determined that there is a single on-site drainage feature in the form of a man-made ditch which would be impacted and re-located in order to construct the project. The drainage channel was determined to contain 0.1 acre of non-wetland WUS/WS and 0.15 acre of CDFW unvegetated streambed, but there were no areas that were determined to meet the definition of City of San Diego ESL wetlands. A "no net loss" policy has been established for wetlands by state and federal resource agencies, as well as the City; therefore, the project is required (BIO-1) to establish/re-establish jurisdictional habitat at a minimum 1:1 ratio. Other projects that would impact wetlands would be required to mitigate impacts as well, at ratios commensurate with the type and location of the impacts, pursuant to the MSCP and regulatory agency requirements, thereby ensuring that cumulative impacts would result in no net loss of wetlands. Pursuant to BIO-1, and the implementation of applicable mitigation for other projects, construction of the project and other cumulative projects would not result in the net loss of jurisdictional resources. Accordingly, the project would not result in a cumulatively considerable contribution to loss of sensitive jurisdictional habitat.

Raptors such as the Cooper's hawk have potential to nest in the trees on site. In addition, other birds that are covered by the MBTA, including MSCP-covered species such as the western bluebird were noted during surveys, and although no nests were identified, may nest on site or within adjacent trees and/or shrubs. The removal of trees and shrubs during construction as well as noise associated with construction activities, is conservatively assessed as potentially leading to direct and indirect impacts to nesting raptors and migratory birds. Migratory bird impact avoidance is required by law, and potential project impacts to nesting raptors and other birds would be achieved through compliance with the MBTA and CFG Code in conformance with the City Biology Guidelines. The project and all cumulative projects would be required to comply with this law. Therefore, cumulative impacts to migratory birds would be less than significant. Considering that all other cumulative projects would be subject to the same regulations, and would be required to implement similar mitigation, the project's contribution to less than significant cumulative impacts to avian species also would be less than significant and not cumulatively considerable.

6.2.9 Hydrology and Water Quality

The geographic scope for analysis of impacts related to hydrology and water quality is the Peñasquitos HU, 1 of 11 major drainage areas identified in the RWQCB Basin Plan. Lands and water bodies within the watershed are part of an interrelated hydrologic system, such that modifications

to a portion of a watershed or water pollution produced by development in one location may result in hydrology and water quality impacts that affect other water bodies in the watershed.

To the extent that other projects listed in Table 6-1 would be developing/operating at the same time as the project, related construction and operation activities could contribute to potential cumulative hydrology and water quality impacts associated with runoff generation, flooding hazards, drainage alteration, hydromodification, and water quality concerns. As described in Section 5.9, *Hydrology and Water Quality*, implementation of the project (as well as the cumulative projects listed in Table 6-1) would require conformance with a number of regulatory requirements related to hydrology and water quality, including applicable elements of the CWA, NPDES, City storm water standards, Porter-Cologne Water Quality Control Act, FEMA floodplain standards, and RWQCB Basin Plan. Based on such conformance, including implementation of related project design measures, all identified project-level hydrology and water quality impacts associated with the project would be effectively avoided or reduced below a level of significance.

The described regulatory requirements constitute a regional effort to implement hydrology and water quality protections through a watershed-based program designed to meet applicable criteria such as Basin Plan Beneficial Uses and Water Quality Objectives. To this end, these standards require the implementation of efforts to reduce runoff/contaminant discharges and related effects to the MEP, with the NPDES Municipal Permit identifying the specific goals of limiting or prohibiting storm water and non-storm water discharges, and promoting attainment of water quality objectives necessary to support designated beneficial uses. The City has implemented requirements to meet these goals (and other applicable regulatory criteria) in the form of the associated storm water standards outlined in Section 5.9.1.2, as well as related education, planning, and enforcement procedures. Based on the described regional/watershed-based approach required for hydrology and water quality issues in existing regulatory standards, as well as the fact that conformance with these requirements would be required for all identified projects within the cumulative projects area (including the project), cumulative hydrology/water quality impacts would be less than significant.

6.2.10 Geology and Soils

The geographic scope for this analysis is the RPCP area and immediately surrounding lands. Geology and soil features can be very specific to certain locations and sites, but can also have broad reaching elements, such as faults and underlying bedrock formations. However, potential geologic or soil hazards resulting from development are generally localized to the site and immediate surrounding lands rather than a broad-reaching area. In this way, potential cumulative impacts resulting from seismic and geologic hazards would be minimized on a site-by-site basis to the extent that standard construction methods and code requirements provide. Throughout the RPCP area, cumulative projects would also be susceptible to similar geologic hazards. The specific geologic condition of each individual project site, soil type, and project excavation requirements would dictate the severity of the potential geologic risks.

As described in Section 5.10, *Geology and Soils*, all potential site-specific geotechnical impacts would be avoided or reduced below a level of significance through conformance with geotechnical recommendations and established regulatory standards. Specifically, with the exception of slope stability and erosion/sedimentation (as discussed below), potential geology and soils effects are inherently restricted to the areas proposed for development and would not contribute to cumulative

impacts associated with other planned or proposed development. That is, issues including ground shaking, ground acceleration, expansive soils, subsidence/shrinkage, settlement, and shallow groundwater would involve effects to (and not from) the site and/or are specific to on-site conditions. Accordingly, addressing these potential hazards for the project would involve using measures to conform to existing requirements and/or site-specific design and construction. Because of the site-specific nature of these potential hazards and the measures to address them, as well as the fact that the listed cumulative projects also would be subject to the noted standards, associated potential cumulative impacts related to the identified geology and soils issues would be less than significant.

Extensive analysis was conducted regarding the potential for the project to destabilize adjacent properties during project grading and the results indicate that with implementation of the recommendations within the Geotechnical Investigation, slope stability would be within acceptable safety parameters. Measures such as slot buttressing would be employed to ensure the stability of existing manufactured slopes along the northern and western site boundaries and to protect the adjacent properties during project grading. This issue and the associated geotechnical project measures are associated with project grading only and would not be influenced by implementation of the other cumulative projects.

During construction of the project, graded areas would be exposed to potential erosion and sedimentation impacts. Project-related erosion and sedimentation could contribute to associated cumulative effects in concert with other existing and future development in the project vicinity. Project implementation, however, would include a number of avoidance and minimization measures related to erosion and sedimentation impacts, including the types of BMPs described in Section 5.9, *Hydrology and Water Quality*. These (or other appropriate) measures in the project SWPPP would ensure conformance with applicable federal (NPDES), state and local regulatory standards related to erosion and sedimentation, and would reduce any project-related contribution to cumulative impacts involving construction-generated erosion and sedimentation to below cumulatively significant levels.

As described in Section 5.9, erosion and sedimentation are not considered to be significant long-term concerns at the project site, as developed areas would be stabilized through installation of associated structures/hardscape and landscaping. As the cumulative projects listed in Table 6-1 would exhibit similar long-term conditions, the project would not result in a cumulatively considerable contribution to long-term erosion and sedimentation.

Overall, cumulative projects would be subject to the same regulations and engineering practices as the project, such as the City's grading ordinance, storm water regulation and associated BMPs, as well as CBC requirements. Potential cumulative impacts related to geology and soils would be less than significant.

6.2.11 Historical and Tribal Cultural Resources

As with biological resources, defining a study area for historical resources is difficult given the extent of historical (e.g., pre-historic) resources in the region. However, cumulative impacts within the City are expected to be limited by the fact that the project as well as cumulative projects will be required to comply with City mitigation measures (i.e., historical and tribal resource monitoring and data

recovery programs) applied to projects which could impact significant historical resources. These mitigation measures require significant information associated with these sites to be recorded before impacts may occur. No prehistoric or historic resources were encountered on the project site. Based on the previous development of the project site, including the addition of substantial fill material, it is anticipated that any resources that may have been present before the golf course development would have been destroyed or buried at the time of development. Nevertheless, mitigation has been provided to require monitoring during grading of any native soils beneath or adjacent to the existing fill. Tribal outreach has resulted in concurrence that the study program and proposed mitigation for the site are adequate and no need for additional consultation was identified. Thus, the project is not expected to contribute to cumulative impacts within the region to historic and tribal resources, and with the application of similar cultural resources/tribal assessment, consultation and monitoring requirements to the other cumulative projects as well, cumulative impacts to historical and tribal resources would be less than significant.

6.2.12 Public Utilities

The geographic scope for public utilities cumulative analysis is the San Diego region. Public utilities can be specific to jurisdictions; however, some service providers offer service throughout a region and across multiple jurisdictions. Thus, changes in development influence the demand for utilities across the region and can drive the need for new or expanded utility infrastructure. Pending and future projects would be required to analyze public utilities demand and supply to avoid conflicts, and provide upgrades or development impact fees toward new infrastructure facilities, as needed.

The project's water demand has been considered in conjunction with other past, present, and reasonably foreseeable future development in the City through the WSA. This analysis determined that sufficient water supplies would be available to serve the project in conjunction with other development. The project also would not result in the need for new or altered off-site water systems.

As discussed in Section 5.12, *Public Utilities*, a Sewer System Analysis for The Junipers Project (Dexter Wilson Engineering 2019b, EIR Appendix J3) was prepared in order to determine the impact that the project would have on City of San Diego sewer infrastructure. The study found that the existing public sewer lines that would receive this additional flow are currently operating under their design capacity. The additional flow would slightly increase the depth of flow within the off-site pipelines, but the pipelines would still operate within their design capacity. As described in Section 5.12, the City's Point Loma Wastewater Treatment Plant treats 180 million gallons of wastewater per day; but has a total capacity of 240 mgd. In addition, the PUD also has a separate recycled water system that treats a portion of the wastewater generated in its service area. Specifically, the North City Water Reclamation Plant is designed to treat up to 30 mgd of wastewater; but is only receiving an average of about 10 mgd. Therefore, existing wastewater conveyance and treatment infrastructure would be adequate to serve the project and cumulative development projects.

All projects (including the cumulative projects) are required to comply with the City's waste management ordinance which requires that a WMP be prepared for any project that could generate more than 60 tons of waste annually. Therefore, based on the size of the project, preparation and implementation of a WMP was required to address potential cumulative impacts related to solid waste generation and any other similarly sized cumulative projects would be required to prepare a

WMP as well. The WMPs include waste diversion measures and other project conditions to ensure that the project's contribution to a cumulative solid waste impact would be less than significant (see HELIX 2019a, EIR Appendix J4).

The project would not result in a need for new off-site public utility systems or infrastructure, or require substantial alterations to existing off-site utilities or infrastructure. The existing off-site utilities systems that currently serve the project area were studied by the water/wastewater engineer and were found to be sufficient in serving the project even in conjunction with existing development and the cumulative projects. The project also would not induce substantial population growth in the surrounding area, which would result in further increased utility demand. Therefore, the project would not result in a cumulatively considerable contribution to public utilities impacts when viewed together with past, present, and reasonably foreseeable future projects.

6.2.13 Public Services and Facilities/Recreation

The geographic scope for analysis of public services and facilities is the RPCP area. The provision of public services and facilities is often specific to jurisdictional providers or confined by set service boundaries and funding specifications. Public services and facilities generally serve residents on a community-wide basis. Typically, changes in development influence the demand for public services and related facilities to be provided within a local city, county, or service district.

Similar to the project, cumulative projects would pay development impact fees and generate sales and property taxes over time, that would help to offset the additional costs to public service providers. These fees allow the City to have a source of funding available to add personnel, equipment or facilities, as necessary to achieve and maintain adequate public service provision per population-based requirements as development occurs within an area.

As discussed in Section 5.13, *Public Services and Facilities/Recreation*, police Beat 233 generally meets the City's response times goals, although the goals set forth in the General Plan were slightly exceeded for priority E, 1, and 4 calls. The project, along with cumulative development projects, would likely result in incremental increases in police calls for service, but no new facilities or improvements to existing facilities are planned. The project, and other cumulative developments of similar type and size, would undergo a Crime Prevention Through Environmental Design (CPTED) review to minimize demand for police service, and would help to fund police service improvements through development fees and property/sales taxes. Therefore, cumulative impacts to police service would be less than significant.

In the existing condition, Fire Station 42, which would serve the project site, averages a call response time of 8 minutes 5 seconds; whereas the goal is 7.5 minutes. The project, and other potential cumulative projects, would be constructed in accordance with the standards of the applicable California Building and Fire codes and applicable NFPA codes, and would pay development impact fees and other taxes. No new facilities or improvements to existing facilities would be required in order to provide adequate service. Therefore, cumulative impacts to community fire protection services would be less than significant.

Local library branches are part of the City library system, which enables residents to use libraries that are more convenient to them based on their daily routines. The project, and cumulative projects, would be required to pay development impact fees, along with future payment of property

and sales taxes. As a result, existing libraries would not be impaired. At this time, no new libraries are planned in the Rancho Peñasquitos community. Cumulative impacts to libraries would be less than significant.

The RPCP area currently has a shortage of parkland, which could be exacerbated by the project and other cumulative development. New development is not, however, required to address existing parkland deficits. The project would provide public park acreage in excess of the amount required by the City for the project, as well as a publicly accessible private park and social loop trail, private open space for each lot, and common usable and non-usable open space areas for the proposed development. Based on the provision of required public park acreage and payment of required development impact fees, direct project impacts on park and recreation facilities would be less than significant. The provision of the additional (excess) open space and recreational amenities would further reduce this less than significant impact. In addition to wholly satisfying the project park needs, the provision of the public park, and publicly accessible private park and social loop trail, would be expected to serve the surrounding neighborhood. These features would be expected to positively affect the current cumulative shortage.

In addition, the project (as noted) and other cumulative projects would be required to pay applicable development impact fees at the time of building permit issuance, and would generate additional property and sales tax revenues for the City, which would help to offset the impacts of anticipated cumulative development on existing park and recreational facilities. Therefore, impacts on such facilities would be less than significant.

In summary, as discussed in Section 5.13, although the project would result in an increase in demand for public services and facilities, it would not necessitate the construction of new police, fire, library, or recreational facilities (beyond the open space/park facilities that are included as part of the project). In addition, potential impacts related to police protection, fire protection/rescue services, libraries, and parks would be offset by the required development impact fees, as well as the long-term payment of property and sales taxes that help to fund public services. Impacts to schools are addressed within Section 7.1, *Effects Found Not to be Significant*, because the project is an age-restricted (55+) development and therefore, with very rare exceptions, school-aged children would not be allowed to live on site. Thus, the potential for cumulative environmental impacts associated with public services and facilities effects would be minimized. For these reasons, the project would not result in a cumulatively considerable contribution to impacts related to public services and facilities.

6.2.14 Health and Safety

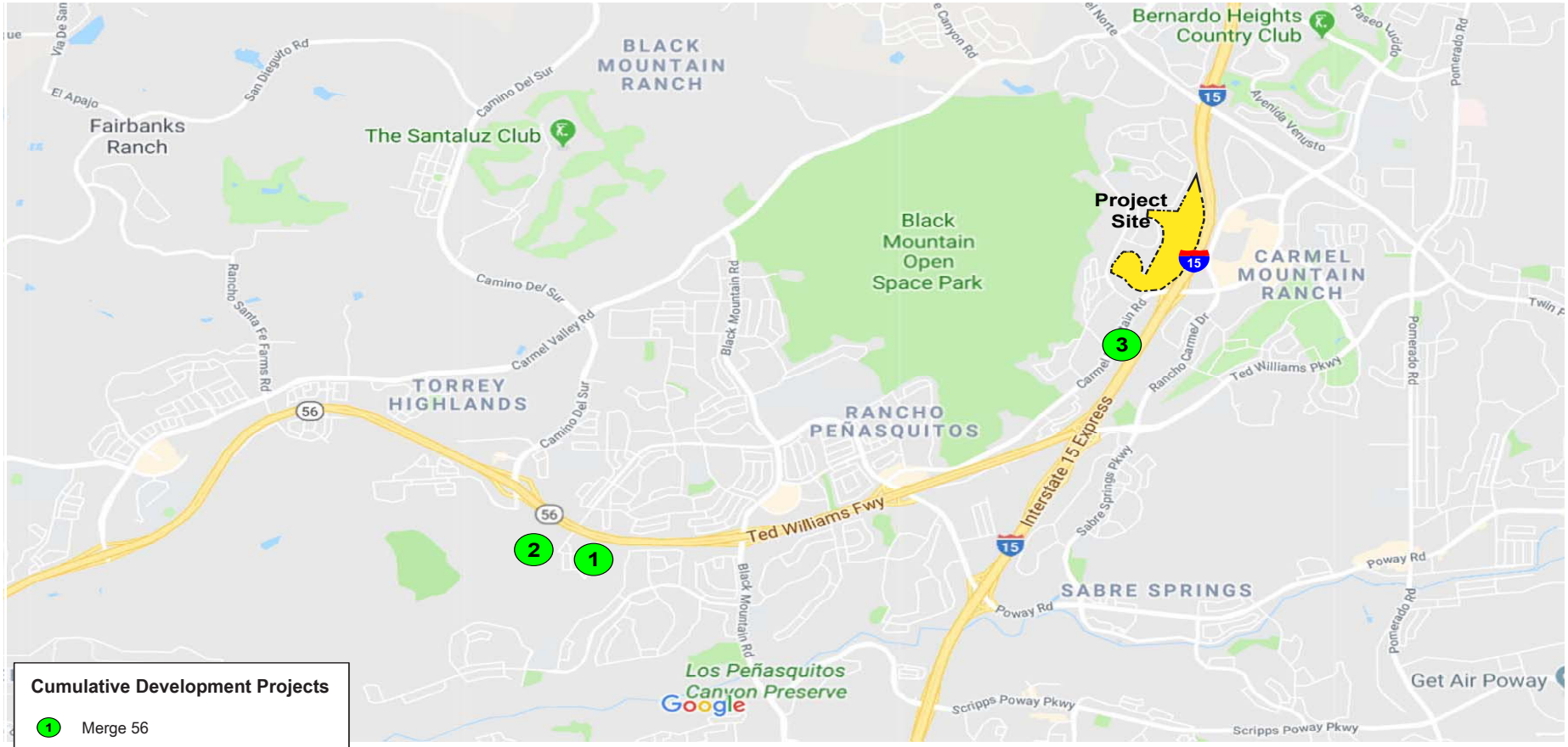
The project would not result in a significant impact to health and safety. The project does not propose uses that may include hazardous or toxic emissions. The potential for hazardous or contaminated soils to be present on site, as remnants of past uses, would be addressed during construction through the implementation of a soils management plan. The plan is intended to protect on-site construction workers; any potential contaminated soils encountered would not affect off-site residents or combine with the effects of related cumulative development. There are no schools or hospitals (sensitive receptors) within 0.25 mile of the project site (Rolling Hills Elementary School is the closest, at over 0.3 mile away). Any residential-grade hazardous materials (e.g., landscaping chemicals/pesticides) would be regulated by County DEH, as applicable.

Cumulative projects would also be required to follow DEH measures and regulations relative to hazards and/or hazardous materials/emissions.

As described in Section 5.14, *Health and Safety*, a portion of the project site is located within the VHFHSZ associated with the Black Mountain Open Space Park to the west. One of the cumulative projects (Pacific Village), along with a significant portion of the Glens community, are also located within the VHFHSZ around the Black Mountain Open Space Park. Implementation of the project would be subject to applicable state and City regulatory requirements related to fire hazards and prevention. Specifically, these include standards associated with vegetation ~~(brush)~~ maintenance/ management, as well as incorporating applicable fire-related design elements such as fire-resistant building materials, fire/ember/smoke barriers, automatic alarm and sprinkler systems, and provision of adequate fire flow and emergency access. Based on the described regulatory requirements related to fire hazards and prevention, potential impacts associated with wildfire hazards from implementation of the project would be less than significant. The Conceptual Wildland Fire Evacuation Plan for the existing Glens community and proposed Junipers project also highlights the transportation improvements associated with the project, from improving flow along Peñasquitos Drive to improving an off-site emergency-only connection between Andorra Way and Corte Raposo that would provide a northerly emergency exit from the neighborhood that does not currently exist. With project implementation, overall anticipated evacuation time from the Glens neighborhood would diminish. The project Evacuation Plan shows that despite increasing the number of vehicles evacuating the community, the project is expected to reduce the estimated overall evacuation time for the greater Glens community from 8.3 hours to 3.5 hours, due to the additional exit provided to Carmel Mountain Road and the enhanced northerly emergency evacuation route via Andorra Way. The project would therefore improve the cumulative condition rather than resulting in an adverse contribution to it.

There are no private runways or public airports within 2.0 miles of the project site. The MCAS Miramar runway is approximately 7.5 miles to the southwest and the project site is within the AIA for MCAS Miramar. However, it is not within any CNEL noise contours or APZs and would not contribute to a cumulative impact with regard to public safety.

This page intentionally left blank



I:\PROJECTS\W\NDG\NDG-01_TheJunipers\Map\EIR\Fig6-1_CumulativeProjects.indd LEN-84 1/6/2020 - SAB

Source: Linscott Law & Greenspan Engineers, 2019

HELIX Environmental Planning

Cumulative Projects

Figure 6-1

7.0 OTHER CEQA SECTIONS

This chapter addresses the issues of Effects Found Not to be Significant, Growth Inducement, and Significant Effects Which Cannot be Avoided if the Project is Implemented.

7.1 Effects Found Not to be Significant

Based upon initial environmental review, the City has determined that the project would not have the potential to cause significant impacts associated with the following issue areas:

- Agriculture and Forestry Resources
- Mineral Resources
- Paleontology
- Population and Housing
- Schools

7.1.1 Agriculture and Forestry Resources

7.1.1.1 Agriculture

The project site is surrounded by existing urban development and infrastructure, and was previously developed with a golf course, which has been closed since 2015. The site is not used for agricultural purposes, is not zoned or designated for agricultural land use, and is not designated as Prime or Unique Farmland of Statewide Importance. Therefore, there is no potential for viable agricultural resources to be impacted by project development. The project would not impact agricultural land, and no mitigation is required.

7.1.1.2 Forestry Resources

The project site was previously developed with a golf course that is now inactive, and is surrounded by urban development and infrastructure. Furthermore, the project is located in an area that does not support timber growth. Based on the described conditions, the project site does not exhibit potential to support commercially viable forestry resources, and no impacts to such resources would result from the project.

7.1.2 Mineral Resources

Geological formation and soil conditions underlying the project site are not suitable for the extraction of sand and gravel resources. The site is designated as Mineral Resource Zone Three (MRZ-3) by the California Department of Conservation (2017b). Although this category indicates that insufficient information is available to determine mineral resource value, it also implies that a high resource value is unlikely. The project site was previously developed with a golf course (closed since 2015) in an urbanized area. A substantial amount of fill was placed on site to create the golf course.

Furthermore, the locations of San Diego's High Quality mineral resource areas are shown on City of San Diego General Plan Figure CE-6, Generalized Mineral Land Classification, as MRZ-2 areas. The

project site is not located in any MRZ-2 area, so the project would not impact high quality mineral resources. The project would have a less than significant impact on mineral resources, and no mitigation is required.

7.1.3 Paleontology

The following analysis is based on a Paleontological Records Search (San Diego Natural History Museum [SDNHM], 2018), which is included in Appendix L. Based on the referenced geotechnical investigations and the City of San Diego's *Land Development Manual General Grading Guidelines for Paleontological Resources* (City 2017d), there is one high sensitivity geologic unit and one moderate sensitivity unit present within the project site.

The fluvial deposits of the middle Eocene-age (approximately 47 to 46 million years old) Friars Formation, upper tongue, underlie the majority of the project site. The SDNHM has 21 fossil collection localities from the upper tongue of the Friars Formation within a 1-mile radius of the project site. These localities produced trace fossils (e.g., coprolites), fossilized impressions of plants (e.g., ferns, myrtle, willows, and horsetails), and bones and teeth of terrestrial or freshwater vertebrates (e.g., bony fish, turtles, crocodiles, lizards, snakes, and assorted mammals, including marsupials, apatotheres, leptictids, pantolestids, dermopterans, insectivores, bats, primates, carnivores, rodents, condylarths, artiodactyls, and perissodactyls such as brontotheres). All three units of the Friars Formation are rich in vertebrate fossils, especially terrestrial mammals (Walsh 1996), and the deposits underlying the project site are therefore assigned a high paleontological sensitivity. Within the project site the Friars Formation is overlain by young alluvial flood plain deposits and artificial fill that was placed at the time of golf course development. These soils are not sensitive for paleontological resources.

In addition, crystalline basement rocks of late Jurassic to early Cretaceous age (approximately 140 to 125 million years old), mapped as Mesozoic metasedimentary and metavolcanic rocks, undivided, by Kennedy and Tan (2008) and as Santiago Peak Volcanics by Todd (2004), underlie the easternmost portion of the project site along I-15, and the western portion of the project site in the vicinity of Peñasquitos Drive. The SDNHM does not have any fossil localities from this undivided unit within a 1-mile radius of the project site. The metavolcanic portions of this unit rarely preserve fossils due to the high temperatures associated with their formation; some of the volcanic breccias, however, have produced petrified wood, and are assigned a marginal sensitivity (Deméré and Walsh 1993). The metasedimentary portions have the potential to yield fossils, including siliceous microfossils (e.g., radiolarians) and marine macroinvertebrates (e.g., clams and belemnites), and are assigned a moderate paleontological sensitivity. Since the rock units exposed within the project site are mapped as "undivided," specific paleontological sensitivity is assumed to be moderate, and determinations would be made by a qualified paleontologist during monitoring of the areas mentioned above.

San Diego Municipal Code Section 142.0151 (Paleontological Resources Requirements for Grading Activities; City 2018i) requires paleontological monitoring for grading that extends 10 feet or greater in depth, and involves 1,000 cubic yards or more in a High Resource Potential Geologic Deposit/ Formation/Rock Unit and/or 2,000 cubic yards or more in a Moderate Resource Potential Geologic Deposit/Formation/Rock Unit, grading on a fossil recovery site, or grading within 100 feet of the mapped location of a fossil recovery site.

The project site is not the subject of previous fossil discoveries and is not located within 100 feet of the mapped location of a fossil recovery site. Based on the substantial grading required for project implementation, however, and the presence of the sensitive Friars and Santiago Peak formations beneath the on-site alluvium and artificial fill, paleontological monitoring may be required during project grading if the grading extends 10 feet or more into these formations and disturbs 1,000 or 2,000 cy, respectively of each formation. The project would be required to comply with the above-referenced Municipal Code section and the *General Grading Guidelines for Paleontological Resources* (Land Development Manual, Appendix P; City 2017e), which would be referenced as a condition of project approval, and this would ensure that the potential impact to paleontological resources is less than significant. As such, no mitigation is required. Based on mandatory compliance with these City requirements, no significant impacts are anticipated.

7.1.4 Population and Housing

The project site currently does not contain housing or businesses. Therefore, no housing or businesses would be displaced as a result of the project. The project would construct 455 attached and detached, multi-family, age-restricted residences, 81 affordable age-restricted multi-family apartments, a public park, a privately owned park with a public recreation easement, publicly accessible trails, open space/parks for development use, and internal private driveways. The U.S. Census Bureau calculates that from 2012 to 2016, the average number of persons per household in the City was 2.73 (U.S. Census 2017). At a more local scale, SANDAG estimates a density factor of 3.0 persons per household for the RPCP (based on the Demographic and Socio Economic Estimates) (SANDAG 2018a). The project is a multi-family, age-restricted development, however, and therefore a factor of 1.7 persons per household is more appropriate, based on the American Housing Survey (AARP, 2011). Thus, the population for the project's 536 housing units is estimated to be 911 persons.

There is a recognized housing shortage both in San Diego County and statewide, that is contributing toward rising rents and housing costs, and there is evidence that these conditions are adversely impacting housing opportunities for seniors and low income persons. According to the San Diego Housing Commission (SDHC), San Diego's economic success and population growth over recent years have not been met with proportionate growth in the number of housing units. Over the past decade, population growth has averaged 1.2 percent per year – more than double the rate of housing growth at 0.5 percent per year. Given demographic trends, which estimate the number of older adults aged 65 and above will double by 2030, a good portion of the unmet need for housing units in the coming decades will directly impact older adults. It is estimated that the City of San Diego could fall short of its 2010-2020 Regional Housing Need Allocation (RHNA) goals (as set by SANDAG pursuant to state mandate) by as much as 50,000 units, based on past and current housing production trends. The SDHC estimates that the City of San Diego will need to add between 150,000 to 220,000 housing units by 2028 (SDHC 2017). Thus, the additional age-restricted (55+) market rate and low income housing units proposed by the project would help to meet the existing and projected need for additional housing in the City of San Diego, including the need for additional senior housing and affordable housing. Thus, the additional housing is needed to meet existing population growth and would not be expected to influence an increase in population growth in the region.

While the RPCP designates the project site for open space/golf course use, the underlying zone for the site is RS-1-14, which is a Residential-Single Unit zone that is only found within Planned Urbanized Communities or Proposition A lands and requires minimum 5,000-square-foot lots. Development pursuant to this underlying zone could result in up to an estimated 831 residential units on 5,000-square foot lots, assuming an 85 percent building efficiency, with the remaining 15 percent of the approximately 112.3-acre site utilized for internal roadways and landscaping. The proposed development of 536 residential units would be below the maximum envisioned for the site based on the underlying zoning.

Based on the preceding analysis, no adverse population and housing impacts would be associated with the project. In fact, the proposed addition of senior and affordable housing would help the City to address the current shortage of housing relative to its RHNA goal.

7.1.5 Schools

The project area is served by the Poway Unified School District, which provided kindergarten through 12th grade education for 36,534 students, as of July 2018 (Poway Unified School District 2018). The district covers a geographic area of approximately 100 square miles and employs approximately 4,000 teachers and other personnel. The project site is located within the service area boundaries of Rolling Hills Elementary School, Black Mountain Middle School, and Mt. Carmel High School. The project would provide age-restricted (55+) housing, which means that, with very rare exceptions, no school age children would be permitted to reside within the development and no impacts to schools would occur. Despite generating no new school attendance, the project would be required to pay applicable impact fees to the school district. No significant impact would occur to schools.

7.2 Growth Inducement

7.2.1 Introduction

CEQA requires that environmental documents analyze the potential for a project to induce direct or indirect population growth, economic development and additional housing construction (PRC Section 21100; CEQA Guidelines Section 15126.2[d]). This includes projects that remove obstacles to growth by accommodating additional population or construction, such as expansion of major public service facilities. The CEQA Guidelines (Section 15126.2[d]) state: “It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.”

7.2.2 Short-term Effects

During the project construction phase, demand for various construction trade skills and labor would increase. It is anticipated that this demand would be met by the local labor force and would not require importation of a substantial number of workers that could cause an increased demand for temporary or permanent housing in this area.

7.2.3 Long-term Effects

The project site was previously developed as a golf course and that use ceased operation in 2015. The site is currently not in use and is not accessible to the public. It does not contain sensitive resources that would be adversely affected by its development. As discussed in Section 7.1.4, *Population and Housing*, the population of the region has been increasing at twice the rate of the production of new housing in the region, and the City of San Diego is behind in the production of its RHNA allocation for 2010 - 2020 by approximately 50,000 units. The San Diego region's economy grew by roughly 80 percent, and its population increased by 15 percent over the past 15 years. This growth, however, has outpaced the housing construction necessary to accommodate San Diegans. Between 2007 and 2015, the City of San Diego's population grew by about 15,000 persons annually, while the City averaged only an additional 3,000 housing units per year. This remains out of step with the region's long-term outlook for a steady household size of 2.8 to 2.9 persons (SDHC 2017).

A longer historic perspective demonstrates how much San Diego's current housing production falls short when compared to previous periods of growth. From 1970-1990, housing production consistently grew by more than three percent annually, with a brief, four-year exception during the early 1980s. In contrast, today's housing production growth rate is 0.6 percent (SDHC 2017). This discrepancy is contributing to rising rents and housing purchase prices across the City, such that an increasing percentage of low and moderate income persons cannot afford to rent or buy a home. The SDHC (2017) has concluded that in order to meet the City's housing needs, it will be necessary to rezone and redevelop existing parcels to increase density, especially around major transit stops (including BRT stops), as well as to develop currently underutilized and vacant parcels.

The project would be consistent with the underlying zoning assumption to develop the site with residential uses because although the exact format of development would be different, the intent of the proposed zone RM-1-1 is to contain similarities to the single-family zoning, as expressly stated in the SDMC. Although the project would implement multi-family residential rather than single-family residential assumed under RS-1-14 for the site, visually the property would read as "developed" under either scenario. The development standards for RS-1-14 and the project densities and architectural styles are both consistent with those associated with the existing surrounding mixed development patterns and styles.

The proposed development of 455 moderately-priced and 81 affordable age-qualified, multi-family homes (536 total dwelling units) would therefore: (1) help to reduce the existing shortfall in the City's RHNA allocation for 2010 – 2020; (2) provide much needed housing in the region, including affordable and age-restricted housing; (3) convert a currently unused golf course to a housing use at a density that would be consistent with the underlying zoning of the site and with the densities of the surrounding community; and (4) provide housing in proximity to transit opportunities given the Route 20 bus stops within approximately 0.15 mile of the southern project entrance and 1.0 mile from the Sabre Springs/Peñasquitos Transit Station and Parking Structure.

The project would provide much-needed housing for seniors, including those classified as low income, and would help to accommodate the City's aging population and regional population growth, consistent with the City's RHNA. The project would not directly or indirectly increase population growth in the region. No significant pressure on local housing supply or demand is expected to result from development of the project. Proposed residential development would

accommodate growth and demand that is already occurring within the region. The project site was previously developed with a golf course and is surrounded by existing and planned urban development and infrastructure. The project would not require the extension or expansion of roadways, public services, utilities, or infrastructure into areas currently without service. As a result, development of the project would not remove any physical barriers to growth. Therefore, growth inducement would not be significant as a result of the project.

7.3 Significant Environmental Effects Which Cannot Be Avoided If The Proposed Project Is Implemented

Section 15126.2(b) of the CEQA Guidelines requires an EIR to identify significant environmental effects that cannot be avoided if a project is implemented. As discussed in Chapter 5.0, *Environmental Analysis*, implementation of the project would result in significant impacts to Transportation; Biological Resources; and Historical and Tribal Cultural Resources. Each of these impacts would be reduced to below a level of significance through the identified mitigation. Therefore, the project would not result in any significant unavoidable environmental effects.

7.4 Significant Irreversible Environmental Changes

Section 15126(d) of the State CEQA Guidelines requires an evaluation of significant irreversible environmental changes which would occur should a project be implemented. Irreversible environmental changes typically fall into three categories: (1) primary impacts, such as the use of nonrenewable resources (i.e., biological habitat, agricultural land, mineral deposits, water bodies, energy resources and cultural resources); (2) secondary impacts, such as road improvements which provide access to previously inaccessible areas; and (3) environmental accidents potentially associated with the project. Section 15126.2(d) of the State CEQA Guidelines states that irretrievable commitments of resources should be evaluated to assure that current consumption of such resources is justified.

As the site was previously developed with a golf course that was closed in 2015, implementation of the project would not result in significant irreversible impacts to agricultural or forestry lands or mineral resources, as described in Section 7.1. Although the project would impact an existing man-made drainage feature, mitigation for the impacts would generate a net gain in resource quality by replacing a non-wetland WUS with wetland/riparian habitat on the site and/or providing for off-site mitigation within a mitigation bank or other location (as approved by the responsible resource agencies during the permitting process), and the project would result in a biologically superior condition compared to the baseline for jurisdictional areas.

The project would entail the commitment of energy and non-renewable resources, such as energy in the form of electricity, energy derived from fossil fuels, natural gas, construction materials (i.e., concrete, asphalt, sand and gravel, petrochemicals, steel, and lumber and forest products), potable water, and labor during the construction phases. The project features a number of sustainability elements to minimize its consumption of energy and non-renewable resources, as described in Section 5.7, *Energy*, and in Section 3.0, *Project Description*, and associated impacts would be less than significant. Nevertheless, use of these resources on any level would have an

incremental effect on the regional consumption of these commodities and, therefore, result in long-term, irretrievable losses of non-renewable resources, such as fuel and energy.

Paleontological and cultural resources could be disturbed during project grading, but would be salvaged, as necessary, and any resources encountered would be recovered in accordance with City standards, as described in Sections 5.11, *Historical and Tribal Cultural Resources*, and 7.1.3, *Paleontology.* Impacts to paleontological and cultural resources would not result in irreversible changes to those resources.

The project would not involve road or highway improvements that would provide access to previously inaccessible areas other than the project site, which is not currently accessible except by private gates and dirt roads. Further, no major environmental accidents or hazards are anticipated to occur as a result of project implementation, with incorporation of the mitigation discussed in Section 5.14, *Health and Safety*.

This page intentionally left blank

8.0 PROJECT ALTERNATIVES

8.1 Introduction

Section 15126.6(a) of the State CEQA Guidelines requires that EIRs describe "...a reasonable range of alternatives to a project, or the location of a project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project and evaluate the comparative merits of the alternatives." Section 15126.6(f) of the State CEQA Guidelines further states that "the range of alternatives in an EIR is governed by the 'rule of reason' that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice." The State CEQA Guidelines provide several factors that should be considered with regard to the feasibility of an alternative. Those factors include: (1) site suitability; (2) economic viability; (3) availability of infrastructure; (4) general plan consistency; (5) other plans or regulatory limitations; (6) jurisdictional boundaries; and (7) whether the project applicant can reasonably acquire, control, or otherwise have access to the alternative site (if an off-site alternative is evaluated).

8.2 Summary of Project Objectives and Significant Effects

In accordance with State CEQA Guidelines Section 15126.6(a), the project alternatives are assessed relative to their ability to: (1) meet the basic objectives of the project; and (2) avoid or substantially lessen the significant effects of the project. As there are no identified significant unavoidable environmental effects associated with the project, this alternatives analysis considers a comparative analysis of the project's less than significant effects with mitigation measures incorporated.

8.2.1 Project Objectives

As described in Section 3.1 of this EIR, *Project Goals and Objectives*, the following are the primary goals and objectives of the project:

1. Address the City's housing supply needs by providing an expanded residential footprint which includes both for-sale market rate and for rent affordable age-qualified (55+) residences;

2. Provide a diversity of housing opportunities and include 15 percent affordable housing rental units on site;

3. Provide compact infill residential uses in proximity to existing neighborhood commercial to support a walkable neighborhood with access to services;

4. Construct and maintain a multimodal circulation system for vehicles, bicycles, and pedestrians to enhance accessibility and support active transportation and public transit use;

5. Provide a new public community-accessible park and provide public access to certain on-site private parks and trails to create a connected trail system for additional public recreational opportunities and to promote general community-wide health and wellness;

6. Reconstruct the on-site drainage as a natural drainage feature with native and wetland species, resulting in a gain in native habitat;

7. Provide solar panels on 100 percent of the project's for-sale and affordable housing structures;

8. Improve emergency access and enhance egress routes on and off site; and

9. Provide electric vehicle (EV) charging stations and a centralized mobility area to support multi-modal transportation options, ride-sharing, and informational kiosks to support walking, cycling and transit use.

8.2.2 Significant Impacts of the Proposed Project

Based on the evaluations in Section 5.0 of this EIR, *Environmental Analysis*, the project would result in significant but mitigable impacts related to the environmental resources areas discussed below.

With a standard four-way, unsignalized intersection design for the intersections of Peñasquitos Drive/Cuca Street/Hotel Karlan Driveway and Peñasquitos Drive/Janal Way/Future Project Access, the project would result in significant direct and cumulative transportation/circulation impacts at these two intersections. These impacts can be mitigated to below a level of significance with either the addition of roundabouts or installation of traffic signals. The project proposes a traffic signal at Peñasquitos Drive/Cuca Street/Hotel Karlan Driveway and a roundabout at Peñasquitos Drive/Janal Way/Future Project Access as mitigation.

Biological resources impacts to a man-made, non-wetland drainage ditch in the eastern/ northeastern portion of the project site would either be mitigated on site or through off-site creation or preservation, subject to the resource agencies' approval, as described in greater detail in Section 5.8, *Biological Resources,* to reduce impacts to the existing jurisdictional non-wetland ditch to less than significant levels.

The project has the potential to impact subsurface historical resources that may be located underground within the site. This impact would be reduced to below a level of significance through implementation of an archaeological monitoring program during grading, excavation, and trenching activities, followed by the preparation and submittal of a monitoring report.

Lastly, construction activities would involve potential for removal of ACM in golf course pipes and other on-site structures, and handling or generating contaminated soils or hazardous materials including fertilizers, pesticides/herbicides, waste and mixed oil, diesel fuel, solvents, and gasoline, that may have been deposited during the past use of the site as a golf course. These conditions present potential health hazards during construction due to the potential for airborne emissions of these materials, and over the long-term due to the potential for contaminated soils to adversely affect the health of future on-site residents. These potential adverse effects would be addressed through compliance with regulatory requirements during the demolition and removal of the

pipelines and structures to prevent the release of asbestos to the air or soil, as well as a proposed mitigation measure to implement a Soils Management Plan (SMP) to test and properly dispose of any contaminated materials. Impacts would therefore be significant but mitigable.

8.3 Alternatives Considered But Rejected

Section 15126.6(c) of the State CEQA Guidelines requires that an EIR identify alternatives that were considered and rejected as infeasible, and briefly explain the reasons for their rejection. Alternatives considered but rejected from further study for the project include the Project Location Alternative and Existing Zoning Alternative, as outlined below.

8.3.1 Project Location Alternative

The State CEQA Guidelines recommend that off-site alternative locations be considered if relocating the project would result in the avoidance of significant impacts of a project. There are no significant and unavoidable environmental impacts anticipated from project implementation; therefore, relocation of the project would not avoid a significant impact of the project. However, relocation of the project to another site could potentially result in a substantial reduction or avoidance of an impact that would be reduced to less than significant, with the incorporation of the mitigation measures that have been identified for the project. Factors that need to be considered when identifying an off-site location for the project include the size of the site, sensitive environmental resources on the site, its location relative to the greater San Diego region and major transportation corridors (e.g., I-15), the General Plan land use designation, and ability to meet the project objectives.

Prior to the purchase of the project property, the project applicant considered an infill location for the project to provide underserved populations in the San Diego region (seniors and low-income) with additional housing opportunities. Primary considerations for selecting the project location included properties that could accommodate a housing development near existing infrastructure and regional transportation and transit opportunities, and at a site that is previously disturbed or void of substantial natural resources (i.e., biological habitat and animal species). As a result, the project location on a previously disturbed site within an existing community located adjacent to a major freeway corridor (i.e., the I-15 freeway) and within a half mile of transit opportunities (there are five MTS bus stops within a half mile distance of the site) was selected. Most of the areas of the City are developed and there are no similar properties in the area that would support the project. While another infill opportunity exists at a former golf course across I-15 just east of the project site, it is more fragmented and is surrounded by more residences than the project site. As this alternative site is generally in the same area and neighborhood, selection of the alternative site would not be expected to substantially reduce impacts associated with the project. No other alternative locations were identified for the project that could meet the project objectives and substantially reduce project impacts and, therefore, this alternative is rejected.

8.3.2 Development in Accordance with Existing Zoning Alternative

Development in Accordance with the Existing Zoning Alternative (Existing Zoning Alternative) was assumed to correspond with the maximum residential development allowed under the existing Residential – Single Unit (RS-1-14) zoning that applies to most of the project site. A portion of the site in the very southern-central extent is designated Commercial Visitor (CV-1-1) and would not permit residential development. As a result, this alternative could result in the development of up to 831 residences instead of the 536 age-restricted units associated with the project. With development of an additional 295 residential units, this alternative would be expected to result in greater impacts to transportation/circulation, visual effects/neighborhood character, hydrology/water quality (due to increased impervious surfaces and runoff), geology and historical resources (due to increased grading/excavation), air quality, GHG, energy, and public services and utilities, when compared with the project. Similar to the project, conformance with City General Plan noise compatibility standards would require greater than typical noise attenuation to be incorporated into the project design. Higher densities were considered during early project planning, but preliminary traffic analysis indicated the potential for significant traffic circulation impacts that would not be feasible to mitigate with the project, including potential freeway off-ramp expansion.

The 536 age-restricted residences associated with the project would result in a trip generation of 4 trips per dwelling unit per day or 2,144 trips per day. The 831 dwelling units that would be developed under this alternative would result in trip generation of 3,324 trips per day as an age-restricted development generating 4 trips per day per unit, or as many as 8,310 trips per day (10 trips per dwelling unit per day) without the age-restricted designation. As a result, trip generation under the existing zoning alternative would involve up to 6,166 more trips per day than under the project and would result in higher volumes of traffic in the surrounding area. Air quality impacts would also be greater than with the project, primarily due to the additional daily vehicle trips. The Existing Zoning Alternative would also include a longer construction period to build more dwelling units and would involve increased household and community operational impacts, resulting in increased construction and long-term air quality impacts, compared to the project. The existing zoning alternative would thus produce higher levels of air pollutants than would be produced with the project.

GHG impacts would also be greater under the Existing Zoning Alternative compared to the project. The estimated annual GHG emissions under the project total 1,849 MT CO_2e. The estimated annual GHG emissions under the Existing Zoning Alternative could total up to 11,755 MT CO_2e with maximum allowable development under this alternative. These values are represented in the *Estimated Annual GHG Emissions (MT CO_2e per year)* table located in Appendix E. Development in accordance with the Existing Zoning Alternative would thus produce as much as 9,907 MT CO_2e more GHG emissions than would the project. This alternative would also be expected to use more energy, demand more water, and generate more wastewater and solid waste than the project. Increased grading would likely result in more earth movement and additional geotechnical and water quality management requirements.

The Existing Zoning Alternative would also result in a much more dense development on the project site, with associated visual effects and stormwater runoff. Such development would be less compatible with the adjacent single-family residential communities, but consistent with nearby

multi-family and commercial development. As with the project, there would be no significant and unavoidable visual impacts under this alternative.

Impacts with respect to biological resources and health/safety, and associated mitigation requirements, would be similar to those associated with the project.

In consideration of the above discussion, although this alternative would meet project objectives, the Existing Zoning Alternative is rejected since it would not reduce or avoid any significant project impacts. As discussed above, many of the impacts would be greater than the project impacts and would require additional mitigation. In the case of GHG emissions, it is likely that the impacts of this alternative would be significant and unmitigable because it may not be feasible to reduce all impacts to be consistent with the current Rancho RPCP and General Plan designation of golf course, in order to conform with the City's Climate Action Plan. Because this alternative would not reduce any project impacts (and would increase several project impacts), this alternative is rejected and not carried forward.

8.4 Proposed Project Alternatives

The following three alternatives are carried forward and evaluated in this analysis:

- No Project/No Development Alternative;
- No Project/Development Per Community Plan Alternative; and
- Reduced Intensity Development Alternative

The following rationale was considered when developing this range of alternatives:

- The No Project Alternative is required per State CEQA Guidelines Section 15126.6(e). It provides a basis for comparing the impacts that would occur if the project were approved, relative to what would occur if the project were not approved.

- The No Project/Development Per Community Plan Alternative has been prepared to evaluate what could be developed at the site without an amendment to the RPCP, which designates the site as "Open Space" on the Land Use Map and as "Preserve Golf Course Use" on its Glens neighborhood map.

- The Reduced Intensity Development Alternative is included in this section to evaluate whether any impacts would be reduced substantially when compared to the project.

These alternatives represent a reasonable range of alternatives, as defined in the State CEQA Guidelines, because they provide feasible alternate development patterns that would reduce (but not eliminate) the significant impacts associated with the project. The impacts associated with these alternatives are compared to those identified for the project in the following analysis, and the alternatives are assessed relative to their ability to meet the basic objectives of the project, with an overview of project and alternative impacts provided in Table 8-1, *Comparison of Project and Alternative Impacts*, located at the end of this section.

8.4.1 No Project/No Development Alternative

8.4.1.1 Description

Section 15126.6(e) of the State CEQA Guidelines provides that the "no project" analysis "shall discuss the existing conditions at the time the notice of preparation is published, as well as what would be reasonably expected to occur in the foreseeable future if a project were not approved, based on current plans and consistent with available infrastructure and community services". For a development project, the "no project" alternative is defined as the circumstance under which the project does not proceed and a comparison of the environmental effects of the property remaining in its existing state against the environmental effects associated with the project. Accordingly, the No Project/No Development Alternative assumes that the project would not be adopted, no new recreational or residential uses would be constructed, and the former golf course site and existing condition described in Section 2.0 of this EIR would remain.

8.4.1.2 Environmental Analysis

Land Use

Under the No Project/No Development Alternative, the physical condition of the project site would remain including remnants of ornamental vegetation, sand traps, fencing, retaining walls, and poles with deteriorating netting, all related to the former Carmel Highland Golf Course. The former fairways and grass areas would continue to be unirrigated and annual mowing of the site for fire-related ~~/brush management~~vegetation maintenance purposes would likely continue. A vehicle maintenance areas and five tennis courts, that were previously associated with the adjacent hotel and are now closed, would also remain unused and would deteriorate. The General Plan identifies most of the site for Park, Open Space, and Recreation (with some Commercial Employment, Retail, and Services adjacent to the hotel uses) and the RPCP identifies most of the site for Open Space and Preserve Golf Course Use. Adoption of this alternative would maintain the site as open space, but the site would not be open to the public and would not provide any native habitat or recreational or public open space value. The No Project Alternative would not implement an open space or recreational use, but also would not cause an inconsistency with the existing General Plan or RPCP as no action would be taken. The site would remain in an unusable condition until/unless a new development proposal is initiated. The proposed GPA and CPA to allow residential development at the site would not be adopted.

This alternative would not include the public park, the private park, or the 2.75-mile long loop trail around the project site that would provide publicly accessible/usable recreational amenities. It also would not provide age-restricted market rate and affordable housing to the Rancho Peñasquitos community at a time when public policies are encouraging the development of these types of housing in the region to address an existing supply deficit.

The No Project/No Development Alternative would not expose future residents to noise from I-15, and the project design elements identified in the Acoustical Analysis Report in Appendix C to reduce interior and exterior usable space noise levels to be within City General Plan noise compatibility standards would not be needed. . To summarize, the No Project/No Development Alternative would take no action and therefore would not result in land use inconsistencies or overall land use

impacts, but it also would retain land in an unused and unusable condition and would not implement any of the underlying planning or zoning designations for the site. This alternative would not further City policies from the Strategic Framework Element of the General Plan that encourage future growth and new development to occur away from undeveloped lands and toward existing urbanized areas and/or areas with conditions that allow the integration of housing, employment, civic uses, and transit uses. Finally, it would not support similar goals in SANDAG regional plans to promote development in or near urban areas and avoid undeveloped areas of the region.

Transportation/Circulation

As no development or redevelopment is proposed under this alternative, no additional traffic beyond existing conditions would be generated and no impact would occur. The former tennis courts and former hotel maintenance facilities on the project site and the abandoned golf course are not generating traffic; therefore, the existing project site is not making a substantial contribution to the existing traffic conditions in the project vicinity.

The No Project/No Development Alternative would not result in construction-related traffic impacts, as no construction would occur. In addition, the project improvements to pedestrian and bicycle access through the project site to areas south of the project site, including the transit stops and commercial uses at Carmel Mountain Road, would not be implemented with this alternative.

Visual Effects/Neighborhood Character

The No Project/No Development Alternative would retain existing conditions at the site, which includes a former golf course that has not been irrigated or maintained (other than annual mowing) since 2015, several golf course-related buildings, and tennis courts and a maintenance yard (no longer in use) that were previously associated with the adjacent Hotel Karlan. As a result, the visual appearance of the site would continue, including inconsistent groundcover, brown vegetation, deteriorating netting and other golf course features, and dead and dying trees instead of being improved with a residential community with landscaping that would be compatible within the context of other residential development in the Glens neighborhood of the RPCP. This alternative would not result in the introduction of new residential structures, enhanced landscaping or architectural design that would improve the relationship of the project site to the surrounding areas. Views from the freeway and adjacent residential neighborhoods would continue to be open space views. In spite of the unmaintained appearance of the site, some viewers may prefer the existing open space views over the views of a new residential development, while others may prefer to view a new, landscaped residential development. As this alternative would not result in any site improvements or other project action, no visual/community character impact would occur.

Noise

As described in Section 5.4 of this EIR, noise impacts associated with the project would be less than significant (the reader is also referred to discussion of land use compatibility, above). The No Project/No Development Alternative would not result in a project action and, therefore, no impact would occur and no mitigation would be required. The existing noise conditions on the project site would continue and there would be no active use of the site that could potentially impact off-site uses.

Air Quality

No demolition, grading, construction, or additional development would occur under the No Project/No Development Alternative. Therefore, this alternative would not have the potential to increase the existing very minor air pollutant emissions associated with the annual mowing of the site. This is compared to the project for which impacts would be less than significant with no mitigation required. No new construction or demolition air pollution emissions or long-term, daily vehicle trip emissions would occur, compared to the project, for which such emissions would occur. No air quality impacts would occur with the No Project/No Development Alternative. Some project amenities that could help to reduce vehicle trips/miles and associated air pollution emissions for the existing homes to the west of the site would not be implemented; the proposed on-site public park, additional publicly accessible private park and social loop trail, and private recreational amenities would not be built and there would be no pedestrian or bicycle connections provided across the site to the commercial uses and transit stops at Carmel Mountain Road.

Greenhouse Gas Emissions

Similar to the above air quality discussion, this alternative would not result in new GHG emissions or impacts over the existing very minor contributions from annual mowing of the site. This is compared with the project which is anticipated to have less than significant GHG emissions associated with construction and operation of the project. The improved connectivity through the project site for alternative modes of travel, including bicycle and pedestrian travel and improved access to transit, and nearby public access to a public park, private park, and social loop trail, that would be provided by the project and could reduce vehicle trips/miles traveled for adjacent residential developments, also would not occur with the No Project/No Development Alternative.

Energy

The No Project/No Development Alternative would continue to consume the same amount of minimal energy as the existing condition from annual mowing of the site, and would not require the additional energy from construction activities, increased on-site development intensity, and increased automobile traffic that would be associated with the project. This alternative also would not provide the potentially energy-saving benefit of increased accessibility for existing neighboring residents to cross the project site to access the transit stops, bicycle network, pedestrian network, and commercial centers at Carmel Mountain Road. Because no action would be taken, this alternative would have no CEQA impact. The existing minimal on-site energy use would continue and would be substantially less than that associated with the project.

Biological Resources

Under this alternative the project site would remain as it currently exists, mostly vacant and disturbed from the prior golf course use with some hardscaped areas associated with the former tennis courts and maintenance yard for the Hotel Karlan. No action would occur and there would be no impact to biological resources. The only sensitive biological resources/issues identified for the project site are the potential for nesting birds to be impacted during construction, and direct impacts to a non-wetland, man-made, earthen channel under the jurisdiction of the USACE, RWQCB, and CDFW. These impacts would be addressed through compliance with regulatory requirements and proposed mitigation for the project to: (1) avoid project clearing/grading while nesting birds are

present, and (2) relocate and reestablish, rehabilitate and/or enhance the channel feature, and/or provide off-site purchase of credits of an approved mitigation bank (BIO-1 and BIO-2). No action would be taken and no impacts would occur under this alternative. The site would continue to support non-native species including some remnant grasses and trees from the prior golf course use. Many of the trees are in poor condition. The site would be mowed annually for ~~brush management~~vegetation maintenance/fire safety reasons. The benefit of an improved jurisdictional channel would not be realized with this alternative.

Hydrology and Water Quality

As the No Project/No Development Alternative would not result in additional development, it would not result in potential impacts related to the generation of impervious surfaces, increases in runoff rates/amounts, storm drain capacity, flooding, erosion/sedimentation, hydromodification, drainage alteration, and water pollutants. No action would be taken and no impacts would occur. Drainage and water quality conditions on the project site would remain as they currently are. As described in Section 5.9 of this EIR, the project would increase impervious surfaces on the project site, alter drainage patterns, and introduce uses that could generate pollutants and impact the quality of storm water runoff. These potential hydrology and water quality impacts associated with the project would be less than significant, however, as conformance with applicable storm water standards and water quality regulations (including the NPDES Construction General, Municipal and Groundwater permits) would be required. Hydrology and water quality impacts associated with the No Project/No Development Alternative would be incrementally less than the project impacts.

Geology

The No Project/No Development Alternative would not result in additional development or related disturbance on the project site, with no associated impacts related to geology and soils. Neither the project nor this alternative would result in significant impacts associated with geologic hazards and conditions; however, this alternative would have even less potential for geology impacts as there would be no earth movement on the site and no introduction of additional structures or people to the site. The less than significant impacts of the project would be avoided.

Historical and Tribal Cultural Resources

Under the No Project/No Development Alternative, no earth movement would occur and the potential for impacts to any unknown subsurface historical resources (including Native American resources and remains) from implementation of the project would be avoided. As described in Section 5.11 of this EIR, the identified potential for impacts to historical and tribal cultural resources associated with implementation of the project would be significant but mitigable with the implementation of a monitoring program. No historical and tribal cultural resources impacts are associated with the No Project/No Development Alternative.

Public Utilities

The No Project/No Development Alternative would not take any action on the project site and would not result in impacts to public utilities. The less than significant impacts to public utilities associated with the project would not occur under the No Project/No Development Alternative. The former golf course portion of the site would remain in an unused, fallow state, with little to no demand for water

or other utilities services. This is in contrast to the project which would require water, sewer, and solid waste disposal services to support the proposed 536 residences. In addition, the existing utilities that cross the project site and would require relocation or reconfiguration to accommodate the project, would remain undisturbed with the No Project/No Development Alternative.

Public Services and Facilities

The less than significant impacts of the project with respect to public services such as police, fire parks, and library services, would not occur under this alternative. The site would remain undeveloped and would not place any new demands upon City service providers. The proposed public park, private park with mobility-enhancing features, and social loop trail that are proposed as part of the project and would also benefit existing nearby residents, would not be implemented.

Health and Safety

As described in Section 5.14, the site has a history of containing underground and aboveground storage tanks, as well as a noted potential for ACM in golf course pipes and the vicinity of the former on-site sheds, and handling or generating hazardous materials including fertilizers, pesticides/ herbicides, waste and mixed oil, diesel fuel, solvents, and gasoline, during its use as a golf course site. These conditions present potential health hazards during construction due to the potential for airborne emissions of these materials, and over the long-term due to the potential for contaminated soils to adversely affect the health of future on-site residents. These potential adverse effects would be addressed through compliance with regulatory requirements during the demolition and removal of the pipelines and structures to prevent the release of asbestos to the air or soil, as well as a proposed mitigation measure to implement a SMP to test and properly dispose of any contaminated soils/materials. Project impacts would be less than significant with mitigation. The No Project/No Development Alternative would leave the project site in its current condition with potentially hazardous materials present on the project site. Although there would be no action and no impact would occur, there is the potential for any hazardous materials that are present on the site to spread into on-site soils as the existing unused structures and pipes deteriorate and any subsurface hydrocarbons or pesticides spread during percolation of rain water. Thus, a potential benefit of the project to remove potentially hazardous materials and soils, would not be realized with this alternative.

The project would have a less than significant impact with respect to wildfire and emergency response/evacuation, as described in Section 5.14. The project site is mowed annually to reduce wildfire risk on the site, but during dry months the No Project/No Development Alternative would present a greater fire risk than would the project that would represent a developed site having irrigated landscaping, non-flammable hardscapes, and other required fire safety design features. Under this alternative, the benefit to the Glens neighborhood that the project would provide by adding an exit route to Carmel Mountain Road and improving other emergency egress routes, in the event of a fire in the Black Mountain Open Space Park or other areas to the west, would not be realized.

8.4.1.3 Conclusion

The No Project/No Development Alternative would avoid significant but mitigable impacts to transportation/circulation, biological resources, historical and tribal cultural resources, and health

and safety identified for the project. It would also avoid impacts to visual effects/neighborhood character, air quality, GHG emissions, energy, hydrology and water quality, geology, public utilities, and public services and facilities/recreation, which would be less than significant for the project, and would not require the specific design elements that are a part of the project design to achieve consistency with the City's General and Community Plans, including the noise compatibility standards. The proposed GPA and CPA and other discretionary actions would not be required for this alternative.

Under the No Project/No Development Alternative, the opportunity to convert the site from its current unusable condition as a deteriorating former golf course, to age-qualified (55+) affordable and market rate housing would be lost. Certain proposed improvements associated with the project that would benefit the community also would not be realized with this alternative. These include the provision of a public park, publicly accessible private park (with mobility-enhancing features and sports courts), and social loop trail; provision of pedestrian and bicycle linkages through the project site to the commercial areas and transit stops at Carmel Mountain Road; the elimination of potentially flammable brush on site; and provision of improved emergency access/egress including an additional emergency egress route through the project site in the event of a fire in the Black Mountain Open Space Park or other areas to the west. In addition, the project would reestablish and improve the existing non-wetland jurisdictional ditch including addition of wetland plant species, and during grading the project would be required to remove any hazardous materials and contaminated soils that may be present on the project site. And finally, some viewers of the project site may prefer views of the proposed development to the existing views of an abandoned golf course.

Based on the preceding analysis and the fact that no development of any of the project features would occur with the No Project/No Development Alternative, this alternative would fail to meet any of the basic project objectives listed above in Section 8.2.1.

8.4.2 No Project/Development Per Community Plan Alternative

8.4.2.1 Description

Under the No Project/Development Per Community Plan Alternative, the project would not be approved, and the project site would be redeveloped with a golf course as identified in the RPCP. The RPCP, a component of the City's General Plan Land Use Element, identifies land use designations and describes an overall plan for growth in the Rancho Peñasquitos Community, including within the Glens neighborhood where the project site is located. The RPCP designates the project site as "Open Space" and includes a major recommendation to preserve the golf course as a unifying open space element and buffer from the freeway. Figure 10 of the RPCP similarly identifies the project site as a golf course and includes a label at the project site as "Preserve Golf Course Use."

In this alternative, a reconfigured golf course would be constructed on the former golf course site, as well as the former tennis courts and maintenance area that were associated with the Hotel Karlan, instead of the residential, park, open space/recreational, and transportation elements included with the project. This alternative assumes that the existing vegetation and structures would be removed, the site would involve substantial shallow grading/reconfiguration, and new buildings (e.g., a clubhouse, pro shop, and maintenance buildings, etc.), landscaping, irrigation, roadways/parking

facilities and utilities connections would be required to complete the reconfigured golf course. This alternative could also include related golf course uses, such as a restaurant and pro shop.

8.4.2.2 Environmental Analysis

Land Use

As the General Plan identifies the site for Park, Open Space, and Recreation with some Commercial Employment, Retail, and Services related to the adjacent hotel uses and the RPCP identifies most of the site for Open Space and recommends preserving the golf course use at the site, adoption of this alternative would be consistent with the existing General Plan and RPCP land uses. This alternative would re-establish a golf course use at the site and would not involve amendments to the City's General Plan or the community's RPCP. This alternative generally would be compatible with the General Plan land use-noise compatibility standards, because golf course uses are permitted in areas of 75 CNEL or less. The alternative would be able to meet the 75 CNEL standard for golf course uses, with the exception of some small areas adjacent to the freeway which could likely be avoided or reserved for compatible uses like parking lots, maintenance, or landscaping. Based on project design elements identified in the project Acoustical Analysis Report that have been incorporated into project conditions of approval, the project also would not result in significant noise compatibility impacts. The alternative also would need to be evaluated with respect to a number of General Plan and RPCP policies with respect to water quality and energy use, among other topics. While the project has incorporated noise attenuating elements and other features to be generally compatible with the General and Community plans, it is expected that there would generally be a reduction in the less than significant land use impacts identified for the project. As a result, land use impacts would be less than significant for either the project or this alternative.

As the previous golf course use on the project site failed, reportedly due to rising water costs and other expenses, it is unknown whether a golf course use would be feasible on this site. This alternative would not further City policies from the Strategic Framework Element of the General Plan and SANDAG regional plans to promote infill development near housing, employment, civic uses, and transit uses. It also would not provide much needed housing, including age-restricted (55+) and affordable housing, to address a well-defined shortage of these housing resources in San Diego.

Transportation/Circulation

Development of the project site with a golf course would result in a decrease in traffic compared to the residential development that would occur with the project. Based on Table 1 of the City's Trip Generation Manual (City of San Diego, 2003), a golf course trip generation rate of eight trips per acre per day was used, resulting in an estimate of 900 trips per day for this alternative. As a result, trip generation under the No Project/Development Per Community Plan Alternative is estimated to generate 1,244 fewer trips per day than the 2,144 trips associated with the project. This would result in reduced traffic volumes in the surrounding area. The No Project/Development Per Community Plan Alternative would also include reduced transportation/circulation impacts during construction as less materials and equipment associated with earthwork and structural development would be needed when compared to the project.

A Trigger Analysis Memorandum was prepared by LLG for this project (January, 2020) and is provided in Appendix B. The analysis shows that this alternative would still trigger the need for the

traffic signal to be implemented as mitigation at Peñasquitos Drive/Cuca Street/Hotel Karlan Driveway (triggered at 214 ADT) and a roundabout to be implemented as mitigation at Peñasquitos Drive/Janal Way/Future Project Access (triggered at 107 ADT) Thus, this alternative would be expected to also have significant but mitigable direct and cumulative transportation/circulation impacts, with the same mitigation requirements as for the project.

Similar to the project, no transportation hazards would be expected to occur under this alternative. Overall, transportation/circulation impacts associated with the No Project/Development Per Community Plan Alternative would be less than the project based on generation of fewer daily trips, but the mitigation associated with this alternative would be the same as the mitigation required for the project (i.e., construction of a traffic signal and a roundabout). The intersection improvements at Peñasquitos Drive/Cuca Street/Hotel Karlan Driveway and Peñasquitos Drive/Janal Way/Future Project Access would be triggered at just 54 and 27 homes, respectively, for the Community Buildout Year 2050 analysis (LLG 2020).

Visual Effects/Neighborhood Character

The No Project/Development Per Community Plan Alternative would involve the replacement of the former golf course with a new golf course. The new golf course would include fairways, parking areas, and associated buildings generally similar to the former golf course uses at the site and would replace the existing visual appearance of the site that is characterized as a deteriorating golf course. This alternative would not result in the introduction of the new residential structures such as those that would be built if the project is approved. It would, however, result in improved visual quality as the neglected appearance of the site would be replaced by a newly constructed and landscaped golf course. Temporary construction impacts would be less than significant and over the long-term, the impacts of this alternative would be positive. Both the project and the No Project/Development Per Community Plan Alternative would have less than significant impacts for this issue, but the impacts of the alternative would be less than those associated with the project.

Noise

The No Project/Development Per Community Plan Alternative would involve the development of a golf course instead of a residential community, as would occur with the project. Noise impacts to surrounding development from project construction, traffic and on-site operations were determined to be less than significant. Construction noise impacts associated with this alternative would be similar to those associated with the project. As discussed above, this alternative would generate fewer vehicle trips and, therefore, even less traffic-related noise within the surrounding community. It also would place a recreational use on the project site. Operational noise impacts to adjacent uses would depend on the specific design of the golf course. Assuming that the greater noise-generating uses associated with a typical golf course (clubhouse, parking lot, maintenance yard, event spaces, etc.) would be located away from adjacent residential uses, it is expected that the on-site operation of a golf course also would not result in significant noise impacts. Similar to the project, a golf course use would be required to conform with City standards at the property line. Overall, noise impacts associated with the No Project/Development Per Community Plan Alternative would likely be less than those associated with the project, depending on the specific design of the golf course. For additional discussion of land use compatibility for on-site uses, please refer to the discussion of land use above.

Air Quality

Demolition, grading, and golf course construction activities would occur under the No Project/ Development Per Community Plan Alternative and would generate air pollution emissions during construction and operation of a new golf course. This alternative would result in reduced emissions during construction compared to the project, because less earthwork would be necessary to support a new golf course and related buildings compared to the proposed multi-story residential buildings associated with the project and fewer buildings would be constructed. The level of excavation and recompaction of on-site soils to support the golf course development would be much less than would be required for the proposed residential development. As mentioned previously in the discussion for transportation/circulation, the No Project/Development Per Community Plan Alternative would generate an estimated 900 daily trips, or 1,244 fewer trips per day than the 2,144 trips associated with the project, and therefore vehicle trips and associated air pollutant emissions would be greater with the project. The project also would provide the opportunity for pedestrian and bicycle connectivity across the project site that would not be afforded by the alternative. With the project, this connectivity could reduce vehicle trips by encouraging adjacent residents to bike or walk to commercial centers and transit at Carmel Mountain Road. The project would employ a number of energy efficiency measures, including solar panels to reduce electricity demand for the project to a net zero condition, EV charging stations and publicly accessible mobility features like rideshare drop-off sites, day lockers for cyclists and transit users, tethered bike tools, pneumatic air dispensers for bike tires, and transit/bicycle route information stations. Overall, the project would result in slightly less air pollution emissions compared to the No Project/Development Per Community Plan Alternative, although both scenarios would result in similar less than significant impacts.

Greenhouse Gas Emissions

The No Project/Development Per Community Plan Alternative would result in site-specific GHG emissions associated with construction and operation of a new golf course. It would, however, not result in implementation of the same strategies as would the project to reduce regional GHG emissions, such as improving connectivity with and between alternative modes of travel, incorporating water- and energy-efficiency measures, and implementing transportation/parking demand measures. GHG calculations for this alternative were completed as part of the GHG Analysis for the project (see Appendix E). In the unmitigated condition, this alternative was estimated to generate 1,937 MT CO_2e per year compared to 1,849 MT CO_2e per year for the project (including amortized construction impacts). These calculations do not take into consideration the fact that the golf course would not provide existing residents to the west of the project site with the opportunity for pedestrian and bicycle connectivity across the site. With the project, this connectivity could reduce vehicle trips by encouraging adjacent residents to bike or walk to commercial centers and transit at Carmel Mountain Road. On balance, the No Project/Development Per Community Plan Alternative is assumed to result in slightly greater GHG emissions compared to the project, although both scenarios would result in less than significant impacts.

Energy

The No Project/Development Per Community Plan Alternative would consume energy associated with the construction and operation of a new golf course, including energy associated with automobile traffic, cart charging, mowing, water supply, lighting, and clubhouse operation, among

other sources. The project would employ extensive energy-reducing mitigation measures, including the incorporation of solar energy panels, EV charging stations, and a variety of publicly accessible mobility features to encourage non-vehicular transportation. As demonstrated in the GHG analysis in Appendix E, these measures would be sufficient to reduce project energy use to below the energy demand requirements associated with a golf course on the project site. As mentioned in the preceding GHG analyses, this alternative also would not provide the opportunity for pedestrian and bicycle connectivity across the project site that would be afforded by the project, with the potential to reduce vehicle trips by encouraging adjacent residents to bike or walk to commercial centers and transit at Carmel Mountain Road. On balance, it is expected that the energy usage associated with the No Project/Development Per Community Plan Alternative would be similar or slightly greater than that associated with the project. Similar to the conclusions for air quality and GHG, above, energy impacts would be less than significant for both the alternative and the project.

Biological Resources

Under this alternative the project site would be redeveloped with a new or reconfigured golf course, instead of a residential development. It would still be necessary to clear and grade the site for a golf course development, because the previous golf course facilities, greens and landscaping have been deteriorating since 2015. This alternative may or may not avoid impacts to the existing man-made, non-wetland drainage ditch, that is subject to the jurisdiction of the USACE, RWQCB, and CDFW. Thus, the biology impacts of this alternative would be similar to or less than the project, depending on whether impacts to the existing on-site drainage would be avoided; avoidance of a resource is always considered preferable. Although the project would impact the drainage, it would also provide for on-site or off-site mitigation of this impact with the preservation or creation of high-quality wetland habitat to the satisfaction of the resource agencies. Given that the existing drainage ditch is a poor quality, man-made, non-wetland feature, the mitigation associated with the project would also provide a benefit by providing a higher quality wetland resource. If the drainage would be impacted by the golf course, similar mitigation through the on-site or off-site creation/preservation of wetland habitat would be required.

In summary, impacts for both the project and the No Project/Development Per Community Plan Alternative would be significant but mitigable. Impacts would be the same if both options would impact the existing on-site drainage, and mitigate the impact by the on-site or off-site creation/ preservation of a higher quality wetland feature. Impacts would be less for the alternative if it would avoid direct impacts to the drainage, but the potential benefits of the creation/preservation of a higher quality resource may not be realized in that case.

Hydrology and Water Quality

The No Project/Development Per Community Plan Alternative would result in the development of a golf course. Because a substantially greater portion of the project site would not be covered by impervious surfaces like roads and buildings, compared to the project, this alternative would generate less runoff and result in greater on-site percolation of groundwater on site. Both alternatives would require grading, with the potential for associated water quality impacts, and both would utilize chemicals associated with cleaning and maintenance, as well as herbicides and pesticides. The golf course would be more likely to utilize stronger, commercial forms of these chemicals. Both the alternative and the project, however, would be required to conform to local drainage and water quality requirements. As described in Section 5.9 of this EIR, hydrology and

water quality impacts associated with the project would be less than significant as conformance with the applicable drainage and water quality standards and regulations (including the NPDES Construction General, Municipal and Groundwater permits) would be required. Similar requirements would apply to a golf course development. Overall, hydrology and water quality impacts associated with the No Project/Development Per Community Plan Alternative would be incrementally less than the project as the intensity and use of the site would be incrementally less compared to a residential development, although impacts for both the project and this alternative would be less than significant.

Geology

Both the project and the No Project/Development Per Community Plan Alternative would be required to comply with the applicable recommendations of an on-site geotechnical investigation. Both would require grading, but the alternative would not result in the need for as much excavation and recompaction of the existing on-site fill materials to create suitable building foundations, compared with the project. It also would not expose as many buildings and people to geologic hazards on the project site should a seismic event occur. Impacts would be less than significant for both the project and this alternative but would be slightly less for the alternative.

Historical and Tribal Cultural Resources

As described in Section 5.11 of this EIR, no significant historical resources were identified on-site, but there is the potential for unknown resources to be discovered during on-site grading. This potential is somewhat tempered by the existence of substantial on-site fill material from the previous golf course development. The noted impacts to historical and tribal cultural resources associated with implementation of the project would be reduced below a level of significance through mitigation measures requiring monitoring of ground disturbance activities. Ground disturbance associated with development of the No Project/Development Per Community Plan Alternative would be comparatively less that with the project, because substantially less excavation would be required. Therefore, the likelihood of encountering sensitive historical resources would be less with the alternative. Both scenarios would have a significant but mitigable potential for impacts to previously unidentified prehistoric or ethnohistoric resources (including Native American resources and remains), however, with similar mitigation requirements for construction monitoring.

Public Utilities

The No Project/Development Per Community Plan Alternative would involve the construction and operation of a golf course instead of a residential community. Based on a 112-acre golf course, it is estimated this alternative would use 281,300 gallons of water per day (mostly for watering the golf course), generate 4,100 gallons of sewage per day, and generate 103 pounds of solid waste every day. This would compare with daily values of 281,400 gallons of water, 141,500 gallons of sewage, and 3,814 pounds of solid waste (approximately 54 percent of which would be recycled) associated with the project (see Section 5.12 and Appendix J for additional information). Thus, this alternative would result in a similar demand for water, and a reduced demand for sewer and solid waste disposal services, compared to the project. Impacts related to demand for public utilities under the project and this alternative would both be less than significant; overall, however, impacts under the No Project/Development Per Community Plan would be comparatively less than the project.

Public Services and Facilities

The No Project/Development Per Community Plan would result in development of a golf course on the project site instead of the proposed age-restricted (55+) residential development. The golf course development would represent a recreational facility and would not generate a demand for additional parks/recreation or libraries, while the project would add residents to the project site that would have a demand for these facilities. The project would also construct a public park that would meet or exceed the parkland requirement for the proposed residences. While both scenarios would place some demand on police and fire services, overall the golf course would be expected to result in fewer calls for service than the proposed residential project. Neither the proposed age-restricted development nor the alternative would generate students or place a demand on public schools. Overall, the golf course would place less demand on public services than the project; however, impacts under either scenario would be less than significant.

Health and Safety

As described in Section 5.14, the site has a history of containing underground and aboveground storage tanks, as well as a noted potential for ACM in golf course pipes and the vicinity of the former on-site sheds, and handling or generating hazardous materials including fertilizers, pesticides/ herbicides, waste and mixed oil, diesel fuel, solvents, and gasoline, during its previous use as a golf course site. These conditions present potential health hazards during construction due to the potential for airborne emissions of these materials, and over the long-term due to the potential for contaminated soils to adversely affect the health of future on-site residents. These potential adverse effects would be addressed through compliance with regulatory requirements during the demolition and removal of the pipelines and structures to prevent the release of asbestos to the air or soil, as well as a proposed mitigation measure to implement a SMP to test and properly dispose of any contaminated materials. Project impacts would be less than significant with mitigation. The No Project/Development Per Community Plan Alternative would redevelop the project site for golf course use, also requiring removal of the existing remnant golf course features and pipelines, and grading of potentially contaminated soils. Accordingly, the impacts and required mitigation would be the same for this alternative as for the project. Both types of development would be required by law to properly store, use, and dispose of hazardous substances used in the course of construction and long-term maintenance of the developed site.

This alternative would reconfigure an active golf course on the project site and the associated vegetation would be watered and less flammable than the existing site condition. Both the project and this alternative would have a less than significant impact with respect to wildfire and emergency response/evacuation. Under this alternative, the overall upgraded emergency egress and benefit to the Glens neighborhood that the project would provide by adding an exit route through the site to Carmel Mountain Road in the event of a fire in the Black Mountain Open Space Park or other areas to the west, would not be realized.

Overall, the No Project/Development Per Community Plan Alternative and the project would have the same or similar significant but mitigable health and safety impacts.

8.4.2.3 Conclusion

The No Project/Development Per Community Plan Alternative would have the potential to preserve the existing jurisdictional drainage ditch on the project site, although preservation in place may not be feasible during grading to reconfigure the golf course, and must be weighed against the benefits of the on-site or off-site creation/preservation of a higher quality jurisdictional feature with wetland vegetation. The significant but mitigable impacts of the project with respect to transportation, historical resources and health/safety would remain significant but mitigable with this alternative and would have the same mitigation requirements, although the transportation and historical resources impacts would be slightly reduced compared to the project.

Both the project and this alternative would result in less than significant impacts with respect to land use, noise, air quality, GHG, energy, visual effects/neighborhood character, hydrology/water quality, public utilities, geology, and public services and facilities/recreation, although the impacts would also be expected to be similar or slightly less than those associated with the project, as the golf course would require less grading and would represent a less intensive use of the project site. The No Project/Development Per Community Plan Alternative would have slightly higher energy use and air quality and GHG emissions than the project due to the extensive sustainability features that have been incorporated into the project.

The No Project/Development Per Community Plan Alternative would not provide a diversity of housing opportunities, including age-qualified homes and 15 percent affordable housing rental units, nor would it provide residential uses in proximity to existing neighborhood commercial to support a walkable neighborhood (Objectives 1 through 3). It also would not increase mobility options by providing improved pedestrian and bicycle linkages between the center and the adjacent neighborhood (Objective 4). If the golf course would be public, then this alternative would provide a public open space (Objective 5). This alternative would either avoid or mitigate impacts to the existing on-site drainage, providing for the creation and/or preservation of on- and/or off-site higher quality wetland habitat using native and wetland species (Objective 6). It would not provide substantial solar energy opportunities but would have a similar GHG emissions profile to that of the project (Objective 7). The alternative would not provide alternative and additional emergency access across the site and off site for existing residents to the west (Objective 8), nor would it provide publicly accessible mobility features to encourage alternative modes of transportation (Objective 9). Overall, the No Project/Development Per Community Plan Alternative would potentially be able to meet some, but not all, of the basic project objectives listed above in Section 8.2.1.

Certain other benefits of the project also would not be realized under the No Project/Development Per Community Plan Alternative. The opportunity to provide much-needed affordable and market rate, age-restricted (55+) housing, during a well-documented shortage of these housing types in the region, would be lost. Certain proposed improvements associated with the project that would benefit the community also would not be realized with this alternative. These include the provision of a public park, publicly accessible private park (with mobility enhancing features and sports courts), and social loop trail, provision of pedestrian and bicycle linkages through the project site to the commercial areas and transit stops at Carmel Mountain Road, and the provision of improved/ additional emergency egress routes.

It is important to note that implementation of this alternative would require that a project applicant would be interested in developing a golf course on the site, or that the City propose to develop it as a public golf course. The site was previously developed with a golf course that closed, citing maintenance costs including the cost of water as the reason for the golf course closure. If a private, for-profit golf course proves not to be financially feasible, then a public golf course would be the only option, implementing the golf course as a public recreational amenity.

8.4.3 Reduced Intensity Development Alternative

8.4.3.1 Description

There were no feasible residential development alternatives identified that could eliminate any of the impacts associated with the project. Development necessarily involves removal of the on-site poorly compacted fill material and impacts to the on-site non-wetland, jurisdictional drainage. As calculated in the Trigger Analysis Memo (LLG January, 2020) that is provided in Appendix B, the need for a traffic signal at Peñasquitos Drive/Cuca Street/Hotel Karlan Driveway and roundabout at Peñasquitos Drive/Janal Way/Future Project Access is triggered at just 54 and 27 homes, respectively. which represent 10 percent and 5 percent, respectively, of the project units. Development of 5 or 10 percent of the proposed units would not represent a viable development for the project applicant. Therefore, an alternative was selected that would reduce but not eliminate project impacts, and would result in a feasible development for the applicant to implement. The Reduced Intensity Development Alternative would involve a similar development proposal to the project, but with a 25 percent reduction in the number of residential units. Specifically, this alternative considers the development of 402 age-restricted homes, including 341 market rate and 61 affordable age-restricted residences. The mobility improvements and community facilities, as well as sustainable design features, proposed as part of the project also would occur under this alternative, but at a similarly reduced rate, and this alternative is anticipated to involve slightly larger market rate homes.

8.4.3.2 Environmental Analysis

Land Use

Under the Reduced Intensity Development Alternative, the remnants of the former golf course would be removed and replaced with a residential development, similar to the project, but with 25 percent fewer residences, mobility improvements, community facilities, and sustainable design features. This alternative would include a smaller public park, sufficient to meet the parkland requirements for the alternative. It would also provide public access to a smaller social loop trail around the project site and a smaller private park with mobility enhancing features. While this alternative would involve a new site plan that could potentially site planned residential uses farther from I-15, homes and exterior usable spaces would still be exposed to noise from I-15 in excess of 60 CNEL, requiring measures similar to those identified in the project Acoustical Analysis Report to be incorporated into the design of this alternative. It is expected that this alternative would also need to incorporate private exterior use area noise barriers and higher STC-rated building materials, in order to be consistent with General Plan land use noise compatibility standards. Land use impacts associated with noise compatibility would be less than significant and similar for the project and this alternative.

Like the project, this alternative would further City policies from the Strategic Framework Element of the General Plan that encourage future growth and new development to occur away from undeveloped lands and toward existing urbanized areas and/or areas with conditions that allow the integration of housing, employment, civic uses, and transit uses. Finally, it would support similar goals in SANDAG regional plans to promote development in or near urban areas and avoid undeveloped areas of the region.

It should be noted that this alternative would provide less new market rate and affordable housing at a time when the City is seeking to increase the available housing supply for both types of housing.

Transportation/Circulation

Development of the project site with 25 percent fewer age-restricted homes would result in a corresponding decrease in traffic compared to the project. This alternative would also generate four vehicle trips per unit per day for a total of 1,608 trips per day associated with the 402 age-restricted residences. As a result, trip generation under the Reduced Intensity Development Alternative would involve about 540 fewer trips per day than the 2,144 trips associated with the project. This would result in slightly reduced traffic volumes and congestion in the surrounding area, although the significant but mitigable impacts associated with the project, that would require the construction of a traffic signal at Peñasquitos Drive/Cuca Street/Hotel Karlan Driveway and a roundabout at Peñasquitos Drive/Janal Way/Future Project Access as mitigation measures, would still occur with this alternative. These improvements would be triggered at 214 and 107 daily trips, respectively, per the Trigger Analysis Memo (LLG January 2020).

The Reduced Intensity Development Alternative would include reduced transportation/circulation impacts during construction as less materials and equipment associated with earthwork and structural development would be needed when compared to the project. Similar to the project, no transportation hazards would occur under this alternative. It is anticipated that this alternative would provide similar pedestrian and bicycle amenities to benefit the proposed residents and the surrounding community. Overall, significant but mitigable transportation/circulation impacts would be associated with both the project and this alternative, but would be incrementally less with the Reduced Intensity Development Alternative.

Visual Effects/Neighborhood Character

The Reduced Intensity Development Alternative would involve the replacement of the former golf course, tennis courts, and maintenance yard for the adjacent Hotel Karlan with a residential development similar to the project but with 25 percent fewer homes. Depending on the layout of the project site and the size of the market rate homes under this alternative, it may be possible to achieve slightly wider setbacks from existing development and a slightly greater open space area; these modifications may be discernible to some nearby residents but would likely not be substantial enough to be noticeable during brief public views from such vantagepoints as I-15, Carmel Mountain Road, or the Black Mountain Open Space Park. While both the project and this alternative would be compatible with the surrounding community and would have less than significant impacts on visual effects/neighborhood character, the impacts associated with the Reduced Intensity Development Alternative would be slightly less than the impact of the project.

Noise

Noise impacts to surrounding development from project construction, traffic and on-site operations were determined to be less than significant. The Reduced Intensity Development Alternative would involve less construction and less long-term operational traffic, which would in turn result in reduced noise impacts compared to the project. While specific impacts to adjacent properties would depend on the design of the project, similar to the project, a reduced intensity residential development would be required to conform with City standards at the property line. Overall, noise impacts associated with the Reduced Intensity Development Alternative would remain less than significant and would likely be reduced compared to the project, depending on the specific design of the alternative development. For additional discussion of land use compatibility for on-site uses please refer to the discussion of land use, above.

Air Quality

Demolition, grading, and construction activities would occur under the Reduced Intensity Development Alternative and would generate air emissions during construction and operation; however, air emissions during both construction and operations would be incrementally less overall when compared to the project, because fewer units would be constructed. Emissions during grading would be expected to be similar as it is anticipated that most of the site would still need to be graded and a substantial amount of excavation would still be needed to remove existing fill materials that are unsuitable for building foundations. The Reduced Intensity Development Alternative would generate an estimated 1,604 daily vehicle trips, or 540 fewer trips per day than the 2,144 trips associated with the project. As vehicle emissions would be the predominant source of operational emissions (on-site electricity use would primarily be solar-generated), this alternative would be expected to generate less air pollution than the project. Overall, both the project and the Reduced Intensity Development Alternative would have less than significant air quality impacts, the impacts associated with the alternative would be slightly less than those associated with the project.

Greenhouse Gas Emissions

The Reduced Intensity Development Alternative would result in site-specific GHG emissions associated with construction and operation of the project, but at a reduced amount associated with the 25 percent reduction in the number of homes being developed. As a result, GHG impacts would remain less than significant but would be incrementally reduced under this alternative when compared to the project due to a reduction in traffic trips and development intensity. The reduction may not be equal to the 25 percent reduction in development, since the entire site would still likely be disturbed and development of a lower density project may not need to implement as many sustainability measures to achieve consistency with the Climate Action Plan.

Energy

The Reduced Intensity Development Alternative would result in energy consumption associated with construction and operation of the project, but at a reduced amount associated with the 25 percent reduction in the number of homes being developed. As a result, energy impacts would remain less than significant but would be incrementally reduced under this alternative when compared to the project due to a reduction in traffic trips and development intensity. The reduction may not be equal to the 25 percent reduction in development, since the development of a lower density project may

not need to implement as many sustainability measures to achieve consistency with the Climate Action Plan.

Biological Resources

Under the Reduced Intensity Development Alternative, the site would be redeveloped with the same land uses as the project; however, with 25 percent fewer homes. Impacts to a man-made earthen channel under the jurisdiction of the USACE, RWQCB, and CDFW that would require mitigation under the project would likely still occur in order to implement the residential development and associated recreational amenities and infrastructure, and also to remove fill material that was placed for the previous golf course use that is unsuitable for building foundations and stability. It is possible, however, that a slightly larger area would be available for on-site reestablishment of the jurisdictional drainage under this alternative, if that option would be acceptable to the resource agencies. Overall, both the project and the Reduced Intensity Development Alternative would result in similar significant but mitigable impacts to biological resources, with similar mitigation requirements.

Hydrology and Water Quality

The Reduced Intensity Development Alternative would result in the same type of development as the project, except there would be 25 percent less development. However, as residences would be larger and would likely be reconfigured within the project site, potential impacts related to the generation of impervious surfaces, increases in runoff rates/amounts, storm drain capacity, flooding, erosion/sedimentation, hydromodification, drainage alteration, and water pollutants would generally be similar. As described in Section 5.9 of this EIR, hydrology and water quality impacts associated with the project would be less than significant as conformance with City storm water standards, water quality regulations (including the NPDES Construction General, Municipal and Groundwater permits) and water conservation policies would be required. As a result, the less than significant hydrology and water quality impacts associated with the Reduced Intensity Development Alternative would be similar compared to the project even though the intensity and use of the site may be slightly reduced. For water conservation reasons, the amount of landscaping and impervious surface for either scenario would be expected to be similar.

Geology

Both the project and the Reduced Intensity Alternative would be required to comply with the applicable recommendations of an on-site geotechnical investigation, and it is expected that these recommendations would be very similar for both of these scenarios. Both would require a similar amount of grading, including excavation and recompaction of much of the existing on-site fill materials to create suitable building foundations, although grading could be slightly less for the alternative. This alternative would expose 25 percent fewer buildings and people to geologic hazards on the project site should a seismic event occur. Impacts would be less than significant for both the project and this alternative, with slightly less grading/geology impacts anticipated for the alternative.

Historical and Tribal Cultural Resources

As described in Section 5.11 of this EIR, no significant on-site historical resources were identified, but there is the potential for unknown resources to be discovered during on-site grading. This potential

is somewhat tempered by the existence of substantial on-site fill material from the previous golf course development. The noted impacts to historical and tribal cultural resources associated with implementation of the project would be reduced below a level of significance through mitigation measures requiring monitoring of ground disturbance activities. Ground disturbance associated with development of the Reduced Intensity Development Alternative would be slightly less than that associated with the project, because it is likely that slightly less grading would be required. Therefore, the likelihood of encountering sensitive historical resources would be similar, but slightly less than the project. Both scenarios would have a significant but mitigable potential for impacts to unidentified prehistoric or ethnohistoric resources (including Native American resources and remains), with the same mitigation requirements for construction monitoring.

Public Utilities

As the Reduced Intensity Development Alternative would involve the construction and operation of 25 percent less development than the project, it would result in reduced demand for additional water, sewer, and solid waste disposal services. While sewage and solid waste generation would likely be close to 25 percent less than the project, water demand may be closer to a 15 or 20 percent reduction, assuming the lower intensity development results in slightly larger market rate homes with larger yards and common area spaces. Impacts related to demand for public utilities under the project and this alternative would both be less than significant; overall, however, impacts under the Reduced Intensity Development Alternative would be comparatively less than the project.

Public Services and Facilities

Impacts related to demand for most public services and facilities, including police, fire, libraries, and parks/recreation, would be about 25 percent less under this alternative compared to the project, because the number of homes and residents on the site would be 25 percent less with this alternative. This reduced development intensity would correlate to a reduction in demand for public services and facilities. Both the project and the alternative would construct a public park that would meet or exceed the parkland requirement for the associated number of residences; the Reduced Intensity Alternative would likely build a slightly smaller park. Both scenarios would implement age-restricted (55+) residences that would not generate students or place a demand on public schools. Overall, the Reduced Intensity Alternative would place less demand on public services than the project; however, impacts under either scenario would be less than significant.

Health and Safety

As described in Section 5.14, the site has a history of containing underground and aboveground storage tanks, as well as a noted potential for ACM in golf course pipes and the on-site remnants of golf course features, and handling or generating hazardous materials including fertilizers, pesticides/herbicides, waste and mixed oil, diesel fuel, solvents, and gasoline, during its previous use as a golf course site. These conditions present potential health hazards during construction due to the potential for airborne emissions of these materials, and over the long-term due to the potential for contaminated soils to adversely affect the health of future on-site residents. These potential adverse effects would be addressed through compliance with regulatory requirements during the demolition and removal of the pipelines and structures to prevent the release of asbestos to the air or soil, as well as a proposed mitigation measure to implement a SMP to test and properly dispose of any contaminated materials. Project impacts would be less than significant with mitigation. The

Reduced Intensity Development Alternative would implement a similar, but slightly less intense, residential development on the project site, that would also require the removal of the existing remnant golf course features and pipelines, and grading of potentially contaminated soils. Accordingly, the impacts and required mitigation would be the same for this alternative as for the project. Both types of development would be required by law to properly store, use, and dispose of hazardous substances used in the course of construction and long-term maintenance of the developed site.

It is anticipated that this development alternative would result in a similar transportation infrastructure to that associated with the project. This would include similar benefits to the Glens neighborhood due to the addition of upgraded emergency egress including an exit route through the site to Carmel Mountain Road in the event of a fire in the Black Mountain Open Space Park or other areas to the west. This alternative would have similar design features designed to resist wildfire impacts, per City requirements. The project and this alternative would have a similar, less than significant impact with respect to wildfire and emergency response/evacuation.

8.4.3.3 Conclusion

The Reduced Intensity Development Alternative would not avoid any significant but mitigable impacts associated with the project. Significant but mitigable traffic and historical resources impacts would be slightly less than the project impacts, but the required mitigation would be the same. The project and this alternative would have essentially the same significant impacts with the same mitigation required to reduce impacts to less than significant levels, for the following issues: biological resources and health/safety. Less than significant impacts associated with both the project and this alternative with respect to land use, noise, visual effects/neighborhood character, air quality, GHG, energy, geology, public utilities, and public services and facilities/recreation, would be slightly less for this alternative, while less than significant water quality/hydrology impacts would be approximately the same. The differences are primarily associated with the slightly reduced intensity of development and level of grading required for this alternative.

As the Reduced Intensity Development Alternative would involve a reduction by 25 percent of the development intensity of the project, it is likely that most of the project objectives would be met. This alternative would provide a diversity of housing opportunities, including age-restricted market-rate housing and affordable for-rent housing, and provide residential uses in proximity to existing neighborhood commercial to support a walkable neighborhood (Objectives 1 through 3), although it is likely that the market rate homes for this alternative would be slightly larger and the development would be less compact (Objective 2). This alternative would increase mobility options by providing improved pedestrian and bicycle linkages between the shopping center and the adjacent neighborhood (Objective 4) and would likely provide a public open space that would be about 25 percent smaller than the park for the project (Objective 5). This alternative would mitigate impacts to the existing non-wetland drainage on site through the creation and/or preservation of higher quality wetland habitat either on-site or off-site using native and wetland species (Objective 6), reduce GHG emissions with solar panels on housing structures (Objective 7), improve emergency access through the site and off site (Objective 8). This smaller development would provide fewer publicly accessible mobility features, to encourage alternative modes of transportation (Objective 9).

It is important to note that the project was originally proposed to be 476 residential units, as described in Section 4.0. The applicant presented the contents of the application to the RPPB Land Use Committee on December 6, 2017. In the months that followed, the applicant met with City housing advocates and leaders, and considered comments made by the Mayor and City Council members about the housing shortage that the community is facing. This input, along with recent conversations around the vanishing housing options for fixed-income seniors, was the impetus for the revised project plan, submitted in early 2018. The total number of homes was increased to 536, including 455 age-qualified housing units and 81 affordable age-qualified multi-family apartment-style homes. This increased density would not be realized with the Reduced Intensity Development Alternative.

8.5 Environmentally Superior Alternative

The State CEQA Guidelines require the identification of an environmentally superior alternative among the alternatives analyzed in an EIR, which is typically selected based on an ability to avoid or substantially reduce significant environmental effects associated with the project. The guidelines also require that if the No Project Alternative is identified as the environmentally superior alternative, another environmentally superior alternative must be identified.

The project would not result in any significant and unavoidable impacts, and mitigation measures or project design features have been identified to reduce all potentially significant impacts to a less than significant level. However, the No Project Alternative/No Development Alternative is identified as the environmentally superior alternative as this alternative would not result in any new impacts. Some adverse conditions would be allowed to remain (e.g., on-site hazardous substances and seasonally dry flammable conditions) and some potential project benefits would not be realized (e.g., no bicycle and pedestrian access through the site to the commercial centers and transit stops at Carmel Mountain Road). This alternative, however, would take no action and would have no new impacts, and would avoid the significant but mitigable impacts associated with the project related to transportation/circulation, biological resources, historical and tribal cultural resources, and health and safety (refer to Table 8-1). The No Project Alternative does not meet the purpose and objectives of the project, however, as outlined in Section 8.4.1.3.

Of the remaining alternatives, the environmentally superior alternative would be the No Project/ Development Per Community Plan Alternative. This alternative would reduce many of the impacts of the project, except that the significant but mitigable health/safety impacts and the less than significant energy, air quality and GHG emissions (which take into consideration the extensive sustainability features that have been incorporated into the project) would be about the same for both the project and this alternative. Every other impact would be reduced with this alternative, and the General Plan noise compatibility standards would be more readily met, due to the less restrictive noise standards associated with a golf course, compared to a residential development. This alternative would not meet most of the identified project objectives, however, and certain other benefits of the project also would not be realized under this alternative. Examples include the provision of a public park and social loop trail, mobility-enhancing features within a publicly accessible private park on the site, pedestrian and bicycle linkages through the project site to the commercial areas and transit stops at Carmel Mountain Road, and an additional emergency egress route through the project site in the event of a fire in the Black Mountain Open Space Park or other areas to the west. This alternative would fail to provide much-needed affordable and market rate,

age-restricted (55+) housing in the region, and would not implement statewide, regional, and City strategies that encourage intensifying future development into developed areas that are closer to the regional transit system. Implementation of this strategy is an important component of the approach to improve regional mobility and reduce contributions to GHG emissions (and associated air pollutant emissions and energy use) because the strategy makes it possible for larger numbers of people to make fewer and shorter automobile trips. Furthermore, implementation of the No Project/Development Per Community Plan Alternative would require that a project applicant would be interested in developing a golf course on the site, or that the City propose to develop it as a public golf course. The previous privately owned golf course on the site failed, citing maintenance costs (including the cost of water) as the reason for the golf course closure. If a private, for-profit golf course proves not to be financially feasible then a public golf course would be the only option, implementing the golf course as a public recreational amenity.

Table 8-1
COMPARISON OF PROJECT AND ALTERNATIVE IMPACTS

Environmental Topic	Project	No Project/No Development	No Project/ Development Per Community Plan	Reduced Intensity Development
Land Use	LS	N	LS-	LS
Transportation/Circulation	SM	N	SM-	SM-
Visual Effects/ Neighborhood Character	LS	N	LS-	LS-
Noise	LS	N	LS-	LS
Air Quality	LS	N	LS+	LS-
Greenhouse Gas Emissions	LS	N	LS+	LS-
Energy	LS	N	LS+	LS-
Biological Resources	SM	N	SM-	SM
Hydrology and Water Quality	LS	N	LS-	LS
Geology	LS	N	LS-	LS-
Historical and Tribal Cultural Resources	SM	N	SM-	SM-
Public Utilities	LS	N	LS-	LS-
Public Services and Facilities/Recreation	LS	N	LS-	LS-
Health and Safety	SM	N	SM	SM

SM = significant but mitigable impacts; LS = less than significant impacts; N = no impacts
– = comparatively reduced impact relative to the project (if impact designation is the same and impact varies)
+ = comparatively greater impact relative to the project (if impact designation is the same and impact varies)

9.0 MITIGATION, MONITORING AND REPORTING PROGRAM

As Lead Agency for the project under CEQA, the City of San Diego (City) will administer the Mitigation, Monitoring and Reporting Program (MMRP) for the following environmental issue areas as identified in The Junipers Project EIR: Transportation/Circulation, Biological Resources, Historical and Tribal Resources, and Health and Safety. All mitigation measures from The Junipers Project EIR (Project No. 586670; SCH No. 2018041032) are identified below. This MMRP shall be made a requirement of project approval.

Section 21081.6 of the State of California PRC requires a Lead or Responsible Agency that approves or carries out a project where an EIR has identified significant environmental effects to adopt a "reporting or monitoring program for adopted or required changes to mitigate or avoid significant environmental effects." The City is the Lead Agency for The Junipers Project EIR and, therefore, must ensure the enforceability of the MMRP. An EIR has been prepared for this project that addresses potential environmental impacts and, where appropriate, recommends measures to mitigate these impacts. As such, an MMRP is required to ensure that adopted mitigation measures are implemented. Therefore, the following measures are included in this MMRP:

A. GENERAL REQUIREMENTS – PART I

Plan Check Phase (prior to permit issuance)

1. Prior to the issuance of a Notice to Proceed (NTP) for a subdivision, or any construction permits, such as Demolition, Grading or Building, or beginning any construction related activity on-site, the Development Services Department (DSD) Director's Environmental Designee (ED) shall review and approve all Construction Documents (CD) (plans, specification, details, etc.) to ensure the MMRP requirements are incorporated into the design.

2. In addition, the ED shall verify that the MMRP Conditions/Notes that apply only to the construction phases of this project are included VERBATIM, under the heading, "ENVIRONMENTAL/MITIGATION REQUIREMENTS."

3. These notes must be shown within the first three (3) sheets of the construction documents in the format specified for engineering construction document templates as shown on the City website:

   http://www.sandiego.gov/development-services/industry/standtemp.shtml.

4. The TITLE INDEX SHEET must also show on which pages the "Environmental/Mitigation Requirements" notes are provided.

5. SURETY AND COST RECOVERY – The Development Services Director or City Manager may require appropriate surety instruments or bonds from private Permit Holders to ensure the long-term performance or implementation of required mitigation measures or programs.

The City is authorized to recover its cost to offset the salary, overhead, and expenses for City personnel and programs to monitor qualifying projects.

B. GENERAL REQUIREMENTS – PART II

Post Plan Check (after permit issuance/prior to start of construction)

1. Pre construction meeting is required ten (10) working days prior to beginning any work on this project. The permit holder/owner is responsible to arrange and perform this meeting by contacting the City Resident Engineer (RE) of the Field Engineering Division and City staff from mitigation monitoring coordination (MMC). Attendees must also include the Permit holder's Representative(s), Job Site Superintendent, and the following consultants:

    a. Qualified Biologist
    b. Qualified Archaeologist
    c. Qualified Native American Monitor
    d. Qualified Paleontological Monitor
    e. Qualified Acoustician

    Note: Failure of all responsible Permit Holder's representatives and consultants to attend shall require an additional meeting with all parties present.

    Contact Information:

    a. The PRIMARY POINT OF CONTACT is the RE at the Field Engineering Division – 858-627-3200

    b. For Clarification of ENVIRONMENTAL REQUIREMENTS, it is also required to call RE and MMC at 858-627-3360

2. MMRP Compliance: This project, Project Tracking System (PTS) #586670 and/or Environmental Document #2018041032, shall conform to the mitigation requirements contained in the associated Environmental Document and implemented to the satisfaction of the DSD's Environmental Designee (MMC) and the City Engineer (RE). The requirements may not be reduced or changed but may be annotated (i.e., to explain when and how compliance is being met and location of verifying proof, etc.). Additional clarifying information may also be added to other relevant plan sheets and/or specifications as appropriate (i.e., specific locations, times of monitoring, methodology, etc.).

    Note: Permit Holder's Representatives must alert RE and MMC if there are any discrepancies in the plans or notes, or any changes due to field conditions. All conflicts must be approved by RE and MMC BEFORE the work is performed.

3. Other Agency Requirements: Evidence of compliance with all other agency requirements or permits shall be submitted to the RE and MMC for review and acceptance prior to the beginning of work or within one week of the Permit Holder obtaining documentation of those permits or requirements. Evidence shall include copies of permits, letters of resolution or other documentation issued by the responsible agency:

- California Department of Fish and Wildlife: California Fish and Game Code Section 1602 Streambed Alteration Agreement
- Regional Water Quality Control Board: National Pollutant Discharge Elimination System General Construction Permit, Clean Water Act Section 401 waiver/ certification
- U.S. Army Corps of Engineers: Clean Water Act Section 404 authorization
- San Diego County Airport Land Use Commission: Consistency Determination
- Caltrans: Right-of-Way Encroachment Permit

4. MONITORING EXHIBITS: All consultants are required to submit, to RE and MMC, a monitoring exhibit on a 11x17 reduction of the appropriate construction plan, such as site plan, grading, landscape, etc., marked to clearly show the specific areas including the LIMIT OF WORK, scope of that discipline's work, and notes indicating when in the construction schedule that work will be performed. When necessary for clarification, a detailed methodology of how the work will be performed shall be included.

   Note: Surety and Cost Recovery – When deemed necessary by the Development Services Director or City Manager, additional surety instruments or bonds from the private Permit Holder may be required to ensure the long-term performance or implementation of required mitigation measures or programs. The City is authorized to recover its cost to offset the salary, overhead, and expenses for City personnel and programs to monitor qualifying projects.

5. OTHER SUBMITTALS AND INSPECTIONS: The Permit Holder/Owner's representative shall submit all required documentation, verification letters, and requests for all associated inspections to the RE and MMC for approval per the following schedule:

Document Submittal/Inspection Checklist		
Issue Area	**Document Submittal**	**Associated Inspection/ Approvals/Notes**
General	Consultant Qualification Letters	Prior to Preconstruction Meeting
General	Consultant Construction Monitoring Exhibits	Prior to or at Preconstruction Meeting
Transportation	Transportation Control Plan	Prior to Construction
Noise/Land Use	Acoustical Reports	Noise Mitigation Features (incorporated as conditions of approval) Inspection
Biology	Restoration Plan/Mitigation Plan for On-Site Drainage Feature	Prior to Construction
Biology	Restoration Monitoring for On-Site Drainage Feature	Inspection/Reporting on Restoration Efforts During Construction
Biology	Long-Term Management Plan for Restored Drainage Feature	Five-year Maintenance and Monitoring of Drainage Restoration

Document Submittal/Inspection Checklist (cont.)		
Issue Area	**Document Submittal**	**Associated Inspection/ Approvals/Notes**
Historical/Tribal	Letter of Verification	Prior to Permit Issuance
Historical/Tribal	Draft/Final Monitoring Report	Archaeological/Native American Monitoring During Construction
Health/Safety	Soil Management Plan	Prior to Construction Activities
Paleontology	Verification of compliance with SDMC Section 142.0151	During Construction
Bond Release	Request for Bond Release Letter	Final MMRP Inspections Prior to Bond Release Letter

C. SPECIFIC MMRP ISSUE AREA CONDITIONS/REQUIREMENTS FROM EIR

TRANSPORTATION/CIRCULATION

TRA-1: Traffic Signal at Peñasquitos Drive/Cuca Street/Hotel Karlan Driveway Intersection

Prior to issuance of the first building permit, Owner/Permitee shall assure by permit and bond the construction of a traffic signal at Peñasquitos Drive/Cuca Street/Hotel Karlan Driveway, with dedicated left-turn lanes with protected phasing on Peñasquitos Drive, and permissive phasing on the minor street (Cuca Street /Hotel Karlan Driveway) approaches, satisfactory to the City Engineer. Improvements shall be completed and operational prior to the project's first occupancy.

TRA-2: Roundabout at Peñasquitos Drive/Janal Way/Project Access Intersection

Prior to issuance of the first building permit, Owner/Permitee shall assure by permit and bond the construction of a single lane roundabout at Peñasquitos Drive/Janal Way/Project Access, satisfactory to the City Engineer. Improvements shall be completed and operational prior to project's first occupancy.

BIOLOGICAL RESOURCES

BIO-1 Impacts to 0.10 acre of USACE- and RWQCB-jurisdictional non-wetland waters of the U.S./State shall be mitigated at a minimum 1:1 ratio through one or a combination of the following: on- and/or off-site establishment, re-establishment, rehabilitation, and/or enhancement of a minimum of 0.10 acre waters of the U.S./State; and/or off-site purchase of waters of the U.S./State credits at an approved mitigation bank, such as the Brook Forest Conservation/Mitigation Bank, or other location deemed acceptable by the USACE and RWQCB. Impacts to waters of the U.S./State would require notification to the USACE for issuance of a Section 404 CWA permit and notification to the RWQCB for issuances of a Section 401 CWA permit from the RWQCB.

BIO-2 Impacts to ~~0.11~~ 0.15 acre of CDFW-jurisdictional streambed will be mitigated at a minimum 1:1 ratio through one or a combination of the following: on- and/or off-site establishment, re-establishment, rehabilitation, and/or enhancement of a minimum of ~~0.11~~ 0.15 acre riparian and/or stream habitat; and/or off-site purchase of riparian and/or stream credits at

an approved mitigation bank, such as the Brook Forest Conservation/Mitigation Bank, or other location deemed acceptable by the CDFW. Impacts to CDFW-jurisdictional resources would require notification to the CDFW for a CFG Section 1602 Streambed Authorization Agreement.

Additional Standard City Requirements That Apply:

<u>Biological Resources</u> – RESOURCE PROTECTION 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 Biological 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 and revegetation program, and arrange to perform any follow up mitigation measures and reporting including site-specific monitoring and restoration/revegetation.

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), 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: restoration/revegetation plans, avian or other wildlife surveys/survey schedules (including general avian nesting and USFWS protocols), timing of surveys, 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 raptors and/or any native/migratory birds, 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 birds 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 applicant shall submit the results of the pre-construction survey to City DSD for review and approval prior to initiating any construction activities. If nesting birds 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.

HISTORICAL AND TRIBAL CULTURAL RESOURCES

HIS-1 Archaeological Monitoring

I. Prior to Permit Issuance

A. Entitlements Plan Check

1. Prior to issuance of any construction permits, including but not limited to, the first Grading Permit, Demolition Plans/Permits and Building Plans/Permits or a Notice to Proceed for Subdivisions, but prior to the first preconstruction meeting, whichever is applicable, the Assistant Deputy Director (ADD) Environmental designee shall verify that the requirements for Archaeological Monitoring and Native American monitoring have been noted on the applicable construction documents through the plan check process.

B. Letters of Qualification have been submitted to ADD

1. The applicant shall submit a letter of verification to Mitigation Monitoring Coordination (MMC) identifying the Principal Investigator (PI) for the project and the names of all persons involved in the archaeological monitoring program, as defined in the City of San Diego Historical Resources Guidelines (HRG). If applicable, individuals involved in the archaeological monitoring program must have completed the 40-hour HAZWOPER training with certification documentation.

2. MMC will provide a letter to the applicant confirming the qualifications of the PI and all persons involved in the archaeological monitoring of the project meet the qualifications established in the HRG.

3. Prior to the start of work, the applicant must obtain written approval from MMC for any personnel changes associated with the monitoring program.

II. Prior to Start of Construction

A. Verification of Records Search

1. The PI shall provide verification to MMC that a site-specific records search (1/4-mile radius) has been completed. Verification includes, but is not limited to a copy of a confirmation letter from South Coastal Information Center, or, if the search was in-house, a letter of verification from the PI stating that the search was completed.

2. The letter shall introduce any pertinent information concerning expectations and probabilities of discovery during trenching and/or grading activities.

3. The PI may submit a detailed letter to MMC requesting a reduction to the 1/4-mile radius.

B. PI Shall Attend Precon Meetings

1. Prior to beginning any work that requires monitoring; the Applicant shall arrange a Precon Meeting that shall include the PI, Native American consultant/monitor (where Native American resources may be impacted), Construction Manager (CM) and/or Grading Contractor, Resident Engineer (RE), Building Inspector (BI), if appropriate, and MMC. The qualified Archaeologist and Native American Monitor shall attend any grading/excavation related Precon Meetings to make comments and/or suggestions concerning the Archaeological Monitoring program with the Construction Manager and/or Grading Contractor.

   a. If the PI is unable to attend the Precon Meeting, the Applicant shall schedule a focused Precon Meeting with MMC, the PI, RE, CM or BI, if appropriate, prior to the start of any work that requires monitoring.

2. Identify Areas to be Monitored

   a. Prior to the start of any work that requires monitoring, the PI shall submit an Archaeological Monitoring Exhibit (AME) (with verification that the AME has been reviewed and approved by the Native American consultant/monitor when Native American resources may be impacted) based on the appropriate construction documents (reduced to 11x17) to MMC identifying the areas to be monitored including the delineation of grading/excavation limits.

   b. The AME shall be based on the results of a site-specific records search as well as information regarding existing known soil conditions (native or formation).

3. When Monitoring Will Occur

   a. Prior to the start of any work, the PI shall also submit a construction schedule to MMC through the RE indicating when and where monitoring will occur.

   b. The PI may submit a detailed letter to MMC prior to the start of work or during construction requesting a modification to the monitoring program. This request shall be based on relevant information such as review of final construction documents which indicate site conditions such as depth of excavation and/or site graded to bedrock, etc., which may reduce or increase the potential for resources to be present.

III. During Construction

A. Monitor(s) Shall be Present During Grading/Excavation/Trenching

1. The Archaeological Monitor shall be present full-time during all soil disturbing and grading/excavation/trenching activities which could result in impacts to archaeological resources as identified on the AME. The Construction Manager is responsible for notifying the RE, PI, and MMC of changes to any construction activities such as in the case of a potential safety concern within the area being monitored. In certain circumstances OSHA safety requirements may necessitate modification of the AME.

2. The Native American consultant/monitor shall determine the extent of their presence during soil disturbing and grading/excavation/trenching activities based on the AME and provide that information to the PI and MMC. If prehistoric resources are encountered during the Native American consultant/monitor's absence, work shall stop, and the Discovery Notification Process detailed in Section III.B-C and IV.A-D shall commence.

3. The PI may submit a detailed letter to MMC during construction requesting a modification to the monitoring program when a field condition such as modern disturbance post-dating the previous grading/trenching activities, presence of fossil formations, or when native soils are encountered that may reduce or increase the potential for resources to be present.

4. The archaeological and Native American consultant/monitor shall document field activity via the Consultant Site Visit Record (CSVR). The CSVRs shall be faxed by the CM to the RE the first day of monitoring, the last day of monitoring, monthly (Notification of Monitoring Completion), and in the case of ANY discoveries. The RE shall forward copies to MMC.

B. Discovery Notification Process

1. In the event of a discovery, the Archaeological Monitor shall direct the contractor to temporarily divert all soil disturbing activities, including but not limited to digging, trenching, excavating or grading activities in the area of discovery and in the area reasonably suspected to overlay adjacent resources and immediately notify the RE or BI, as appropriate.

2. The Monitor shall immediately notify the PI (unless Monitor is the PI) of the discovery.

3. The PI shall immediately notify MMC by phone of the discovery, and shall also submit written documentation to MMC within 24 hours by fax or email with photos of the resource in context, if possible.

4. No soil shall be exported off-site until a determination can be made regarding the significance of the resource specifically if Native American resources are encountered.

C. Determination of Significance

1. The PI and Native American consultant/monitor, where Native American resources are discovered shall evaluate the significance of the resource. If Human Remains are involved, follow protocol in Section IV below.

   a. The PI shall immediately notify MMC by phone to discuss significance determination and shall also submit a letter to MMC indicating whether additional mitigation is required.

   b. If the resource is significant, the PI shall submit an Archaeological Data Recovery Program (ADRP) which has been reviewed by the Native American consultant/ monitor, and obtain written approval from MMC. Impacts to significant resources must be mitigated before ground disturbing activities in the area of discovery will be allowed to resume. Note: If a unique archaeological site is also an historical resource as defined in CEQA, then the limits on the amount(s) that a project applicant may be required to pay to cover mitigation costs as indicated in CEQA Section 21083.2 shall not apply.

   c. If the resource is not significant, the PI shall submit a letter to MMC indicating that artifacts will be collected, curated, and documented in the Final Monitoring Report. The letter shall also indicate that that no further work is required.

IV. Discovery of Human Remains

If human remains are discovered, work shall halt in that area and no soil shall be exported off-site until a determination can be made regarding the provenance of the human remains; and the following procedures as set forth in CEQA Section 15064.5(e), the California Public Resources Code (Sec. 5097.98) and State Health and Safety Code (Sec. 7050.5) shall be undertaken:

A. Notification

1. Archaeological Monitor shall notify the RE or BI as appropriate, MMC, and the PI, if the Monitor is not qualified as a PI. MMC will notify the appropriate Senior Planner in the Environmental Analysis Section (EAS) of the Development Services Department to assist with the discovery notification process.

2. The PI shall notify the Medical Examiner after consultation with the RE, either in person or via telephone.

B. Isolate discovery site

1. Work shall be directed away from the location of the discovery and any nearby area reasonably suspected to overlay adjacent human remains until a determination can be made by the Medical Examiner in consultation with the PI concerning the provenance of the remains.

2. The Medical Examiner, in consultation with the PI, will determine the need for a field examination to determine the provenance.

3. If a field examination is not warranted, the Medical Examiner will determine with input from the PI, if the remains are or are most likely to be of Native American origin.

C. If Human Remains ARE determined to be Native American

1. The Medical Examiner will notify the Native American Heritage Commission (NAHC) within 24 hours. By law, ONLY the Medical Examiner can make this call.

2. NAHC will immediately identify the person or persons determined to be the Most Likely Descendent (MLD) and provide contact information.

3. The MLD will contact the PI within 24 hours or sooner after the Medical Examiner has completed coordination, to begin the consultation process in accordance with CEQA Section 15064.5(e), the California Public Resources and Health & Safety Codes.

4. The MLD will have 48 hours to make recommendations to the property owner or representative, for the treatment or disposition with proper dignity, of the human remains and associated grave goods.

5. Disposition of Native American Human Remains will be determined between the MLD and the PI, and, if:

   a. The NAHC is unable to identify the MLD, OR the MLD failed to make a recommendation within 48 hours after being granted access to the site, OR;

   b. The landowner or authorized representative rejects the recommendation of the MLD and mediation in accordance with PRC 5097.94 (k) by the NAHC fails to provide measures acceptable to the landowner, the landowner shall reinter the human remains and items associated with Native American human remains with appropriate dignity on the property in a location not subject to further and future subsurface disturbance, THEN

   c. To protect these sites, the landowner shall do one or more of the following:

      (1) Record the site with the NAHC;

      (2) Record an open space or conservation easement; or

      (3) Record a document with the County. The document shall be titled “Notice of Reinterment of Native American Remains” and shall include a legal description of the property, the name of the property owner, and the owner’s acknowledged signature, in addition to any other information required by PRC 5097.98. The document shall be indexed as a notice under the name of the owner.

V. Night and/or Weekend Work

A. If night and/or weekend work is included in the contract

1. When night and/or weekend work is included in the contract package, the extent and timing shall be presented and discussed at the precon meeting.

2. The following procedures shall be followed.

a. No Discoveries: In the event that no discoveries were encountered during night and/or weekend work, the PI shall record the information on the CSVR and submit to MMC via fax by 8AM of the next business day.

b. Discoveries: All discoveries shall be processed and documented using the existing procedures detailed in Sections III - During Construction, and IV – Discovery of Human Remains. Discovery of human remains shall always be treated as a significant discovery.

c. Potentially Significant Discoveries: If the PI determines that a potentially significant discovery has been made, the procedures detailed under Section III - During Construction and IV-Discovery of Human Remains shall be followed.

d. The PI shall immediately contact MMC, or by 8AM of the next business day to report and discuss the findings as indicated in Section III-B, unless other specific arrangements have been made.

B. If night and/or weekend work becomes necessary during the course of construction

1. The Construction Manager shall notify the RE, or BI, as appropriate, a minimum of 24 hours before the work is to begin.

2. The RE, or BI, as appropriate, shall notify MMC immediately.

C. All other procedures described above shall apply, as appropriate.

VI. Post Construction

A. Preparation and Submittal of Draft Monitoring Report

1. The PI shall submit two copies of the Draft Monitoring Report (even if negative), prepared in accordance with the Historical Resources Guidelines (Appendix C/D) which describes the results, analysis, and conclusions of all phases of the Archaeological Monitoring Program (with appropriate graphics) to MMC for review and approval within 90 days following the completion of monitoring. It should be noted that if the PI is unable to submit the Draft Monitoring Report within the allotted 90-day timeframe resulting from delays with analysis, special study results or other complex issues, a schedule shall be submitted to MMC establishing agreed due dates and the provision for submittal of monthly status reports until this measure can be met.

a. For significant archaeological resources encountered during monitoring, the Archaeological Data Recovery Program shall be included in the Draft Monitoring Report.

b. Recording Sites with State of California Department of Parks and Recreation: The PI shall be responsible for recording (on the appropriate State of California Department of Park and Recreation forms-DPR 523 A/B) any significant or potentially significant resources encountered during the Archaeological Monitoring Program in accordance with the City's Historical Resources Guidelines, and submittal of such forms to the South Coastal Information Center with the Final Monitoring Report.

2. MMC shall return the Draft Monitoring Report to the PI for revision or, for preparation of the Final Report.

3. The PI shall submit revised Draft Monitoring Report to MMC for approval.

4. MMC shall provide written verification to the PI of the approved report.

5. MMC shall notify the RE or BI, as appropriate, of receipt of all Draft Monitoring Report submittals and approvals.

B. Handling of Artifacts

1. The PI shall be responsible for ensuring that all cultural remains collected are cleaned and catalogued

2. The PI shall be responsible for ensuring that all artifacts are analyzed to identify function and chronology as they relate to the history of the area; that faunal material is identified as to species; and that specialty studies are completed, as appropriate.

3. The cost for curation is the responsibility of the property owner.

C. Curation of artifacts: Accession Agreement and Acceptance Verification

1. The PI shall be responsible for ensuring that all artifacts associated with the survey, testing and/or data recovery for this project are permanently curated with an appropriate institution. This shall be completed in consultation with MMC and the Native American representative, as applicable.

2. The PI shall include the Acceptance Verification from the curation institution in the Final Monitoring Report submitted to the RE or BI and MMC.

3. When applicable to the situation, the PI shall include written verification from the Native American consultant/monitor indicating that Native American resources were treated in accordance with state law and/or applicable agreements. If the resources were reinterred, verification shall be provided to show what protective measures were taken to ensure no further disturbance occurs in accordance with Section IV – Discovery of Human Remains, Subsection 5.

D. Final Monitoring Report(s)

1. The PI shall submit one copy of the approved Final Monitoring Report to the RE or BI as appropriate, and one copy to MMC (even if negative), within 90 days after notification from MMC that the draft report has been approved.

2. The RE shall, in no case, issue the Notice of Completion and/or release of the Performance Bond for grading until receiving a copy of the approved Final Monitoring Report from MMC which includes the Acceptance Verification from the curation institution.

HEALTH AND SAFETY

HAZ-1: Soil Management Plan

Prior to the initiation of demolition and construction activities at the site, the Construction Manager and/or Grading Contractor shall submit a soil management plan (SMP) for approval by the City. The SMP shall outline the procedures for the contractor to identify, segregate, and dispose of any impacted soils discovered in the existing/previous maintenance areas of the subject site during the demolition, grubbing, and grading phases of project construction. The City MMC shall verify implementation of the SMP.

This page intentionally left blank

10.0 REFERENCES

AECOM

2015 Community Plan Update for the Community of Old Town, Prehistoric Cultural Resources, City of San Diego, California. Electronic document available at https://www.sandiego.gov/sites/default/files/cultural_constraints_analysis_old_town.pdf, accessed January 8, 2018.

American Association of Retired Persons (AARP)

2011 Housing Trends Update for the 55+ Market – New Insights from the American Housing Survey. January.

Association of Environmental Professionals (AEP)

2010. Spring 2010 Advanced CEQA Workshop. San Diego Chapter. May 13.

Bean, Lowell John, and Florence Shipek

1978 Luiseño. In *California,* edited by Robert F. Heizer, pp. 550–569. Handbook of North American Indians, Vol. 8, William C. Sturtevant, general editor, Smithsonian Institution, Washington, D.C.

Brackett, R. W.

1951 *The History of San Diego County Ranchos*. Union Title Insurance and Trust Co., San Diego, California.

Brady, R.H. III, Vyverberg, K.

2014 *Methods to Describe and Delineate Episodic Stream Processes on Arid Landscapes for Permitting Utility-Scale Solar Power Plants*. California Energy Commission. Publication Number: CEC-500-2014-013. February.

Bull, Charles

1983 Shaking the Foundations: The Evidence for San Diego Prehistory. *Casual Papers* 1(3):15–64. On file at South Coastal Information Center, San Diego State University, San Diego, California.

California Air Pollution Control Officers Association (CAPCOA)

2017 California Emission Estimator Model (CalEEMod) Version 2016.3.2. Released November.

California Air Resources Board (CARB)

2019 California Greenhouse Gas Inventory for 2000-2017 – By Sector and Activity. August 12.

2018 Top 4 Measurements and Days Above the Standard. Available at: http://www.arb.ca.gov/adam/topfour/topfour1.php. Accessed April 10, 2018.

California Air Resources Board (CARB) (cont.)

2016 Ambient Air Quality Standards. May 4. Available at: http://www.arb.ca.gov/research/aaqs/aaqs2.pdf

2013 Board Meetings. Available at: http://www.arb.ca.gov/board/meetings.htm.

2009 ARB Fact Sheet: Air Pollution and Health. December 2. Available at: http://www.arb.ca.gov/research/health/fs/fs1/fs1.htm

2008 Climate Change Scoping Plan – A Framework for Change. December.

2005 Air Quality and Land Use Handbook: A Community Health Perspective. April.

California Department of Conservation (CDC)

2017a San Diego County Tsunami Inundation USGS Quads

2017b Special Report 240. 2017 Update of Mineral Land Classification: Portland Cement Concrete-Grade Aggregate in the Western San Diego County Production-Consumption Region, California. Plate 1 – Updated (2017) Mineral Land Classification Map for Western San Diego County.

California Department of Fish and Game (CDFG)

2010 A Review of Stream Processes and Forms in Dryland Watersheds. Ecosystem Conservation Division. Prepared by Kris Vyverberg, CDFG Senior Engineering Geologist. December.

California Department of Forestry and Fire Protection (CAL FIRE)

2012 Wildland Hazard and Building Codes. Available at: http://www.fire.ca.gov/fire_prevention/fire_prevention_wildland_zones_maps_citylist.

California Department of Resources Recycling and Recovery (CalRecycle)

2016 Solid Waste Information System (SWIS) database. Available at: http://www.calrecycle.ca.gov/SWFacilities/Directory/SearchList/List?COUNTY=San+Diego.

California Department of Transportation (Caltrans)

2013 Transportation and Construction Vibration Guidance Manual, Environmental Engineering, Hazardous Waste, Air, Noise, Paleontology Office. September.

California Department of Water Resources (DWR)

2004 California's Groundwater. Bulletin No. 118. February 27.

California Energy Commission (CEC)

2018a California Energy Demand 2018-2030 Revised Forecast, Commission Final Report. April 2018. Available at: http://docketpublic.energy.ca.gov/PublicDocuments/17-IEPR-03/TN223244_20180419T154213_California_Energy_Demand_20182030_Revised_Forecast.pdf.

California Energy Commission (CEC) (cont.)

2018b Final 2017 Integrated Energy Policy Report. April 2018. Available at: http://docketpublic.energy.ca.gov/PublicDocuments/17-IEPR-01/TN223205_20180416T161056_Final_2017_Integrated_Energy_Policy_Report.pdf.

2018c Status of All Projects. Available at: http://www.energy.ca.gov/sitingcases/all_projects.html. Accessed May 2, 2018.

2016a California Energy Maps, Energy Infrastructure Map of Southern California. Available at: http://www.energy.ca.gov/maps/infrastructure/3part_southern.html. Accessed May 2, 2018.

2016b Electricity Consumption by County. Available at: http://ecdms.energy.ca.gov/elecbycounty.aspx. Accessed August 1, 2017.

2016c Gas Consumption by County. Available at: http://ecdms.energy.ca.gov/gasbycounty.aspx. Accessed May 2, 2018.

2016d Statewide Operational Substations (excel file). Available at: http://www.energy.ca.gov/maps/. Accessed September 26, 2018.

2013 Supply and Demand of Natural Gas in California. Available at: http://energy.ca.gov/almanac/naturalgas_data/overview.html.

2007a Water-Related Energy Use in California. CEC-999-2007-008. Available at: http://www.energy.ca.gov/2007publications/CEC-999-2007-008/CEC-999-2007-008.PDF. February 20.

2007b Water Supply Related Electricity Demand in California. CEC- 500-03-026. Demand Response Research Center, Lon W. House. Available at: http://www.energy.ca.gov/2007publications/CEC-500-2007-114/CEC-500-2007-114.PDF. November.

California Geological Survey (CGS)

2010 Fault Activity Map of California. Geologic Data Map No. 6.

2007 Fault-Rupture Hazard Zones in California. Special Publication No. 42.

California Invasive Plant Council (Cal-IPC)

2006 California Invasive Plant Inventory. February.

California Office of Planning and Research (OPR)

2018 Technical Advisory on Evaluating Transportation Impacts in CEQA. December.

California Stormwater Quality Association (CASQA)

2009 Construction Stormwater Best Management Practices Handbook. November.

Carrico, Richard L.
2008 *Strangers in a Stolen Land: Indians of San Diego County from Prehistory to the New Deal.* Sunbelt Publications, San Diego.

City of San Diego (City)
2019a Water Supply Assessment. Public Utilities Department. February.

2019b Transit Priority Areas per SB743. Planning Department. As of March 27. Available at: https://www.sandiego.gov/sites/default/files/transit-priority-map.pdf

2018a 2018 Certified Construction & Demolition Recycling Facility Directory. Environmental Services Department. July. https://www.sandiego.gov/sites/default/files/2018_certified_construction_demolition_recycling_facility_directory.pdf

2018b Carroll Canyon Mixed-Use Project Final Environmental Impact Report. January.

2018c City of San Diego website: Fire-Rescue Department: About SDFD. Available at: https://www.sandiego.gov/fire/about/.

2018d City of San Diego website: Fire-Rescue Department: Fire Station 40. Available at: https://www.sandiego.gov/fire/about/firestations/sta40.

2018e City of San Diego website: Fire-Rescue Department: Fire Station 42. Available at: https://www.sandiego.gov/fire/about/firestations/sta42.

2018f City of San Diego website: Fire-Rescue Department: Hazardous Materials Inspections. Available at: https://www.sandiego.gov/fire/services/fireinspections/hazmat/.

2018g City of San Diego website: Police: Northeastern Division. Available at: https://www.sandiego.gov/police/services/divisions/northeastern.

2018h City of San Diego website: Water: Water System Operations. Available at: https://www.sandiego.gov/water/gen-info/overview/factsfigures/.

2018i San Diego Municipal Code Land Development Code: Paleontological Resources Requirements for Grading Activities. March. Available at: http://docs.sandiego.gov/municode/MuniCodeChapter14/Ch14Art02Division01.pdf

2018j The City of San Diego Storm Water Standards Manual. January 3. Available at: https://www.sandiego.gov/planning/programs/landdevcode/landdevmanual#SWstandards2018.

2018k Water Department: Recycled Water Availability Zone Map. Available at: https://www.sandiego.gov/water/recycled/availability.

City of San Diego (City) (cont.)

2018l San Diego Municipal Code Land Development Code: Biological Guidelines. February. Available at: https://www.sandiego.gov/sites/default/files/amendment_to_the_land_development_manual_biology_guidelines_february_2018_-_clean.pdf.

2017a Costa Verde Revitalization (Project #477943) Memorandum. From James Keck, Police Lieutenant, Operational Support, to Elizabeth Shearer-Nguyen, Senior Planner. March 29.

2017b Los Peñasquitos Lagoon Watershed Management Area Sediment TMDL Compliance Monitoring, 2016-2017 Final Report. December.

2017c Request for Initiation of a Community Plan Amendment for The Junipers. Approved by Planning Commission. June 8.

2017d San Diego Land Development Manual: Appendix P, General Grading Guidelines for Paleontological Resources. November. Available at: https://www.sandiego.gov/sites/default/files/paleo-grading-guidelines.pdf

2017e The City of San Diego Transportation & Storm Water Design Manuals, Drainage Design Manual. January. Available at: https://www.sandiego.gov/sites/default/files/drainage_design_manual_jan2017.pdf

2016a California Environmental Quality Act Significance Determination Thresholds. July. Available at: https://www.sandiego.gov/sites/default/files/july_2016_ceqa_thresholds_final_0.pdf.

2016b City of San Diego Wastewater website: North City Water Reclamation Plant. Available at: https://www.sandiego.gov/mwwd/facilities/northcity.

2016c City of San Diego Wastewater website: Point Loma Wastewater Treatment Plant. Available at: https://www.sandiego.gov/mwwd/facilities/ptloma.

2016d Climate Action Plan Consistency Checklist. July 12. Available at: https://www.sandiego.gov/sites/default/files/city_of_san_diego_cap_checklist_071316.pdf.

2016e Construction and Demolition (C&D) Debris Conversion Rate Table. June 6

2016f Figure LU-2 of the General Plan, Land Use and Street System Map. Updated February 9, 2016. Available at: https://www.sandiego.gov/planning/genplan.

2016g Final 2015 Urban Water Management Plan. June. Available at: https://www.sandiego.gov/sites/default/files/2015_uwmp_report.pdf.

City of San Diego (City) (cont.)

2016h Media Release: City of San Diego Moving to Level 1 Drought Watch Following Changes in State Regulations That Recognize Local Conservation. July 12, 2016. Available at: https://www.sandiego.gov/sites/default/files/release_level_1_drought_watch.pdf.

2016i Personal Communication between Lisa Wood of the City and Bill Vosti of HELIX. Phone call on 8/26/2016.

2015a City of San Diego Climate Action Plan. December. Available at: http://www.sandiego.gov/planning/genplan/cap/index.shtml.

2015b City of San Diego Public Utilities Department Annual Water Conservation Report, Fiscal Year (FY) 2014. Available at: https://www.sandiego.gov/sites/default/files/legacy/water/pdf/purewater/2014/fy14annualwater140101.pdf.

2015c Deterring Crime Through Design: CPTED Concepts and Measures for Land Development. August 27.

2015d Zero Waste Plan. June. Available at: https://www.sandiego.gov/sites/default/files/legacy/mayor/pdf/2015/ZeroWastePlan.pdf.

2013a Bicycle Master Plan, San Diego, California. Prepared by Alta Planning + Design. December.

2013b City of San Diego Municipal Code Chapter 13: Zones.

2013c General Plan Housing Element 2013-2020. March 4. Available at: https://www.sandiego.gov/planning/genplan/heu.

2011 Rancho Peñasquitos Community Plan. Available at: https://www.sandiego.gov/sites/default/files/ranchopenasquitos042611c.pdf.

2009 Fire-Rescue Department: Official Very High Fire Hazard Severity Zone Map. Available at: https://www.sandiego.gov/sites/default/files/legacy/fire/pdf/maps/grid41.pdf.

2008a City of San Diego General Plan. March 10. Available at: http://www.sandiego.gov/planning/genplan/#genplan.

2008b City of San Diego Seismic Safety Study, Geologic Hazards and Faults. Development Services Department. Grid No. 30. Available at: http://www.sandiego.gov/development-services/industry/hazards/.

2008c Construction and Demolition Debris Diversion Deposit Program (SDMC Chapter 6, Article 6, Division 6).

City of San Diego (City) (cont.)

2007 Recycling Ordinance (SDMC Chapter 6, Article 6, Division 7).

2005 Memorandum: City of San Diego Environmental Impact Report Guidelines. September 2002, Updated December 2005.

2003 Trip Generation Manual. May

1998 City of San Diego Traffic Impact Study Manual. July. Available at: https://www.sandiego.gov/sites/default/files/legacy/development-services/pdf/industry/trafficimpact.pdf.

1997 City of San Diego Subarea Plan. March. Available at: https://www.sandiego.gov/sites/default/files/legacy//planning/programs/mscp/pdf/subareafullversion.pdf.

City of San Diego et al.

2015 Los Peñasquitos Watershed Management Area Water Quality Improvement Plan and Comprehensive Load Reduction Plan. September.

Citygate

2017 Standards of Response Cover Review for the San Diego Fire-Rescue Department. February 22.

2011 Fire Service Standards of Response Coverage Deployment Study for the San Diego Fire Rescue Department. Available at: http://www.sandiego.gov/fire/pdf/citygate.pdf.

Deméré Thomas A. and Stephen L. Walsh

1993 Paleontological Resources, County of San Diego. Department of Paleontology, San Diego Natural History Museum.

Dexter Wilson Engineering, Inc. (Dexter Wilson)

2019a Private Water System Analysis for The Junipers Project in the City of San Diego. Prepared for Hunsaker and Associates. May.

2019b Sewer System Analysis for The Junipers Project in the City of San Diego. Prepared for Hunsaker and Associates. July.

Dudek

202019a Conceptual Wildland Fire Evacuation Plan for The Glens with The Junipers. Prepared for the Glens with Junipers Community. JulyOctober.

202019b The Junipers Fire Protection Plan. Prepared for Lennar. JulyOctober.

Energy Policy Initiatives Center (EPIC), University of San Diego School of Law

2013 San Diego County GHG Inventory. March.

Environmental Laboratory
1987 Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87-1. U.S. Army Engineer Waterways Experiment Station, Vicksburg, Mississippi. 100 pp. with Appendices.

Ezell, Paul H.
1987 The Harris Site – An Atypical San Dieguito Site, or Am I Beating a Dead Horse? In *San Dieguito–La Jolla: Chronology and Controversy*, edited by Dennis Gallegos, pp. 15-22. San Diego County Archaeological Society Research Paper Number 1. San Diego.

Farris, Glenn J.
1994 José Panto, Capitan of the Indian Pueblo of San Pascual, San Diego County. *The Journal of California and Great Basin Anthropology* 16(2): 149–161-41.

Federal Emergency Management Agency (FEMA)
2018 Flood Zones Definitions. Accessed September 10, 2018. Available at: https://www.fema.gov/flood-zones.

2012 Flood Insurance Rate Map (FIRM), San Diego County, California and Incorporated Areas, Panel No. 06073C1252G. May 16.

2010 Debris Estimating Field Guide. September. Available at: https://www.fema.gov/pdf/government/grant/pa/fema_329_debris_estimating.pdf.

Federal Transit Administration (FTA)
2006 Transit Noise and Vibration Impact Assessment. May.

Friends of Los Peñasquitos Canyon Preserve
2018 http://www.penasquitos.org/history.htm.

Gallegos, Dennis R.
1987 A Review and Synthesis of Environmental and Cultural Material for the Batiquitos Lagoon Region. In *San Dieguito-La Jolla: Chronology and Controversy*, edited by Dennis Gallegos. San Diego County Archaeological Society Research Paper No. 1:23–34.

Geocon, Inc. (Geocon)
2019a Geotechnical Investigation, The Junipers, San Diego, California. April 9.

2019b Response to LDR-Geology Review Comments, The Junipers, San Diego, California. July 12.

HELIX Environmental Planning, Inc. (HELIX)
2020 Acoustical Analysis Report for The Junipers Project. January.

2019a Waste Management Plan for The Junipers Project. August.

2019b Air Quality Technical Report for The Junipers Project. December.

HELIX Environmental Planning, Inc. (HELIX) (cont.)

2019c Biological Resources Letter Report for The Junipers Project. August. Amended October, 2020.

2019d Climate Action Plan Consistency Checklist for The Junipers Project. December.

2019e Archaeological Resources Report Form. August.

2019f Greenhouse Gas Emissions Technical Report. December.

Hillmann Consulting

2018a Asbestos and Lead-Based Paint Investigation. May 21.

2018b Phase I Environmental Site Assessment Vacant Land, Unassigned Address: APN: 313-011-10-00, 313-011-06-00, 313-060-01-00. May 21.

2016 Phase I Environmental Site Assessment Carmel Highland Golf Course, 14455 Peñasquitos Drive, San Diego, California, 92129. Prepared for 33 North Development Group. May.

Hoover, Mildred, Hero Eugene Rensch, and Ethel Grace Rensch

1966 *Historic Spots in California*. 3rd ed. Stanford University Press, Stanford, California.

Hunsaker & Associates (Hunsaker)

2019a Junipers Drainage Study. August.

2019b Priority Development Project (PDP) Storm Water Quality Management Plan for The Junipers. May.

Intergovernmental Panel on Climate Change (IPCC)

2014 Mitigation of Climate Change. Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change.

2013 Climate Change 2013: The Physical Science Basis, Summary for Policymakers.

Iowa Environmental Mesonet

2017 San Diego/Gillespie Windrose Plot. Available at: http://mesonet.agron.iastate.edu/sites/windrose.phtml?station=NKX&network=CA_ASOS.

Kennedy, Michael P. and Tan, Siang S.

2008 Geologic Map of the San Diego 30' x 60' Quadrangle, California. Available at: http://www.quake.ca.gov/gmaps/RGM/sandiego/sandiego.html.

Kroeber, Alfred L.

1925 *Handbook of the Indians of California*. Bureau of American Ethnology Bulletin 78. Washington, D.C.

Laylander, Don, and Lynne E. Christenson
1988 *Results of an Archaeological Data Recovery Program, Corral Canyon Prehistoric Archaeological District, San Diego County, California.* Report prepared for, and on file at, the Cleveland National Forest, Supervisor's Office, San Diego.

Leighton and Associates, Inc.
2014 Preliminary Geotechnical Investigation, Carmel Highlands, San Diego, California. September 8.

Linscott, Law & Greenspan Engineers (LLG)
2020 Junipers Trigger Analysis Memorandum. January.

2019 Transportation Impact Analysis: The Junipers. October.

Los Angeles Times
2015 "Carmel Highland Golf Course to Close on March 31." February 12.

Luomala, Katherine
1978 Tipai-Ipai. In *California*, edited by Robert F. Heizer, pp. 592–608. Handbook of North American Indians, Vol. 8, William C. Sturtevant, general editor. Smithsonian Institution, Washington, D.C.

Melissadata.com
2018 Climate Average data zip code 92129. Available at: 2-0182 https://www.melissadata.com/lookups/ZipWeather.asp?ZipCode=92129&submit1=Submit.

Metropolitan Water District (MWD)
2016 The Metropolitan Water District of Southern California: About Your Water. Available at: http://www.mwdh2o.com/AboutYourWater/Pages/default.aspx.

Moratto, Michael J.
1984 *California Archaeology*. Orlando: Academic Press.

Moriarty, James R., III
1966 Cultural Phase Divisions Suggested by Typological Change Coordinated with Stratigraphically Controlled Radiocarbon Dating in San Diego. *The Anthropological Journal of Canada* 4(4): 20–30.

National Aeronautics and Space Administration (NASA), Goddard Institute for Space Studies
2018 NASA News & Features Releases. Long-Term Warming Trend Continued in 2017: NASA, NOAA. https://www.giss.nasa.gov/research/news/20180118/. Accessed July 2018.

National Oceanic and Atmospheric Administration, Earth System Research Laboratory (NOAA)
2018 Trends in Atmospheric Carbon Dioxide. Available at: http://www.esrl.noaa.gov/gmd/ccgg/trends/global.html.

Navigant Consulting, Inc.
2015 Energy Efficiency Potential and Goals Study for 2015 and Beyond. July 10.

Poway, City of, et al.
2013 Los Peñasquitos Watershed Urban Watershed Runoff Management Program, Fiscal Year 2012 Annual Report. January 31.

Poway Unified School District
2018 About us. Accessed October 1. Available at: https://www.powayusd.com/en-US/District/About-Us.

Project Clean Water
2018 San Diego Watershed Descriptions, Peñasquitos Watershed Management Area (WMA). Accessed May 2. Available at: https://www.projectcleanwater.org/los-penasquitos-wma/.

2016 Model BMP Design Manual, San Diego Region. February. Available at: http://www.projectcleanwater.org/images/stories/Docs/LDW/BMPDM/SD%20Model%20BMP%20Design%20Manual%20Feb%202016.pdf?1361c1&1361c1.

Raven-Jennings, Shelly, and Brian F. Smith
1999 *Report of Excavations at CA-SDI-4608: Subsistence and Technology Transitions during the Mid-to-Late Holocene in San Diego County.* Report prepared by Brian F. Smith and Associates for the City of Poway. Report on file at the South Coastal Information Center (SCIC), San Diego State University, San Diego.

Regional Water Quality Control Board (RWQCB)
1994 Water Quality Control Plan for the San Diego Basin (Basin Plan), updated May 17, 2016. Available at: http://www.waterboards.ca.gov/sandiego/water_issues/programs/basin_plan/.

Rogers, Malcolm J.
1939 *Early Lithic Industries of the Lower Basin of the Colorado River and Adjacent Desert Areas*. San Diego Museum of Man Papers No. 3. San Diego Museum of Man.

Rolle, Andrew
1998 *California: A History*. 5th ed. Harlan-Davidson, Wheeling, Illinois.

San Diego Association of Governments (SANDAG)
2019 Data Surfer. April. Available at: http://datasurfer.sandag.org/.

2018 Transportation Forecast Information Center Series 13 Forecasts. Accessed April 2018.

2016 Smart Growth Concept Map and Site Descriptions. May. Available at: http://www.sandag.org/index.asp?classid=12&projectid=296&fuseaction=projects.detail.

San Diego Association of Governments (SANDAG) (cont.)

2015 San Diego Forward: The Regional Plan. October 9. Available at: http://www.sdforward.com/.

2009 Regional Energy Strategy for the San Diego Region. December. Available at: http://www.sandag.org/uploads/publicationid/publicationid_1476_10631.pdf.

2002 The SANDAG (Not So) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region. April.

San Diego Air Pollution Control District (SDAPCD)

2017 Attainment Status. Accessed April 14. Available at: http://www.sdapcd.org/content/sdc/apcd/en/air-quality-planning/attainment-status.html.

San Diego County Department of Environmental Health, Hazardous Materials Division (DEH/HMD)

2017 San Diego County Operational Area Hazardous Materials Area Plan.

San Diego County Office of Emergency Services

2018 Emergency Operations Plan. September. Available at: https://www.sandiegocounty.gov/content/sdc/oes/emergency_management/oes_jl_oparea.html.

2010 Multi-jurisdictional Hazard Mitigation Plan.

San Diego County Water Authority (SDCWA)

2016a Final 2015 Urban Water Management Plan. June. Available at: http://www.sdcwa.org/sites/default/files/files/water-management/water_resources/2015%20UWMP%20Final%2006222016.pdf.

2016b San Diego County Water Authority website: Facilities and Operations. Available at: http://www.sdcwa.org/facilities-operations.

2016c San Diego County Water Authority website: Water Supplies. Available at: http://www.sdcwa.org/seawater-desalination.

San Diego County Regional Airport Authority (SDCRAA)

2008 MCAS Miramar Airport Land Use Compatibility Plan. October. Amended December 2010 and November 2011. Available at: http://www.san.org/Airport-Projects/Land-Use-Compatibility/EntryId/2989#118076-alucps.

San Diego Gas and Electric Company (SDG&E)

2018 Company Information. Available at: https://www.sdge.com/more-information/our-company.

2012 SDG&E Energizes Sunrise Powerlink. Available at: http://regarchive.sdge.com/sunrisepowerlink/release26.html.

San Diego Housing Commission (SDHC)
2017 Addressing the Housing Affordability Crisis - San Diego Housing Production Objectives 2018-2028. September 21.

San Diego Natural History Museum
2018 Paleontological Records Search – The Junipers. July 17.

San Diego Regional Energy Office (SDREO)
2002 San Diego Regional Energy Infrastructure Study. Available at: http://sandiegohealth.org/sandag/sandag_pubs_2009-7-25/publicationid_1384_8419.pdf.

San Diego Regional Water Quality Control Board (RWQCB)
1994 Water Quality Control Plan, San Diego Basin, Region 9. September 8, as amended through May 17, 2016.

San Diego Union-Tribune
2015 "Carmel Highland Closing in March." February 16.

South Coast Air Quality Management District
2009 Greenhouse Gas CEQA Significance Threshold Stakeholder Working Group 14. Available at: http://www.aqmd.gov/ceqa/handbook/GHG/2009/nov19mtg/ghgmtg14.pdf. November 19, 2009.

1993 CEQA Air Quality Handbook.

Sparkman, Philip Stedman
1908 The Culture of the Luiseño Indians. *University of California Publications in American Archaeology and Ethnology* 8(4):187–234, Berkeley, ca.

State Water Resources Control Board (SWRCB)
2018 Final 2014/2016 California Integrated Report (Clean Water Act Section 303(d) List/305(b) Report. Available at: https://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2014_2016.shtml

Steigler, Ione
2017 The Junipers Project: Former Carmel Highlands Golf Course Built Environment Assessment. Letter report prepared for HELIX Environmental Planning, Inc., La Mesa, CA. On file at the South Coastal Information Center, San Diego State University, San Diego, CA.

Terwilliger, Ryan
2018 Personal Communication from Mr. Terwilliger, a State of California Certified Asbestos Consultant (CAC #11-4776) and CDPH Certified Lead Inspector/Risk Assessor (CLIA #22479) and West Coast Operations Manager of Hillmann Consulting, LLC of Orange, CA, to Lisa Capper, Senior Project Manager, at HELIX Environmental Planning of La Mesa, CA, regarding potential asbestos in water lines crossing golf course. Telecommunication on December 4.

Todd, Victoria R.
2004 Preliminary Geologic Map of the El Cajon 30' by 60' Quadrangle. San Diego County, California.

True, Delbert L.
1980 The Pauma Complex in Northern San Diego County: 1978. *Journal of New World Archaeology* 3(4): 1–30. Institute of Archaeology, University of California, Los Angeles, Los Angeles, CA.

1970 *Investigation of a Late Prehistoric Complex in Cuyamaca Rancho State Park, San Diego County, California*. Monograph 1. Archaeological Survey, University of California, Los Angeles, Los Angeles. CA.

1958 An Early Complex in San Diego County, California. American Antiquity 23(3): 255–263.

U.S. Army Corps of Engineers (USACE)
2008 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0). Eds. J.S. Wakely, R.W. Lichvar, and C.V. Noble. ERDC/EL TR-08-28. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

U.S. Census Bureau
2017 Quickfacts: San Diego, California. Available at: https://www.census.gov/quickfacts/fact/table/sandiegocitycalifornia,US/PST045217.

U.S. Department of Energy (DOE)
2018 US Energy Information Administration. Available at http://www.eia.gov/state/analysis.cfm?sid=CA.

U.S. Environmental Protection Agency (USEPA)
2018a Additional Air Quality Designations for the 2015 Ozone National Ambient Air Quality Standard. June 4. Available at: https://www.govinfo.gov/content/pkg/FR-2018-06-04/pdf/2018-11838.pdf#page=1

2018b National Menu of Best Management Practices for Storm Water Phase II - Construction. Available at: https://www.epa.gov/npdes/national-menu-best-management-practices-bmps-stormwater#edu.

U.S. Environmental Protection Agency (USEPA) (cont.)

2016 Types of Composting and Understanding the Process. August 29. https://www.epa.gov/sustainable-management-food/types-composting-and-understanding-process.

2011 Proposed Endangerment and Cause or Contribute Findings for Greenhouse Gases under the Clean Air Act. November 22.

2007 The Effects of Air Pollutants – Health Effects.

1999 Preliminary Data Summary of Urban Storm Water Best Management Practices. August.

U.S. Environmental Protection Agency (USEPA) and U.S. Department of Transportation, National Highway Traffic Safety Administration (NHTSA)

2012 2017 and Later Model Year Light-Duty Vehicle Greenhouse Gas Emissions and Corporate Average Fuel Economy Standards. October 15.

Vyverberg, K.

2010 *Project Conservation Challenges in a Dryland Stream Environment.* Presentation at Episodic Streams: Imperatives for Assessment and Environmental Planning in California. Southern Coastal Water Research Project. Costa Mesa, California. Available at: https://www.waterboards.ca.gov/water_issues/programs/academy/courses/episdc_streams/krisvyverbery.pdf.

Wallace, William J.

1955 A Suggested Chronology for Southern California Coastal Archaeology. *Southwestern Journal of Anthropology* 11:214–230.

Walsh, Stephan J.

1996 Middle Eocene Mammal Faunas of San Diego County. The Terrestrial Eocene-Oligocene Transition in North America. Cambridge University Press.

Warren, Claude 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, pp. 1–14. *Eastern New Mexico Contributions in Anthropology* 1(3). Portales, New Mexico.

1967 The San Dieguito Complex: A Review and Hypothesis. *American Antiquity* 32:168–187.

Warren, Claude N., Gretchen Siegler, and Frank Dittmer

1998 Paleoindian and Early Archaic Periods. In *Prehistoric and Historic Archaeology of Metropolitan San Diego: A Historic Properties Background Study*. Draft report prepared by ASM Affiliates and submitted to Metropolitan Wastewater, San Diego.

Weber, David
1992 *The Spanish Frontier in North America*. Yale University Press.

Western Regional Climate Center (WRCC)
2018 Period of Record Monthly Climate Summary, Poway Valley, California (047111). Available at: http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca7111.

11.0 INDIVIDUALS CONSULTED/PREPARERS

This document has been completed by the City of San Diego's Environmental Analysis Section under the direction of the Development Services Department (DSD) Environmental Review Manager and is based on independent analysis and determinations made pursuant to SDMC Section 128.0103.

City of San Diego

Development Services Department
Sara Osborn, Senior Planner
Mark Brunette, Senior Planner
Anna McPherson, Program Manager
Jeff Peterson, Development Project Manager
Morris Dye, Development Project Manager (Former)
Jessica Madamba, Planner
Amin Shabihkhani, LDR-Transportation Review
Joseph Stanco Jr., LDR-Planning Review
Frank Hunt, LDR-Landscaping
Daniel Neri, LDR Landscaping
Jacobe Washburn, LDR-Geology
Chet Dowling, LDR-Map Check
Jack Canning, LDR-Engineering Review
Felipe Avila Zepeda, LDR-Transportation Development
Ann Gonsalves, Senior Traffic Engineer
Meghan Cedeño, Associate Traffic Engineer
Louis Schultz, Senior Civil Engineer
Jay Purdy, Assistant Engineer – Civil
Karen Vera, LDR-Engineering Review
Mehdi Rastakhiz, Water & Sewer Development
Irina Itkin, Water & Sewer Development

Environmental Services Department
Lisa Wood, Senior Planner-Environmental Services

Fire-Rescue Department
Brenda Sylvester, Plan Review
Doug Perry, Deputy Fire Chief

Police Department
Eddie Wallin, Police Officer

Parks and Recreation Department
Scott Sandel, Plan Review

Historical Resources Board
Emma Haggerty, Assistant Planner
Suzanne Segur, Plan-Historic

Planning Department
Alyssa Muto, Deputy Director
Megan Sheffield, Plan-Facilities Financing Supervising Project Manager
Sara Toma, Plan-Long Range Planning
Bernard Turgeon, Program Manager - Planning
Shannon Scoggins, Park Planning and Development

EIR Preparers

HELIX Environmental Planning, Inc. (HELIX)
Tammy Ching, Planning Division Manager
Lisa Capper, JD, Senior Project Manager
Jason Runyan, Project Manager
Lance Unverzagt, AICP, Senior Project Manager
Aaron Brownwood, Senior Project Manager
Lara Costantino Grimmer, Project Manager
Lara Barrett, Environmental Planner
Dennis Marcin, Senior Environmental Specialist
Amy Mila de la Roca, Project Manager
Victor Ortiz, Senior Air Quality Specialist
Stacy Hall de Gomez, Project Manager
Hunter Stapp, Environmental Planner
Brendan Sullivan, Environmental Planner
Eliana Liss, Environmental Planner
Kristen Garcia, Environmental Planner
Catherine Wright, Cultural Resources Specialist
Ana Topete, Document Processor

Development Plans/Technical Appendices Preparers

HELIX Environmental Planning, Inc. – Air Quality Technical Report (Appendix D); Greenhouse Gas Emissions Technical Report (Appendix E); Acoustical Analysis Report (Appendix C); Waste Management Plan (Appendix J4); Archaeological Resources Report Form (Appendix I); Biological Resources Letter Report (Appendix F1) and Conceptual Mitigation Plan (F2)
Victor Ortiz, Senior Air Quality Specialist
Charles Terry, Principal Acoustician
Joanne M. Dramko, AICP, Principal Planner
Jason Runyan, Project Manager
Hunter Stapp, Environmental Planner
Catherine Wright, Cultural Resources Specialist
Mary Robbins-Wade, RPA, Director of Cultural Resources
Stacy Nigro, Senior Biologist
Erica Harris, Biologist
Karl Osmundson, Biology Group Manager

Hunsaker and Associates – Drainage Study (Appendix G1), Storm Water Quality Management Plan (Appendix G2)
Troy Burns, Senior Planner
Alisa Vialpando, PE, Vice President
Raymond L. Martin, RCE
Kiran Pallachulla, CFM, GISP, CPESC, QSP/D
Nicholas Stamnas. Land Planner
John Rivera, Civil Engineer

Bassenian/Lagoni – Architectural Designs/Elevations
David M. Kosco, AIA, Senior Principal, Director of Design
Garrett Wilkenson, Associate
Zsombor Nagy, Associate Senior Designer
Michael J. Stone, Associate Senior Designer

Dexter Wilson Engineering, Inc. – Private Water System Analysis (Appendix J2); Sewer System Analysis (Appendix J3)
Stephen M. Nielsen, P.E., Senior Engineer

Dudek – Wildland Fire Evacuation Plan (Appendix K4); Fire Protection Plan (Appendix K5)
Michael Huff, Manager, Urban Forestry and Fire Protection Planning

Geocon Inc. – Geotechnical Investigation (Appendix H)
Troy K. Reist, CEG
Trevor E. Myers, RCE
David B. Evans, CEG

Hillman Consulting – Phase I Environmental Site Assessments (Appendices K1 and K2); Asbestos and Lead-Based Paint Investigation (Appendix K3)
Gregory Shaffer, Project Manager
Christopher W. Baker, Vice President of Operations

I.S. Architecture – Built Environmental Assessment (Appendix I)
Katie DeBiase, MHP, Historic Preservation Specialist
Ione Stiegler, FAIA, NCARB, Principal Architect

Linscott, Law & Greenspan Engineers – Traffic Impact Analysis (Appendix B) and Transportation Demand Management Plan
John Keating, RTE, Principal
K.C. Yellapu, RTE, Associate Principal
Cara Hilgesen, Senior Transportation Planner
Roman Lopez, Transportation Planner II

San Diego Natural History Museum – Paleontological Records Search (Appendix L)
Katie McComas, Paleontology Collections Assistant

Schmidt Design Group, Inc. – Landscape Design
JT Barr, PLA, ASLA, Principal
Chris Tiffany, PLA, SITES AP, Senior Project Manager
Lindsay DeCeault, ASLA, Landscape Designer