Appendix J
Noise Technical Report

Noise Technical Report

Renzulli Estates Project
San Diego, California

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Acronyms and Abbreviations

Acronym/Abbreviation	Definition
a.k.a	Also known as
Caltrans	California Department of Transportation
CEQA	California Environmental Quality Act
City	City of San Diego
CNEL	Community Noise Equivalent Level
CNMP	construction noise management plan
dB	decibel
dBA	A-weighted decibel
FTA	Federal Transit Administration
GSF	Gross square foot
ips	inches per second
L_{dn}	day–night average noise level
L_{eq}	equivalent noise level
L_{max}	maximum sound level
L_{min}	minimum sound level
the Renzulli Estates	proposed project
MHPA	Multi-Habitat Planning Area
NACO	Noise abatement control officer
PPV	peak particle velocity
RCNM	Roadway Construction Noise Model
SDMC	San Diego Municipal Code
SDIA	San Diego International Airport
SLM	Sound level meter
SPL	Sound pressure level
ST	Short-term

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1 Introduction and Background

This technical noise report evaluates the potential noise impacts during construction and operation of the proposed Renzulli Estates Project (proposed project).

Project Description

The 40.6-acre site is located at 11495 Cypress Canyon Road within the community of Scripps Miramar Ranch, in the City of San Diego, California (Figure 1, Project Location). The site Assessor's Parcel Number is 319-020-0400. The site is currently developed with a single-family home with supporting garages and sheds. The site is adjacent to residential and open space uses, as well as Cypress Canyon Park to the east.

The project consists of the demolition of the existing residence (and all associated structures) onsite and the construction of 100 single-family homes and 12 multi-family affordable income rental units (Figure 2, Site Plan). Primary access to the project site would be from Cypress Canyon Road, which provides access from the southeast and northwest of the project site. The project would also include open space and on-site restoration, brush management zones, landscaping, circulation, water, wastewater, stormwater, and dry utilities improvements. The project would require a Vesting Tentative Map, a Site Development Permit, a Neighborhood Development Permit, and a Multi-Habitat Planning Area (MHPA) Boundary Line Adjustment. In addition, the project would require a Community Plan Amendment to change the existing residential designation of 1.1 to 2.8 dwelling units per acre. A Rezone is also proposed to change the existing Agricultural-Residential (AR)-1-1 zone to Residential-Small Lot (RX)-1-1, Residential – Multiple Unit (RM-2-4), and Open Space Residential (OR-1-2). Per the City's Municipal Code, the AR zone accommodates a wide range of agricultural uses while also permitting the development of single dwelling unit homes at a very low density; specifically, AR-1-1 requires a minimum of 10-acre lots. The RX zone provides both attached and detached single dwelling units on smaller lots than required in the Residential Single Unit (RS) zones. RX-1-2 would require a minimum of 3,000 square-foot lots. The Residential – Multiple Unit (RM) zone provides for multiple dwelling unit development at varying densities. RM-2-4 permits a maximum density of 1 dwelling unit for each 1,750 square feet of lot area. OR-1-2 allows open space with limited private residential development. Proposed project grading would include approximately 558,043 cubic yards (cy) of cut and 539,543 cy of fill with an export of 18.500 cy to other construction sites or Hanson Aggregates.

Noise Characteristics

Sound is mechanical energy transmitted by pressure waves in a compressible medium, such as air. Noise is defined as sound that is loud, unpleasant, unexpected, or undesired. The sound pressure level (SPL) has become the most common descriptor used to characterize the loudness of an ambient sound level. The unit of measurement of sound pressure is a decibel (dB). Under controlled conditions in an acoustics laboratory, the trained, healthy human ear is able to discern changes in sound levels of 1 dB when exposed to steady, single-frequency signals in the mid-frequency range. Outside such controlled conditions, the trained ear can detect changes of 2 dB in normal environmental noise. It is widely accepted that the average healthy ear, however, can barely perceive noise level changes of 3 dB. A change of 5 dB is readily perceptible, and a change of 10 dB is perceived as twice or half as loud (Caltrans 2013a). A doubling of sound energy results in a 3 dB increase in sound, which means that a doubling of sound energy (e.g., doubling the number of daily trips along a given road) would result in a barely perceptible change in sound level.

Sound may be described in terms of level or amplitude (measured in dB), frequency or pitch (measured in hertz or cycles per second), and duration (measured in seconds or minutes). Because the human ear is not equally sensitive to sound at all frequencies, a special frequency-dependent rating scale is used to relate noise to human sensitivity. The A-weighted decibel (dBA) scale performs this compensation by discriminating against low and very high frequencies in a manner approximating the sensitivity of the human ear.

Several descriptors of noise (a.k.a., noise metrics) exist to help predict average community reactions to the adverse effects of environmental noise, including traffic-generated noise. These descriptors include the equivalent noise level over a given period (L_{eq}), the day–night average noise level (L_{dn}), and the community noise equivalent level (CNEL). Each of these descriptors uses units of dBA.

L_{eq} is a decibel quantity that represents the constant or energy-averaged value equivalent to the amount of variable sound energy received by a receptor during a time interval. For example, a 1-hour L_{eq} measurement of 60 dBA would represent the average amount of energy contained in all the noise that occurred in that hour. L_{eq} is an effective noise descriptor because of its ability to assess the total time-varying effects of noise on sensitive receptors, which can then be compared to an established L_{eq} standard or threshold of the same duration. Another descriptor is maximum sound level (L_{max}), which is the greatest sound level measured during a designated time interval or event. The minimum sound level (L_{min}) is often called the *floor* of a measurement period.

Unlike the L_{eq}, L_{max}, and L_{min} metrics, L_{dn} and CNEL descriptors always represent 24-hour periods and differ from a 24-hour L_{eq} value because they apply a time-weighted factor designed to emphasize noise events that occur during the non-daytime hours (when speech and sleep disturbance is of more concern). *Time weighted* refers to the fact that L_{dn} and CNEL penalize noise that occurs during certain sensitive periods. In the case of CNEL, noise occurring during the daytime (7:00 a.m. to 7:00 p.m.) receives no penalty. Noise during the evening (7:00 p.m. to 10:00 p.m.) is penalized by adding 5 dB to the actual levels, and nighttime (10:00 p.m. to 7:00 a.m.) noise is penalized by adding 10 dB to the actual levels. L_{dn} differs from CNEL in that the daytime period is longer (defined instead as 7:00 a.m. to 10:00 p.m.), thus eliminating the dB adjustment for the evening period. L_{dn} and CNEL are the predominant criteria used to measure roadway noise affecting residential receptors. These two metrics generally differ from one another by no more than 0.5–1 dB, and are often considered or actually defined as being essentially equivalent by many jurisdictions.

Vibration Fundamentals

Vibration is oscillatory movement of mass (typically a solid) over time. It is described in terms of frequency and amplitude and, unlike sound, can be expressed as displacement, velocity, or acceleration. For environmental studies, vibration is often studied as a velocity that, akin to the discussion of sound pressure levels, can also be expressed in dB as a way to cast a large range of quantities into a more convenient scale and with respect to a reference quantity. Vibration impacts to buildings are generally discussed in terms of inches per second (ips) peak particle velocity (PPV), which will be used herein to discuss vibration levels for ease of reading and comparison with relevant standards. Vibration can also be annoying and thereby impact occupants of structures, and vibration of sufficient amplitude can disrupt sensitive equipment and processes (Caltrans 2020), such as those involving the use of electron microscopes and lithography equipment. Common sources of vibration within communities include construction activities and railroads. Groundborne vibration generated by construction projects is usually highest during pile driving, rock blasting, soil compacting, jack hammering, and demolition-related activities where sudden releases of subterranean energy or powerful impacts of tools on hard materials occur. Depending on their distances to a sensitive receptor, operation of large bulldozers, graders, loaded dump trucks, or other heavy construction

equipment and vehicles on a construction site also have the potential to cause high vibration amplitudes. The maximum vibration level standard used by the California Department of Transportation (Caltrans) for the prevention of structural damage to typical residential buildings is 0.3 ips PPV (Caltrans 2020).

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2 Regulatory Setting

Federal

Federal Transit Administration

In its Transit Noise and Vibration Impact Assessment guidance manual, the Federal Transit Administration (FTA) recommends a daytime construction noise level threshold of 80 dBA L_{eq} over an 8-hour period (FTA 2006) when detailed construction noise assessments are performed to evaluate potential impacts to community residences surrounding a project. Although this FTA guidance is not a regulation, it can serve as a quantified standard in the absence of such limits at the state and local jurisdictional levels.

State

California Code of Regulations, Title 24

Title 24 of the California Code of Regulations sets standards that new development in California must meet. According to Title 24, interior noise levels are not to exceed 45 dBA CNEL for new multifamily residences, hotels, and other attached residences.

Title 24 also requires that an interior acoustical study demonstrating that interior noise levels due to exterior sources will be less than or equal to 45 dBA CNEL be performed for affected multifamily structures and hotels that are exposed to exterior noise levels in excess of 60 dBA CNEL.

California Department of Health Services Guidelines

The California Department of Health Services has developed guidelines of community noise acceptability for use by local agencies (OPR 2003). Selected relevant levels are listed here:

- Below 60 dBA CNEL: normally acceptable for low-density residential use
- 50 to 70 dBA: conditionally acceptable for low-density residential use
- Below 65 dBA CNEL: normally acceptable for high-density residential use and transient lodging
- 60 to 70 dBA CNEL: conditionally acceptable for high-density residential, transient lodging, churches, educational, and medical facilities

The normally acceptable exterior noise level for transient lodging use is up to 65 dBA CNEL. Conditionally acceptable exterior noise levels range up to 70 dBA CNEL for transient lodging.

California Department of Transportation

In its Transportation and Construction Vibration Guidance Manual, Caltrans recommends a vibration velocity threshold of 0.2 ips PPV (Caltrans 2020) for assessing “annoying” vibration level exposures from continuous sources such as roadway traffic to occupants of residential structures. Although this Caltrans guidance is not a regulation, it can serve as a quantified standard in the absence of such limits at the local jurisdictional level. Similarly, thresholds to assess building damage risk due to construction vibration vary with the type of structure and its fragility, but tend to range between 0.2 ips and 0.3 ips PPV for typical residential structures (Caltrans 2020).

Local

The following are summarized portions or reproductions of relevant City of San Diego noise regulations, policies, and guidance with respect to assessing noise level compliance for the proposed project.

City of San Diego Municipal Code 59.5.0401 (Noise Ordinance)

It shall be unlawful for any person to cause noise by any means to the extent that the 1-hour average sound level exceeds the applicable limit given in the Table 1, Applicable Noise Limits, at any location in the City of San Diego on or beyond the boundaries of the property on which the noise is produced. The noise subject to these limits is that part of the total noise at the specified location that is due solely to the action of said person.

Table 1. Applicable Noise Limits

Land Use	Time of Day	One-Hour Average Sound Level (dB)
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
Multifamily residential (up to a maximum density of 1/2,000)	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	Any time	75

Note: dB = decibels

City of San Diego Municipal Code 59.5.0404 (Noise Ordinance), Construction Noise

(a) It shall be unlawful for any person, between the hours of 7:00 p.m. of any day and 7:00 a.m. of the following day, or on legal holidays as specified in Section 21.04 of the San Diego Municipal Code, with exception of Columbus Day and Washington's Birthday, or on Sundays, to erect, construct, demolish, excavate for, alter or repair any building or structure in such a manner as to create disturbing, excessive or offensive noise unless a permit has been applied for and granted beforehand by the Noise Abatement and Control Administrator. In granting such permit, the Administrator shall consider whether the construction noise in the vicinity of the proposed work site would be less objectionable at night than during the daytime because of different population densities or different neighboring activities; whether obstruction and interference with traffic particularly on streets of major importance, would be less objectionable at night than during the daytime; whether the type of work to be performed emits noises at such a low level as to not cause significant disturbances in the vicinity of the work site; the character and nature of the neighborhood of the proposed work site; whether great economic hardship would occur if the work were spread over a longer time; whether proposed night work

is in the general public interest; and he shall prescribe such conditions, working times, types of construction equipment to be used, and permissible noise levels as he deems to be required in the public interest.

(b) Except as provided in subsection C. hereof, it shall be unlawful for any person, including the City of San Diego, to conduct any construction activity so as to cause, at or beyond the property lines of any property zoned residential, an average sound level greater than 75 decibels during the 12-hour period from 7:00 a.m. to 7:00 p.m.

(c) The provisions of subsection B. of this section shall not apply to construction equipment used in connection with emergency work, provided the Administrator is notified within 48 hours after commencement of work.

City of San Diego General Plan

The City's General Plan Noise Element identifies compatible exterior noise levels for various land use types (City of San Diego 2015). The maximum allowable noise exposure varies depending on the land use. The maximum acceptable exterior noise level for residential uses and other noise-sensitive uses (including kindergarten through 12th grade schools, libraries, hospitals, daycare facilities, hotels, motels) is 65 dBA CNEL. However, exterior noise levels are considered compatible up to 75 dBA CNEL at higher education institutions. Table 2 reproduces Table NE-3 from the City's General Plan Noise Element.

Table 2. City of San Diego Land Use – Noise Compatibility Guidelines

Land Use Category	Exterior Noise Exposure (dBA CNEL)				
	55–60	60–65	65–70	70–75	75–80
Parks and Recreational					
Parks, Active and Passive Recreation					
Outdoor Spectator Sports, Golf Courses; Water Recreational Facilities; Indoor Recreation Facilities					
Agricultural					
Crop Raising and Farming; Community Gardens, Aquaculture, Dairies; Horticulture Nurseries and Greenhouses; Animal Raising, Maintain and Keeping; Commercial Stables					
Residential					
Single Dwelling Units; Mobile Homes		45			
Multiple Dwelling Units*		45	45*		
Institutional					
Hospitals; Nursing Facilities; Intermediate Care Facilities; Kindergarten through Grade 12Educational Facilities; Libraries; Museums; Child Care Facilities		45			
Other Educational Facilities including Vocational/Trade Schools and Colleges and Universities		45	45		
Cemeteries					

Table 2. City of San Diego Land Use – Noise Compatibility Guidelines

Land Use Category	Exterior Noise Exposure (dBA CNEL)				
	55–60	60–65	65–70	70–75	75–80
Retail Sales					
Building Supplies/Equipment; Food, Beverages and Groceries; Pets and Pet Supplies; Sundries, Pharmaceutical, and Convenience Sales; Wearing Apparel and Accessories			50	50	
Commercial Services					
Building Services; Business Support; Eating and Drinking; Financial Institutions; Maintenance and Repair; Personal Services; Assembly and Entertainment (includes public and religious assembly); Radio and Television Studios; Golf Course Support			50	50	
Visitor Accommodations		45	45	45	
Offices					
Business and Professional; Government; Medical, Dental and Health Practitioner; Regional and Corporate Headquarters			50	50	
Vehicle and Vehicular Equipment Sales and Services Use					
Commercial or Personal Vehicle Repair and Maintenance; Commercial or Personal Vehicle Sales and Rentals; Vehicle Equipment and Supplies Sales and Rentals; Vehicle Parking					
Wholesale, Distribution, Storage Use Category					
Equipment and Materials Storage Yards; Moving and Storage Facilities; Warehouse; Wholesale Distribution					
Industrial					
Heavy Manufacturing; Light Manufacturing; Marine Industry; Trucking and Transportation Terminals; Mining and Extractive Industries					
Research and Development				50	

Table Shading Key			
	Compatible	Indoor Uses	Standard construction methods should attenuate exterior noise to an acceptable indoor noise level.
		Outdoor Uses	Activities associated with the land use may be carried out.
45, 50	Conditionally Compatible	Indoor Uses	Building structure must attenuate exterior noise to the indoor noise level indicated by the number for occupied areas.
		Outdoor Uses	Feasible noise mitigation techniques should be analyzed and incorporated to make the outdoor activities acceptable.
	Incompatible	Indoor Uses	New construction should not be undertaken.
		Outdoor Uses	Severe noise interference makes outdoor activities unacceptable.

Source: City of San Diego 2015.

* For uses affected by aircraft noise, refer to General Plan Noise Element Policies NE-D.2 and NE-D.3.

The City's General Plan Noise Element also lists the following policies with respect to noise and land use compatibility.

- **NE-A.1.** Separate excessive noise-generating uses from residential and other noise-sensitive land uses with a sufficient spatial buffer of less sensitive uses.
- **NE-A.2.** Assure the appropriateness of proposed developments relative to existing and future noise levels by consulting the guidelines for noise-compatible land use (shown on Table 2) to minimize the effects on noise-sensitive land uses.
- **NE-A.3.** Limit future residential and other noise-sensitive land uses in areas exposed to high levels of noise.
- **NE-A.4.** Require an acoustical study consistent with Acoustical Study Guidelines (Table NE-4) for proposed developments in areas where the existing or future noise level exceeds or would exceed the "compatible" noise level thresholds as indicated on the Land Use - Noise Compatibility Guidelines (Table 2), so that noise mitigation measures can be included in the project design to meet the noise guidelines.
- **NE-A.5.** Prepare noise studies to address existing and future noise levels from noise sources that are specific to a community when updating community plans.

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3 Existing Conditions

SPL measurements were conducted near the proposed project site on September 13, 2021 to quantify and characterize the existing outdoor ambient sound levels. Table 3 provides the location, date, and time period at which these baseline measurements were performed by an attending Dudek field investigator using a Rion-branded Model NL-52 sound level meter (SLM) equipped with a 0.5-inch, pre-polarized condenser microphone with pre-amplifier. The SLM meets the current American National Standards Institute standard for a Type 1 (Precision Grade) sound level meter. The accuracy of the SLM was verified using a field calibrator before and after the measurements, and the measurements were conducted with the microphone positioned approximately 5 feet above the ground.

Four (4) short-term (ST) noise level measurement locations (ST1–ST4) that represent existing noise-sensitive receivers were selected on and near the proposed project site. These locations are depicted as receivers ST1–ST4 on Figure 3, Noise Measurement Locations. The measured L_{eq} and L_{max} noise levels are provided in Table 3. The primary noise sources at the sites identified in Table 3 consisted of traffic along adjacent roadways, the sounds of leaves rustling, and birdsong. As shown in Table 3, the measured SPL ranged from approximately 67.2 dBA L_{eq} at ST3 to 55.1 dBA L_{eq} at ST2. Beyond the summarized information presented in Table 3, detailed noise measurement data is included in Appendix A, Baseline Noise Measurement Field Data.

Table 3. Measured Baseline Outdoor Ambient Noise Levels

Site	Location/Address	Date/Time	L_{eq}	L_{max}
ST1	South of 11007 Elderwood Ln., San Diego, California 92131	2021-09-13, 11:10 AM to 11:25 AM	63.9	76.3
ST2	South 11990 Cypress Valley Dr., San Diego, California 92131	2021-09-13, 12:20 PM to 12:30 PM	41.2	46.9
ST3	Western cul-de-sac of Cypress Canyon Road	2021-09-13, 12:50 PM to 01:00 PM	44.4	53.5
ST4	Southern dead-end road of Mundial St.	2021-09-13, 12:25 PM to 12:35 PM	46.0	52.8

Source: Appendix A.
Notes: L_{eq} = equivalent continuous sound level (time-averaged sound level); L_{max} = maximum sound level during the measurement interval; dBA = A-weighted decibels; ST = short-term noise measurement locations.

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4 Thresholds of Significance

City of San Diego Significance Determination Thresholds

The City of San Diego has adopted their own California Environmental Quality Act (CEQA) Significance Determination Thresholds (City of San Diego 2022). The City CEQA Significance Determination Thresholds address the following noise issues:

1. Result or create a significant increase in the existing ambient noise levels?
2. Exposure of people to noise levels which exceed the City's adopted noise ordinance or are incompatible with Table K-4[1]?
3. Exposure of people to current or future transportation noise levels which exceed standards established in the Transportation Element of the General Plan or an adopted airport Comprehensive Land Use Plan?
4. Result in land uses which are not compatible with aircraft noise levels as defined by an adopted airport Comprehensive Land Use Plan (CLUP)?

Related to those issues, the City CEQA Significance Determination Thresholds discuss interior and exterior noise impacts from traffic generated noise; Housing and Urban Development (HUD) funded projects and noise; airport noise impacts; noise from adjacent stationary uses (noise generators); impacts to sensitive wildlife; temporary construction noise; and noise/land use compatibility. It is also noted that information presented in the City CEQA Significance Determination Thresholds has been superseded by State CEQA Guideline updates and updates to the City General Plan. Specifically, updates to CEQA have occurred that specify CEQA analysis is to address the project impact on the environment and not the converse. In addition, the currently adopted 2008 General Plan and 2015 Noise Element information is utilized for this analysis herein.

Per the City's CEQA Significance Thresholds, the following thresholds and context, categorized by noise sources or type of potentially impacted receptors, have been used in this analysis for identifying potentially significant noise impacts as a result of implementation of the proposed project:

Exterior Noise Land Use Compatibility

The City General Plan Noise Element was updated in June 2015 and supersedes Table K-2 included in the CEQA Significance Determination Thresholds from the previous City of San Diego Progress Guide and General Plan (Transportation Element). The Noise Element includes the noise compatibility guidelines presented above in Table 2. Impacts of the project on the environment would be significant if the project resulted in a perceptible change in noise level and the noise level exceeds the exterior noise land use compatibility guidelines.

Noise from Adjacent Stationary Uses (Noise Generators)

As detailed in the Section 2, Regulatory Setting, the City's Noise Ordinance also limits property line noise levels for various land uses by time of day for noise generated by on-site sources associated with project operation (see the Table of Allowable Limits in Section 59.5.0401 of the San Diego Municipal Code [SDMC]). By way of illustration, the

[1] Table K-4 has been superseded. The updated land use noise compatibility table is included as Table 2 of this report.

limit for single-family residential land uses is 50 dBA L_{eq} from 7:00 a.m. to 7:00 p.m., 45 dBA L_{eq} from 7:00 p.m. to 10:00 p.m., and 40 dBA L_{eq} from 10:00 p.m. to 7:00 a.m. A project that would generate noise levels at the property line that exceed the City's Noise Ordinance Standards is considered potentially significant (such as potentially a carwash or projects operating generators or noisy equipment). If a nonresidential use, such as commercial, industrial, or educational, 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.

Temporary Construction Noise and Sound Level Limits

Temporary construction noise that exceeds 75 dBA L_{eq} at a residentially-zoned receptor would be considered significant. As detailed in the Section 2, Regulatory Setting,, per SDMC 59.5.0404(c), construction noise levels measured at or beyond the property lines of any property zoned residential shall not exceed an average sound level greater than 75 dB L_{eq} during the 12-hour period from 7:00 a.m. to 7:00 p.m. In addition, construction activity is prohibited between the hours of 7:00 p.m. of any day and 7:00 a.m. of the following day, or on legal holidays as specified in SDMC Section 21.04, with the exception of Columbus Day and Washington's Birthday, or on Sundays, that would create disturbing, excessive, or offensive noise unless a permit has been applied for and granted beforehand by the Noise Abatement and Control Administrator, in conformance with SDMC Section 59.5.0404. Additionally, per the Significance Determination Thresholds (City of San Diego 2022), 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.

Construction Vibration

Guidance from Caltrans indicates that a groundborne vibration velocity level of 0.2 ips PPV received at a structure would be considered annoying by occupants within (Caltrans 2020). As for the receiving structure itself, aforementioned Caltrans guidance from Section 2 recommends that a maximum vibration level of 0.3 ips PPV from continuous or intermittent-type sources (e.g., conventional ongoing construction activity) would represent the threshold for building damage risk.

5 Impact Discussion

5.1 Construction

Short-Term Construction Noise

Construction noise associated with the proposed project has been assessed herein with respect to the nearest pre-existing residential receptors, at which the 75 dBA 12-hour L_{eq} threshold per SDMC 59.5.0404(c) would apply.

Construction of the proposed project is anticipated to commence in October 2024 and would last approximately 53 months, ending in February 2029. The analysis contained herein is based on the following subset area schedule assumptions (duration of phases is approximate).

- Demolition - 2 months
- Site Preparation - 1 month
- Grading - 13 months
- Building Construction - 31 months
- Paving - 3.5 months
- Architectural Coating - 2.5 months

The majority of the phases listed above would occur concurrently and would not occur sequentially in isolation. The estimated construction duration was provided by the proposed project applicant.

The construction equipment mix used for estimating the construction noise impacts is based on information provided by the project applicant and is shown in Table 5.

Table 5. Construction Scenario Assumptions

Construction Phase	One-Way Vehicle Trips			Equipment		
	Average Daily Worker Trips	Average Daily Vendor Truck Trips	Total Haul Truck Trips	Equipment Type	Quantity	Usage Hours
Demolition	16	4	196	Concrete Industrial Saws	1	8
				Excavators	3	8
				Rubber Tired Dozers	2	8
Site Preparation	18	4	0	Rubber Tired Dozers	3	8
				Tractors/Loaders/ Backhoes	4	8
Grading	20	4	2,312	Excavators	2	8
				Graders	1	8

Table 5. Construction Scenario Assumptions

Construction Phase	One-Way Vehicle Trips			Equipment		
	Average Daily Worker Trips	Average Daily Vendor Truck Trips	Total Haul Truck Trips	Equipment Type	Quantity	Usage Hours
				Rubber Tired Dozers	1	8
				Scrapers	2	8
				Tractors/Loaders/ Backhoes	2	8
Building Construction	82	28	0	Cranes	1	7
				Forklifts	3	8
				Generator Sets	1	8
				Tractors/Loaders/ Backhoes	3	7
				Welders	1	8
Paving	16	0	0	Pavers	2	8
				Paving Equipment	2	8
				Rollers	2	8
Architectural Coating	104	0	0	Air Compressors	1	6

Note: See Appendix A for details.

For the analysis, it was assumed that heavy construction equipment would be operating 5 days per week (22 days per month) during proposed project construction.

Construction noise and vibration are temporary phenomena. Construction noise and vibration levels vary from hour to hour and day to day, depending on the equipment in use, the operations performed, and the distance between the source and receptor. Equipment that would be in use during construction would include, in part, graders, backhoes, rubber-tired dozers, loaders, cranes, forklifts, pavers, rollers, and air compressors. The typical maximum noise levels for various pieces of construction equipment at a distance of 50 feet are presented in Table 6. Note that the equipment noise levels presented in Table 6 are maximum noise levels. Usually, construction equipment operates in alternating cycles of full power and low power, producing average noise levels over time that are less than the maximum noise level. The average sound level of construction activity also depends on the amount of time that the equipment operates and the intensity of construction activities during that time.

Table 6. Typical Construction Equipment Maximum Noise Levels

Equipment Type	Typical Equipment (L_{max}, dBA at 50 Feet)
All Other Equipment > 5 HP	85
Backhoe	78
Compressor (air)	78
Concrete Saw	90
Crane	81

Table 6. Typical Construction Equipment Maximum Noise Levels

Equipment Type	Typical Equipment (L_{max}, dBA at 50 Feet)
Dozer	82
Excavator	81
Front End Loader	79
Generator	72
Grader	85
Man Lift	75
Paver	77
Roller	80
Scraper	84
Tractor	84
Welder / Torch	73

Source: DOT 2006.
Note: L_{max} = maximum sound level; dBA = A-weighted decibels.

Aggregate noise emission from proposed project construction activities, broken down by sequential phase, was predicted at two distances to the nearest existing noise-sensitive receptor: 1) from the nearest position of the construction site boundary (or where activity is likely to concentrate, such as a building façade) and 2) from the geographic center of the construction site or area of expected activity, which serves as the time-averaged location or geographic *acoustical centroid* of active construction equipment for the phase under study. The intent of the former distance is to help evaluate anticipated construction noise from a limited quantity of equipment or vehicle activity expected to be at the boundary for some period of time, which would be most appropriate for phases such as site preparation, grading, and paving. The latter distance is used in a manner similar to the general assessment technique as described in the FTA guidance for construction noise assessment, when the location of individual equipment for a given construction phase is uncertain over some extent of (or the entirety of) the construction site area. Because of this uncertainty, all the equipment for a construction phase is assumed to operate—on average—from the acoustical centroid. Table 7 summarizes these two distances to the apparent closest noise-sensitive receptor for each of the six sequential construction activities phases. At the site boundary, this analysis assumes that up to only one piece of equipment of each listed type per phase would be involved in the construction activity for a limited portion of the 12-hour period. In other words, at such proximity, the operating equipment cannot "stack" or crowd the vicinity and still operate. For the acoustical centroid case, which intends to be a geographic average position for all equipment during the indicated phase, this analysis assumes that the equipment may be operating up to all 12 hours per day.

Table 7. Estimated Distances between Construction Activities and the Nearest Noise-sensitive Receptors

Construction Phase (and Equipment Types Involved)	Distance from Nearest Noise-Sensitive Receptor to Construction Site Boundary (Feet)	Distance from Nearest Noise-Sensitive Receptor to Acoustical Centroid of Site (Feet)
Demolition (concrete saw, excavator, dozer)	250	300
Site preparation (dozer, backhoe)	12.5 [A]	300

Table 7. Estimated Distances between Construction Activities and the Nearest Noise-sensitive Receptors

Construction Phase (and Equipment Types Involved)	Distance from Nearest Noise-Sensitive Receptor to Construction Site Boundary (Feet)	Distance from Nearest Noise-Sensitive Receptor to Acoustical Centroid of Site (Feet)
Grading (excavator, grader, dozer, scraper, backhoe)	12.5 [A]	300
Building construction (crane, man-lift, generator, welder, backhoe)	125 [B]	300
Paving (paver, roller, other equipment)	50 [C]	300
Architectural Coating (compressor)	125 [B]	300

[A] to nearest existing home on Cypress Valley Drive
[B] to nearest home on Zirbel Court
[C] to nearest home on Angelique Street

A Microsoft Excel–based noise prediction model emulating and using reference data from the Federal Highway Administration Roadway Construction Noise Model (RCNM) (FHWA 2008) was used to estimate construction noise levels at the nearest occupied noise-sensitive land use. (Although the RCNM was funded and promulgated by the Federal Highway Administration, it is often used for non-roadway projects, because the same types of construction equipment used for roadway projects are often used for other types of construction.) Input variables for the predictive modeling consist of the equipment type and number of each (e.g., two graders, a loader, a tractor), the duty cycle for each piece of equipment (e.g., percentage of time within a specific time period, such as an hour, when the equipment is expected to operate at full power or capacity and thus make noise at a level comparable to what is presented in Table 6), and the distance from the noise-sensitive receiver. The predictive model also considers how many hours that equipment may be on site and operating (or idling) within an established work shift (in this case, the allowable daytime construction hours of 7:00 a.m. to 7:00 p.m. Conservatively, no topographical or structural shielding was assumed in the modeling. The RCNM has default duty-cycle values for the various pieces of equipment, which were derived from an extensive study of typical construction activity patterns. Those default duty-cycle values were used for this noise analysis, which is detailed in Appendix B, Construction Noise Modeling Input and Output, and produce the predicted results displayed in Table 8.

Table 8. Predicted Construction Noise Levels per Activity Phase

Construction Phase (and Equipment Types Involved)	12-Hour L_{eq} at Nearest Noise-Sensitive Receptor to Construction Activity Boundary (dBA)	12-Hour L_{eq} at Nearest Noise-Sensitive Receptor to Acoustical Centroid of Project Site (dBA)
Demolition (concrete saw, excavator, dozer)	65	65
Site preparation (dozer, backhoe)	85	63
Grading (excavator, grader, dozer, scraper, backhoe)	89	65
Building construction (crane, man-lift, generator, welder, backhoe)	61	58
Paving (paver, roller, other equipment)	73	60
Architectural Coating (compressor)	61	52

Notes: L_{eq} = equivalent noise level; dBA = A-weighted decibels.

As presented in Table 8, the estimated construction noise levels are predicted to be as high as 89 dBA L_{eq} over a 12-hour period at the nearest existing residences (as close as 12.5 feet away) when grading activities take place near the project boundaries. Note that these estimated noise levels at a source-to-receiver distance of 12.5 feet would only occur when noted pieces of heavy equipment would each operate for a cumulative period of one-and-a-half (1.5) hours a day. By way of example, a grader might make multiple passes on site that are this close to a receiver; but, for the remaining time during the day, the grader is sufficiently farther away, performing work at a more distant location, or simply not operating. For these instances when operation of construction equipment and processes are sufficiently proximate to cause activity noise levels to exceed 75 dBA L_{eq}, mitigation measure **(MM)-N-1,** which requires preparation of a construction noise management plan (CNMP) that anticipates potential noise monitoring locations and outlines procedures for ensuring construction noise compliance with City standards, shall be implemented as indicated site conditions may warrant. Proper application of temporary noise barriers or comparable sound abatement as may be required in **MM-N-1** has the ability to reduce noise levels by 14 dB, which would correspondingly reduce the predicted 89 dBA 12-hour L_{eq} for the grading phase to 75 dBA L_{eq}. Thus, with the implementation of **MM-N-1**, project construction noise would be compliant with the 75 dBA threshold.

The anticipated need for implementation of **MM-N-1** is not site-wide, and limited only to the westernmost proposed graded areas and installation of drainage features between Zirbel Court and Cypress Valley Drive, where proposed project construction activity is expected to occur as close as the aforementioned 12.5 feet to the property line based on the site plan (Figure 2).

Although nearby off-site residences and future, newly-constructed residences resulting from buildout progression of the proposed project would be exposed to elevated construction noise levels, the increased noise levels would typically be relatively short term. It is anticipated that construction activities associated with the proposed project would take place within the allowable hours of construction per the City (7:00 a.m. and 7:00 p.m. Monday through Friday) as described in SDMC 59.5.0404.

While typical construction noise would not exceed the aforementioned City's threshold, there is potential for noise to exceed the 75 dBA L_{eq} 12-hour City threshold at the nearest residential receiver on occasion. Thus, temporary construction-related noise impacts would be considered potentially significant unless mitigated. With implementation of **MM-N-1**, project construction noise impacts would be reduced to **less than significant with mitigation**.

Construction Noise Impacts to Biological Resources

Within the City of San Diego, the Multiple Species Conservation Program (MSCP) is implemented through the City of San Diego MSCP Subarea Plan (Subarea Plan) (City of San Diego 1997). The MSCP established a Multi-Habitat Planning Area (MHPA) preserve system designed to conserve large blocks of interconnected habitat having high biological value. As stated in the MSCP:

> Uses in or adjacent to the MHPA should be designed to minimize noise impacts. Berms or walls should be constructed adjacent to commercial areas, recreational areas, and any other use that may introduce noises that could impact or interfere with wildlife utilization of the MHPA. Excessively noisy uses or activities adjacent to breeding areas must incorporate noise reduction measures and be curtailed during the breeding season of sensitive species. Adequate noise reduction measures should also be incorporated for the remainder of the year (City of San Diego 1997, p. 48).

As discussed in the Biological Technical Report (BTR) prepared for the proposed project (Dudek 2023), wildlife may also be indirectly affected in the short term by construction-related noise, which can disrupt normal activities and subject wildlife to higher predation risks. Construction of the project may produce noise at levels that could indirectly impact MSCP covered species and special-status species that have a moderate to high potential to forage, roost, and nest at the project site. Covered species with potential to occur in the project site include coastal California gnatcatcher (low potential to occur on site since focused surveys were negative (see Appendix D of the BTR; (Dudek 2023)), but suitable habitat is present off site in adjacent areas within the MHPA) and Cooper's hawk (observed foraging on site with potential to nest outside of the project in suitable habitat within the MHPA).

No clearing, grubbing, grading, or other construction activities shall occur during the breeding season of the coastal California gnatcatcher (February 1 through September 15) until the appropriate species-specific MSCP Land Use Adjacency Guidelines (LUAG) conditions of project approval have been met to the satisfaction of the City Manager to ensure no impacts to these species would occur from project implementation. These conditions include focused protocol surveys for coastal California gnatcatcher within areas subject to noise levels exceeding 60 A-weighted decibels hourly average. If coastal California gnatcatchers are present in these areas, then no clearing, grubbing, or grading of occupied California gnatcatcher habitat shall be permitted February 1 through September 15. Additionally, during this time, no construction activities shall occur within any portion of the site where construction activities would result in noise levels exceeding 60 A-weighted decibels hourly average, or noise attenuation measures shall be provided, along with a noise model provided to the City prior to construction activities. This condition would be implemented during construction and restoration activities. Once project construction is complete, the housing subdivision is not expected to produce noise at levels that could indirectly impact MSCP covered and special-status species within the habitats adjacent to the project construction footprint (Dudek 2023c).

5.2 Operation

Long-Term Operational Noise

Roadway Traffic

The proposed project would result in the creation of additional vehicle trips on local arterial roadways (i.e., Cypress Canyon Road and Cypress Canyon Park Drive), which could result in increased traffic noise levels at adjacent noise-sensitive land uses. Appendix C, Traffic Noise Modeling Input and Output, contains a spreadsheet with traffic volume data (average daily traffic) for Cypress Canyon Road and surrounding arterial roadways. In particular, the proposed project would create additional traffic along Cypress Canyon Road, which according to the Traffic Impact Assessment prepared for the proposed project (LLG 2023 would add 1,096 average daily trips to the segment of Cypress Canyon Road and adjacent roadways surrounding the project site.

Potential noise effects from vehicular traffic were assessed using the Federal Highway Administration's Traffic Noise Model version 2.5 (FHWA 2004). Information used in the model included the roadway geometry, posted traffic speeds, and traffic volumes for the following scenarios: existing (year 2021), existing plus project, opening year (year 2025, opening year plus project, future (2050), and future plus project. Noise levels were modeled at representative noise-sensitive receivers ST1 through ST4, as shown in Figure 3.

The City's Significance Determination Thresholds establishes a policy for exterior sensitive areas to be protected from high noise levels in accordance with the General Plan Noise Element and sets 60 dBA CNEL as conditionally compatible for the outdoor areas and 45 dBA CNEL for interior areas as the normally acceptable levels for residential uses (City of San Diego 2022). Existing ambient noise levels from traffic currently exceed 65 dBA CNEL.

In accordance with the City's CEQA Significance Determination Thresholds (City of San Diego 2022) , if a project is currently at or exceeds the land use compatibility thresholds, and noise levels would result in a less than a 3 dB increase, then the impact is not considered significant . An increase or decrease in noise level of at least 3 dB is required before any noticeable change in community response would be expected (Caltrans 2013a). The receivers were modeled to be 5 feet above the local ground elevation to correlate with typical human hearing. The noise model results are summarized in Table 9.

Table 9. Roadway Traffic Noise Modeling Results

Modeled Receiver Tag (Location Description)	Existing (2021)		Opening Year (2025)		Buildout (2050)		Maximum Project-Related Noise Level Increase* (dB)
	Existing Noise Level (dBA CNEL)	Existing Plus Project Noise Level (dBA CNEL)	Opening Year Noise Level (dBA CNEL)	Opening Year Plus Project Noise Level (dBA CNEL)	Buildout Noise Level (dBA CNEL)	Buildout Plus Project Noise Level (dBA CNEL)	
ST1	67.0	67.0	67.2	67.2	68.2	68.2	0.0
ST2	41.0	41.1	41.3	41.5	42.2	42.5	0.3
ST3	51.0	53.3	55.9	56.3	55.3	56.3	2.3
ST4	40.8	41.1	40.9	41.1	41.8	42.0	0.3

Notes:
* among the three sets of prediction scenarios presented; dBA = A-weighted decibel; CNEL = Community Noise Equivalent Level; dB = decibel.

Table 9 shows that at all four listed representative receivers, the addition of proposed project traffic to the roadway network would result in a CNEL increase of less than 3 dB, which is below the discernible level of change for the average healthy human ear. It is also noted that given the noise levels at ST3, the traffic noise levels generated at the nearby Cypress Canyon Park would also be less than 3 dB. Thus, a **less-than-significant impact** is expected for proposed project–related off-site traffic noise increases affecting existing residences in the vicinity.

Onsite Stationary Operations

The incorporation of new single-family homes attributed to development of the proposed project would add a variety of noise-producing mechanical equipment that include those presented and discussed in the following paragraphs. Most of these noise-producing equipment or sound sources would be considered stationary, or limited in mobility to a defined area. Using a Microsoft Excel–based outdoor sound propagation prediction model, project-attributed operational noise at nearby community receptors was predicted using several assumptions:

- Treatment of exposed patio air-cooled condensing units as point-type sound emission sources; and,
- Point-source sound propagation (i.e., 6 dB per doubling of distance) that conservatively ignores acoustical absorption from atmospheric and ground surface effects.
- These condenser units would generally be installed near building exterior walls in private area "backyards" or external areas.

- Occlusion of direct sound paths between grade level sound sources and nearest neighboring community receptors near grade level is assumed to yield at least 10 dB noise reduction (includes sound diffraction and barrier effects [Beranek & Ver, 1992] due to the assumed property line barriers and presence of new onsite structures).

Please see Appendix D for quantitative details of the below predictions.

Residential Unit Heating, Ventilation, and Air Conditioning (HVAC) Noise

For purposes of this analysis, each of the new occupied residential units would be expected to feature a split-system type air-conditioning unit, with an air-cooled refrigeration (2-ton capacity) condenser unit at grade level.

Assuming each condenser unit has an SPL of 68 dBA at 3 feet based on available data from a likely manufacturer (Carrier 2012), the closest existing noise-sensitive residential receptor to the north of the proposed project's northernmost unit would be approximately 40 horizontal feet to the nearest of these condenser units. The predicted sound emission level from the combination of operating units from all 100 single-family homes and 12 multi-family rental units operating condenser units at offsite single-family receptors would not exceed 40 dBA L_{eq} and thus be compliant with the City's nighttime threshold of 40 dBA hourly L_{eq}. Under such conditions, the operation of residential air-conditioning units would result in a **less-than-significant** operational HVAC noise impact.

Groundborne Vibration

Construction activities may expose persons to excessive groundborne vibration or groundborne noise, causing a potentially significant impact. Caltrans has collected groundborne vibration information related to construction activities (Caltrans 2020). Information from Caltrans indicates that continuous vibrations with a PPV of approximately 0.2 ips is considered "annoying." For context, heavier pieces of construction equipment, such as a bulldozer that may be expected on the project site, have peak particle velocities of approximately 0.089 ips or less at a reference distance of 25 feet (DOT 2006).

Groundborne vibration attenuates rapidly—even over short distances. And when groundborne vibration encounters a building foundation, a coupling loss occurs depending on the mass and design. For typical wood-framed houses, like those near the proposed project, this coupling loss is 5 vibration velocity decibels according to FTA guidance (FTA 2006). The attenuation of groundborne vibration as it propagates from source to receptor through intervening soils and rock strata can be estimated with expressions found in FTA and Caltrans guidance. By way of example, for a bulldozer operating on site and as close as the northern project boundary (that is 10 feet from the nearest receiving sensitive land use) the estimated vibration velocity level would be 0.19 ips and thus no greater than the annoyance threshold recommended by Caltrans. Therefore, vibration-induced annoyance to occupants of nearby existing homes would be **less than significant**.

Construction vibration, at sufficiently high levels, can also present a building damage risk. However, anticipated construction vibration associated with this proposed project would not yield levels that surpass this risk. Per Caltrans, the recommended PPV threshold for newer residential structures is 0.5 ips and 0.3 ips for older residential structures—both of which are less stringent that the aforementioned threshold to annoy occupants of such structures; thus vibration damage risk to nearby structures is considered **less than significant.**

Noise Impacts to Biological Resources

Once project construction is complete, the proposed project is not expected to produce noise at levels that could indirectly impact MSCP-covered and special-status species within the habitats adjacent to the project development footprint. The only potential long-term indirect impacts of the project are an increase in noise and human presence adjacent to the MHPA due to general human presence and common residential activities. It is assumed that any noise impacts would likely be intermittent and below the 60 A-weighted decibel hourly threshold for impacts to special-status wildlife inhabiting adjacent vegetation and would not cause long-term adverse indirect impacts. The increase in human presence would also be limited to the boundaries of the development and no additional human access or encroachment into the native vegetation is expected; therefore, no long-term adverse indirect impacts are expected. Therefore, once project construction is complete, the proposed project is not expected to produce noise at levels that could indirectly impact MSCP covered and special-status species within the habitats adjacent to the project's development footprint.

5.3 Land Use Compatibility

Traffic Noise Exposure to Future Project Occupants

Current state CEQA guidelines do not require an assessment of noise impacts on a project from the environment. Nevertheless, this analysis is provided for land use compatibility analysis considering the project includes a rezone and the California Building Code requires that interior background noise levels not exceed a CNEL of 45 dB within habitable rooms. Hence, the following predictive analysis of traffic noise exposure at the exteriors of occupied residences and outdoor living areas is provided below.

The FHWA TNM was also used to predict the Future + Project scenario traffic noise levels at multiple on-site exterior areas, as listed in Table 10. Modeled receptor locations include representative positions for the exteriors of multiple lots of the closest to surrounding roadways.

Table 10. On-Site Roadway Traffic Noise Modeling Results

Modeled Receiver (Lot)	Predicted Traffic Noise Exposure at Modeled Receiver (dBA CNEL)
M12	43.6
M53	46.6
M84	46.7
M100	46.9

Notes: dBA = A-weighted decibel; CNEL = Community Noise Equivalent Level.

Typically, with the windows open, building shells provide approximately 15 dB (i.e., an average of 12-18 dB [OPR 2017]) of exterior-to-interior noise reduction; while with windows closed residential construction generally provides a minimum of 25 dB attenuation (FHWA 2011). Therefore, rooms exposed to an exterior CNEL not greater than 60 dB would result in an interior background CNEL of 45 dB or less, even with open fenestration. In other words, the arithmetic difference of an exterior noise level less than 60 dBA CNEL and an exposed building façade that provides 15 dB of sound insulation results in an interior background sound level less than 45 dBA CNEL. Table 10 shows that no residential lot would be exposed to a CNEL of above 60 dB and thus, interior background noise levels

would not exceed a CNEL of 45 dB within habitable rooms. Thus, the proposed residences would be in compliance with Title 24 interior noise requirements.

Aviation Traffic

The project area is not located within 2 miles of any public airport, nor is it located within the boundaries of any airport land use plans. The nearest airport is Marine Corps Air Station Miramar located approximately 4 miles to the southwest. The site is not located within any Marine Corps Air Station Miramar Air Installations Compatible Use Zones (Marine Corps Air Station Miramar 2020). Therefore, the proposed project would not expose or result in excessive noise for people residing or working in the project area, and **no impact** would occur.

6 Mitigation Measures

The following mitigation measure, introduced in Section 5, Impact Discussion, would apply during construction activities.

MM-N-1: Prior to the issuance of a Construction Permit, the Permittee shall prepare and submit a Construction Noise Management Plan (CNMP) to the City's Mitigation Monitoring Coordination (MMC) Section of the Development Services Department for review and approval. Prior to the issuance of a Construction Permit, Construction Plans shall also include a note indicating compliance with the CNMP is required. The CNMP shall be prepared or reviewed by a Qualified Acoustician (defined as having a Bachelor of Science or higher degree from a qualified program in engineering, physics, or architecture offered by an accredited university or college, and five years of experience in noise control engineering and construction noise analysis; or current enrollment as a full Member or Board-certified Member in the Institute of Noise Control Engineering (INCE), In addition, a Qualified Acoustician must have demonstrated experience in preparing and implementing construction noise controls, sound abatement, and monitoring plans on construction projects, calculating construction noise levels, and designing and overseeing the implementation of construction noise abatement measures) retained at the Permittee's expense) and feature the following:

a. A detailed construction schedule at daily (or weekly, if activities during each day of the week are typical) resolution and correlating to areas or zones of on-site project construction activities and the anticipated equipment types and quantities involved. Information will include expected hours of actual operation per day for each type of equipment per activity for the buildout phase, and indication of anticipated concurrent construction activities on site.

b. Review and revision (if needed) of construction noise level estimates based on the current construction schedule and equipment roster per "a." above and reflecting information from the latest project site plan of expected features and work areas, to determine anticipated need for construction noise level monitoring.

c. Suggested locations of a set of noise level monitors, if established per "b." above, attended by a Qualified Acoustician or another party under its supervision or direction, at which sample outdoor ambient noise levels will be measured and collected over a sufficient sample period and subsequently analyzed (i.e., compared with applicable time-dependent A-weighted decibel [dBA] thresholds) to ascertain compliance with the SDMC 59.5.0404(c) threshold of 75 dBA equivalent sound level (L_{eq}) over a consecutive 12-hour period during daytime hours (7:00 a.m. to 7:00 p.m.). Sampling shall be performed, at a minimum, on the first (or otherwise considered typical construction operations) day of each distinct construction phase (e.g., each of the seven listed phases in Table 5).

d. If sample collected noise level data indicates that the 12-hour noise threshold has or will be exceeded, construction work shall be suspended (for the activity or phase of concern) and the Permittee shall implement one or more of the following measures as detailed or specified in the CNMP that will demonstrate compliance with SDMC 59.5.0404(c) threshold:

    i. Administrative controls (e.g., reduce operating time of equipment and/or prohibit usage of equipment type[s] within certain distances).

ii. Engineering controls (upgrade noise controls, such as install better engine exhaust mufflers).

iii. Install noise abatement on the site boundary fencing (or within, as practical and appropriate) in the form of sound blankets or comparable temporary barriers to occlude construction noise emission between the site (or specific equipment operation as the situation may define) and the noise-sensitive receptor(s) of concern.

The implemented measure(s) will be reviewed or otherwise inspected and approved by the Qualified Acoustician (or another party under its supervision or direction) prior to resumption of the construction activity or process that caused the measured noise concern or need for noise mitigation. Noise levels shall be re-measured after installation of said measures to ascertain post-mitigation compliance with the noise threshold. As needed, this process shall be repeated and refined until noise level compliance is demonstrated and documented. A report of this implemented mitigation and its documented success to provide compliance with the SDMC 59.5.0404(c) threshold will be provided to MMC.

e. The Permittee shall make available a telephone hotline so that concerned neighbors in the community may call to report noise complaints. The CNMP shall include a process to investigate these complaints and, if determined to be valid, detail efforts to provide a timely resolution and response to the complainant, with a copy of resolution provided to the MMC.

7 Summary of Findings

This noise report was conducted to predictively quantify construction and operation noise and vibration attributed to the proposed project. The results indicate that potential impacts during construction would be less than significant with mitigation (**MM-N-1**). Noise impacts due to operation of the proposed project (including traffic noise) would be less than significant. No further mitigation is required.

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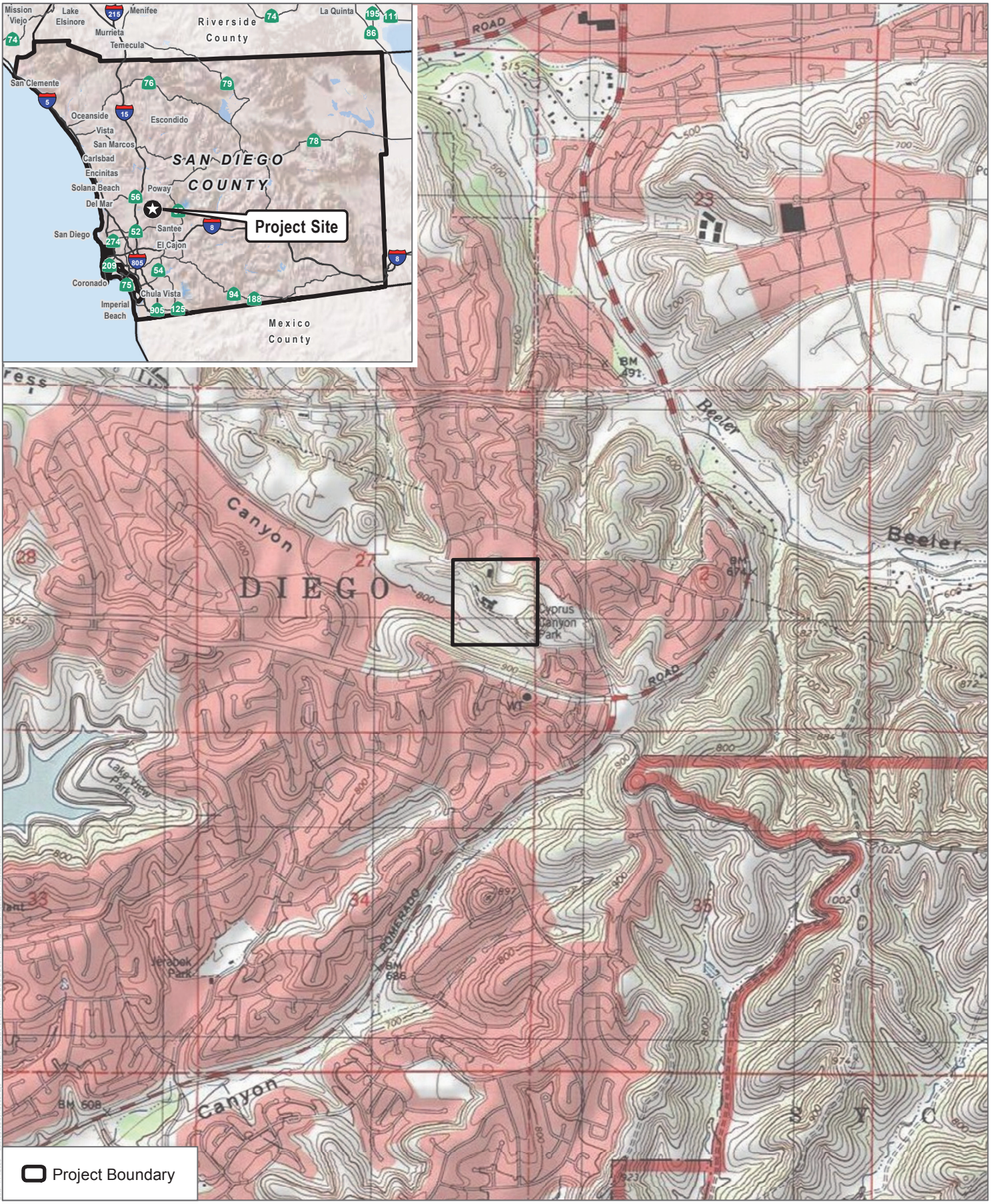

SOURCE: USGS 7.5-Minute Series Poway Quadrangle

DUDEK

0 1,000 2,000 Feet
0 250 500 Meters
1:24,000

FIGURE 1

Project Location

Renzulli Estates Project

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SOURCE: SANGIS 2017, Hunsaker and Associates 2022

DUDEK

0 125 250 Feet

FIGURE 2

Site Plan

Renzulli Estates Project

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SOURCE: SANGGIS 2017

DUDEK

0 150 300 Feet

FIGURE 3

Noise Measurement Locations

Renzulli Estates Project

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Appendix A

Baseline Noise Measurement Field Data

FORMS FIELD DATA REPORT

Field Noise Measurement Data

Record: 1377	
Project Name	*Cypress Canyon*
Observer(s)	*Connor Burke*
Date	*2021-09-13*

Instrument and Calibrator Information	
Instrument Name List	*(ENC) Rion NL-52*
Instrument Name	*(ENC) Rion NL-52*
Instrument Name Lookup Key	*(ENC) Rion NL-52*
Manufacturer	*Rion*
Model	*NL-52*
Serial Number	*553896*
Calibrator Name	*(ENC) LD CAL150*
Calibrator Name	*(ENC) LD CAL150*
Calibrator Name Lookup Key	*(ENC) LD CAL150*
Calibrator Manufacturer	*Larson Davis*
Calibrator Model	*LD CAL150*
Calibrator Serial #	*5152*
Pre-Test (dBA SPL)	*94*
Post-Test (dBA SPL)	*94*
Windscreen	*Yes*
Weighting?	*A-WTD*
Slow/Fast?	*Slow*
ANSI?	*Yes*

Monitoring	
Record #	*1*
Site ID	*ST1*
Site Location Lat/Long	*32.923380, -117.071558*
Begin (Time)	*11:10:00*
End (Time)	*11:25:00*
Leq	*63.9*
Lmax	*76.3*
Lmin	*35.8*
Other Lx?	*L90, L50, L10*
L90	*42*
L50	*56.6*
L10	*68.6*
Other Lx (Specify Metric)	*L*
Primary Noise Source	*Traffic*
Other Noise Sources (Background)	*Birds*
Is the same instrument and calibrator being used as previously noted?	*Yes*
Are the meteorological conditions the same as previously noted?	*Yes*

Description / Photos

Site Photos

Photo	
	

Monitoring

Record #	*2*
Site ID	*ST2*
Site Location Lat/Long	*32.925583, -117.071059*
Begin (Time)	*12:20:00*
End (Time)	*12:30:00*
Leq	*41.2*
Lmax	*46.9*
Lmin	*39.4*
Other Lx?	*L90, L50, L10*
L90	*39.8*
L50	*41.1*
L10	*42.2*
Other Lx (Specify Metric)	*L*
Primary Noise Source	*Birds*
Other Noise Sources (Background)	*Birds, Distant Traffic, Rustling Leaves*
Is the same instrument and calibrator being used as previously noted?	*Yes*
Are the meteorological conditions the same as previously noted?	*Yes*

Description / Photos

Site Photos

Photo	
	

Monitoring

Record #	*3*
Site ID	*ST4*
Site Location Lat/Long	*32.927849, -117.068086*
Begin (Time)	*12:25:00*
End (Time)	*12:35:00*
Leq	*46*
Lmax	*52.8*
Lmin	*38.9*
Other Lx?	*L90, L50, L10*
L90	*40.6*
L50	*44.5*
L10	*49.2*
Other Lx (Specify Metric)	*L*
Primary Noise Source	*Birds*
Other Noise Sources (Background)	*Birds, Distant Traffic, Rustling Leaves*
Is the same instrument and calibrator being used as previously noted?	*Yes*
Are the meteorological conditions the same as previously noted?	*Yes*

Description / Photos

Site Photos

Photo	
	

Monitoring

Record #	*4*
Site ID	*ST4*
Site Location Lat/Long	*32.924089, -117.066649*
Begin (Time)	*12:50:00*
End (Time)	*13:00:00*
Leq	*44.4*
Lmax	*53.5*
Lmin	*39*
Other Lx?	*L90, L50, L10*
L90	*40*
L50	*42.4*
L10	*47.5*
Other Lx (Specify Metric)	*L*
Primary Noise Source	*Birds*
Other Noise Sources (Background)	*Birds, Distant Traffic, Rustling Leaves*
Is the same instrument and calibrator being used as previously noted?	*Yes*
Are the meteorological conditions the same as previously noted?	*Yes*

Description / Photos

Site Photos

Photo	
	

Appendix B

Construction Noise Modeling Input and Output

To User: bordered cells are inputs, unbordered cells have formulae

noise level limit for construction phase at residential land use, per City of San Diego = 75

allowable hours over which Leq is to be averaged = 12

= temporary barrier (TB) of input height inserted between source and receptor

Construction Activity	Equipment	Total Equipment Qty	AUF % (from FHWA RCNM)	Reference Lmax @ 50 ft. from FHWA RCNM	Client Equipment Description, Data Source and/or Notes	Source to NSR Distance (ft.)	*Temporary Barrier Insertion Loss (dB)*	*Additional Noise Reduction*	Distance-Adjusted Lmax	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 12-hour Leq	Source Elevation (ft)	Receiver Elevation (ft)	Barrier Height (ft)	Source to Barr. ("A") Horiz. (ft)	Rcvr. to Barr. ("B") Horiz. (ft)	Source to Rcvr. ("C") Horiz. (ft)	"A" (ft)	"B" (ft)	"C" (ft)	Path Length Diff. "P" (ft)	Abarr (dB)	Heff (with barrier)	Heff (wout barrier)	G (with barrier)	G (without barrier)	ILbarr (dB)
Demolition	concrete saw	1	20	90		300	0.1		69.9	8	480	61	5	5	0	150	150	300	150.1	150.1	300.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
	excavator	3	40	81		300	0.1		60.9	8	480	60	5	5	0	150	150	300	150.1	150.1	300.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
	dozer	2	40	82		300	0.1		61.9	8	480	59	5	5	0	150	150	300	150.1	150.1	300.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
								Total for Demolition Phase:				**65.0**																
Site Preparation	dozer	3	40	82		300	0.1		61.9	8	480	61	5	5	0	150	150	300	150.1	150.1	300.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
	backhoe	4	40	78		300	0.1		57.9	8	480	58	5	5	0	150	150	300	150.1	150.1	300.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
								Total for Site Preparation Phase:				**62.8**																
Grading	excavator	2	40	81		300	0.1		60.9	8	480	58	5	5	0	150	150	300	150.1	150.1	300.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
	dozer	1	40	82		300	0.1		61.9	8	480	56	5	5	0	150	150	300	150.1	150.1	300.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
	grader	1	40	85		300	0.1		64.9	8	480	59	5	5	0	150	150	300	150.1	150.1	300.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
	scraper	2	40	84		300	0.1		63.9	8	480	61	5	5	0	150	150	300	150.1	150.1	300.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
	backhoe	2	40	78		300	0.1		57.9	8	480	55	5	5	0	150	150	300	150.1	150.1	300.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
								Total for Grading Phase:				**65.5**																
Building Erection	crane	1	16	81		300	0.1		60.9	8	480	51	5	5	0	150	150	300	150.1	150.1	300.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
	man lift	3	20	75		300	0.1		54.9	8	480	51	5	5	0	150	150	300	150.1	150.1	300.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
	generator	1	50	72		300	0.1		51.9	8	480	47	5	5	0	150	150	300	150.1	150.1	300.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
	welder / torch	3	40	73		300	0.1		52.9	8	480	52	5	5	0	150	150	300	150.1	150.1	300.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
	backhoe	1	40	78		300	0.1		57.9	8	480	52	5	5	0	150	150	300	150.1	150.1	300.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
								Total for Building Erection Phase:				**58.0**																
Architectural Coating	compressor (air)	1	40	78		300	0.1		57.9	8	480	52	5	5	0	150	150	300	150.1	150.1	300.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
								Total for Architectural Coating Phase:				**52.2**																
Paving	paver	2	50	77		300	0.1		56.9	8	480	55	5	5	0	150	150	300	150.1	150.1	300.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
	roller	2	20	80		300	0.1		59.9	8	480	54	5	5	0	150	150	300	150.1	150.1	300.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
	concrete mixer truck	2	40	79		300	0.1		58.9	8	480	56	5	5	0	150	150	300	150.1	150.1	300.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
								Total for Paving Phase:				**60.1**																

To User: bordered cells are inputs, unbordered cells have formulae

noise level limit for construction phase at residential land use, per City of San Diego = 75
allowable hours over which Leq is to be averaged = 12

= temporary barrier (TB) of input height inserted between source and receptor

Construction Activity	Equipment	Total Equipment Qty	AUF % (from FHWA RCNM)	Reference Lmax @ 50 ft. from FHWA RCNM	Client Equipment Description, Data Source and/or Notes	Source to NSR Distance (ft.)	*Temporary Barrier Insertion Loss (dB)*	*Additional Noise Reduction*	Distance-Adjusted Lmax	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 12-hour Leq	Source Elevation (ft)	Receiver Elevation (ft)	Barrier Height (ft)	Source to Barr. ("A") Horiz. (ft)	Rcvr. to Barr. ("B") Horiz. (ft)	Source to Rcvr. ("C") Horiz. (ft)	"A" (ft)	"B" (ft)	"C" (ft)	Path Length Diff. "P" (ft)	Abarr (dB)	Heff (with barrier)	Heff (wout barrier)	G (with barrier)	G (without barrier)	ILbarr (dB)
Demolition	concrete saw	1	20	90		250	0.1		71.7	8	480	63	5	5	0	125	125	250	125.1	125.1	250.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
	excavator	1	40	81		250	0.1		62.7	8	480	57	5	5	0	125	125	250	125.1	125.1	250.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
	dozer	1	40	82		250	0.1		63.7	8	480	58	5	5	0	125	125	250	125.1	125.1	250.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
								Total for Demolition Phase:				**64.9**																
Site Preparation	dozer	1	40	82		12.5	0.1		94.0	3	180	84	5	5	0	7.5	5	12.5	9.0	7.1	12.5	0.00	0.1	5.0	5.0	0.7	0.7	0.1
	backhoe	1	40	78		12.5	0.1		90.0	3	180	80	5	5	0	7.5	5	12.5	9.0	7.1	12.5	0.00	0.1	5.0	5.0	0.7	0.7	0.1
								Total for Site Preparation Phase:				**85.4**																
Grading	excavator	1	40	81		12.5	0.1		93.0	1.5	90	80	5	5	0	7.5	5	12.5	9.0	7.1	12.5	0.00	0.1	5.0	5.0	0.7	0.7	0.1
	dozer	1	40	82		12.5	0.1		94.0	1.5	90	81	5	5	0	7.5	5	12.5	9.0	7.1	12.5	0.00	0.1	5.0	5.0	0.7	0.7	0.1
	grader	1	40	85		12.5	0.1		97.0	1.5	90	84	5	5	0	7.5	5	12.5	9.0	7.1	12.5	0.00	0.1	5.0	5.0	0.7	0.7	0.1
	scraper	1	40	84		12.5	0.1		96.0	1.5	90	83	5	5	0	7.5	5	12.5	9.0	7.1	12.5	0.00	0.1	5.0	5.0	0.7	0.7	0.1
	backhoe	1	40	78		12.5	0.1		90.0	1.5	90	77	5	5	0	7.5	5	12.5	9.0	7.1	12.5	0.00	0.1	5.0	5.0	0.7	0.7	0.1
								Total for Grading Phase:				**88.6**																
Building Erection	crane	1	16	81		125	0.1		70.0	3	180	56	5	5	0	62.5	62.5	125	62.7	62.7	125.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
	man lift	1	20	75		125	0.1		64.0	3	180	51	5	5	0	62.5	62.5	125	62.7	62.7	125.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
	generator	1	50	72		125	0.1		61.0	3	180	52	5	5	0	62.5	62.5	125	62.7	62.7	125.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
	welder / torch	1	40	73		125	0.1		62.0	3	180	52	5	5	0	62.5	62.5	125	62.7	62.7	125.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
	backhoe	1	40	78		125	0.1		67.0	3	180	57	5	5	0	62.5	62.5	125	62.7	62.7	125.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
								Total for Building Erection Phase:				**61.3**																
Architectural Coating	compressor (air)	1	40	78		125	0.1		67.0	8	480	61	5	5	0	62.5	62.5	125	62.7	62.7	125.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
								Total for Architectural Coating Phase:				**61.3**																
Paving	paver	1	50	77		50	0.1		76.9	3	180	68	5	5	0	25	25	50	25.5	25.5	50.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
	roller	1	20	80		50	0.1		79.9	3	180	67	5	5	0	25	25	50	25.5	25.5	50.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
	concrete mixer truck	1	40	79		50	0.1		78.9	3	180	69	5	5	0	25	25	50	25.5	25.5	50.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
								Total for Paving Phase:				**72.7**																

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= temporary barrier (TB) of input height inserted between source and receptor

Construction Activity	Equipment	Total Equipment Qty	AUF % (from FHWA RCNM)	Reference Lmax @ 50 ft. from FHWA RCNM	Client Equipment Description, Data Source and/or Notes	Source to NSR Distance (ft.)	*Temporary Barrier Insertion Loss (dB)*	*Additional Noise Reduction*	Distance-Adjusted Lmax	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 12-hour Leq	Source Elevation (ft)	Receiver Elevation (ft)	Barrier Height (ft)	Source to Barr. ("A") Horiz. (ft)	Rcvr. to Barr. ("B") Horiz. (ft)	Source to Rcvr. ("C") Horiz. (ft)	"A" (ft)	"B" (ft)	"C" (ft)	Path Length Diff. "P" (ft)	Abarr (dB)	Heff (with barrier)	Heff (wout barrier)	G (with barrier)	G (without barrier)	ILbarr (dB)
Demolition	concrete saw	1	20	90		250	0.1		71.7	8	480	63	5	5	0	125	125	250	125.1	125.1	250.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
	excavator	1	40	81		250	0.1		62.7	8	480	57	5	5	0	125	125	250	125.1	125.1	250.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
	dozer	1	40	82		250	0.1		63.7	8	480	58	5	5	0	125	125	250	125.1	125.1	250.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
									Total for Demolition Phase:			**64.9**																
Site Preparation	dozer	1	40	82		12.5	15.3		78.7	3	180	69	5	5	8	7.5	5	12.5	8.1	5.8	12.5	1.41	14.5	13.0	5.0	0.5	0.7	15.3
	backhoe	1	40	78		12.5	15.3		74.7	3	180	65	5	5	8	7.5	5	12.5	8.1	5.8	12.5	1.41	14.5	13.0	5.0	0.5	0.7	15.3
									Total for Site Preparation Phase:			**70.1**																
Grading	excavator	1	40	81		12.5	15.3		77.7	1.5	90	65	5	5	8	7.5	5	12.5	8.1	5.8	12.5	1.41	14.5	13.0	5.0	0.5	0.7	15.3
	dozer	1	40	82		12.5	15.3		78.7	1.5	90	66	5	5	8	7.5	5	12.5	8.1	5.8	12.5	1.41	14.5	13.0	5.0	0.5	0.7	15.3
	grader	1	40	85		12.5	15.3		81.7	1.5	90	69	5	5	8	7.5	5	12.5	8.1	5.8	12.5	1.41	14.5	13.0	5.0	0.5	0.7	15.3
	scraper	1	40	84		12.5	15.3		80.7	1.5	90	68	5	5	8	7.5	5	12.5	8.1	5.8	12.5	1.41	14.5	13.0	5.0	0.5	0.7	15.3
	backhoe	1	40	78		12.5	15.3		74.7	1.5	90	62	5	5	8	7.5	5	12.5	8.1	5.8	12.5	1.41	14.5	13.0	5.0	0.5	0.7	15.3
									Total for Grading Phase:			**73.3**																
Building Erection	crane	1	16	81		125	0.1		70.0	3	180	56	5	5	0	62.5	62.5	125	62.7	62.7	125.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
	man lift	1	20	75		125	0.1		64.0	3	180	51	5	5	0	62.5	62.5	125	62.7	62.7	125.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
	generator	1	50	72		125	0.1		61.0	3	180	52	5	5	0	62.5	62.5	125	62.7	62.7	125.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
	welder / torch	1	40	73		125	0.1		62.0	3	180	52	5	5	0	62.5	62.5	125	62.7	62.7	125.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
	backhoe	1	40	78		125	0.1		67.0	3	180	57	5	5	0	62.5	62.5	125	62.7	62.7	125.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
									Total for Building Erection Phase:			**61.3**																
Architectural Coating	compressor (air)	1	40	78		125	0.1		67.0	8	480	61	5	5	0	62.5	62.5	125	62.7	62.7	125.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
									Total for Architectural Coating Phase:			**61.3**																
Paving	paver	1	50	77		50	0.1		76.9	3	180	68	5	5	0	25	25	50	25.5	25.5	50.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
	roller	1	20	80		50	0.1		79.9	3	180	67	5	5	0	25	25	50	25.5	25.5	50.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
	concrete mixer truck	1	40	79		50	0.1		78.9	3	180	69	5	5	0	25	25	50	25.5	25.5	50.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
									Total for Paving Phase:			**72.7**																

Appendix C

Traffic Noise Modeling Input and Output

Dudek					**18 October 2021**						
CB					**TNM 2.5**						
INPUT: ROADWAYS							**Average pavement type shall be used unless**				
PROJECT/CONTRACT:	**Cypress Canyon**						**a State highway agency substantiates the use**				
RUN:	**Cal**						**of a different type with the approval of FHWA**				
Roadway		**Points**									
Name	**Width**	**Name**	**No.**	**Coordinates (pavement)**			**Flow Control**			**Segment**	
				X	**Y**	**Z**	**Control Device**	**Speed Constraint**	**Percent Vehicles Affected**	**Pvmt Type**	**On Struct?**
	ft			ft	ft	ft		mph	%		
Cypress Valley Drive	40.0	point1	1	6,845,362.0	1,433,528.1	0.00				Average	
		point2	2	6,845,379.0	1,433,329.0	0.00				Average	
		point3	3	6,845,419.0	1,433,223.1	0.00				Average	
		point4	4	6,845,512.0	1,433,123.2	0.00				Average	
		point5	5	6,845,703.0	1,433,009.8	0.00				Average	
		point6	6	6,846,063.0	1,432,857.2	0.00				Average	
		point7	7	6,846,258.0	1,432,787.8	0.00				Average	
		point8	8	6,846,742.0	1,432,628.4	0.00					
Cypress Canyon Rd west	12.0	point9	9	6,846,839.5	1,433,373.9	0.00				Average	
		point10	10	6,846,775.5	1,433,394.6	0.00				Average	
		point11	11	6,846,623.5	1,433,418.9	0.00				Average	
		point12	12	6,846,567.0	1,433,416.0	0.00				Average	
		point13	13	6,846,439.5	1,433,412.2	0.00				Average	
		point14	14	6,846,320.0	1,433,432.0	0.00				Average	
		point15	15	6,846,092.5	1,433,516.1	0.00				Average	
		point16	16	6,845,951.0	1,433,537.5	0.00				Average	
		point17	17	6,845,779.5	1,433,537.0	0.00				Average	
		point18	18	6,845,503.0	1,433,533.5	0.00				Average	
		point19	19	6,845,273.5	1,433,553.1	0.00				Average	
		point20	20	6,845,071.0	1,433,602.9	0.00					
Angelique St	40.0	point21	21	6,846,648.0	1,434,408.5	0.00				Average	
		point22	22	6,846,724.5	1,434,066.4	0.00				Average	
		point23	23	6,846,778.0	1,433,727.6	0.00					
Cypress Canyon Park Rd	40.0	point26	26	6,846,801.5	1,433,797.6	0.00				Average	
		point27	27	6,846,857.0	1,433,805.6	-10.00				Average	

		point28	28	6,847,086.0	1,433,859.8	-20.00				Average	
		point29	29	6,847,256.5	1,433,913.1	-30.00				Average	
		point30	30	6,847,440.5	1,433,942.0	-20.00				Average	
		point31	31	6,847,553.0	1,433,944.6	-10.00				Average	
		point32	32	6,847,800.0	1,433,879.2	-5.00					
Cypress Canyon Rd east	40.0	point53	53	6,848,233.5	1,432,134.5	100.00				Average	
		point54	54	6,848,705.5	1,432,117.4	80.00				Average	
		point55	55	6,849,035.5	1,432,123.0	50.00					
Elderwood Ln	30.0	point56	56	6,846,366.0	1,432,104.5	120.00				Average	
		point57	57	6,846,540.5	1,431,987.9	130.00				Average	
		point58	58	6,846,602.5	1,431,939.9	140.00				Average	
		point59	59	6,846,633.5	1,431,906.8	155.00				Average	
		point60	60	6,846,684.5	1,431,806.9	165.00					
Spring Canyon Rd West	45.0	point61	61	6,849,404.5	1,431,314.0	100.00				Average	
		point62	62	6,849,121.5	1,431,294.2	110.00				Average	
		point63	63	6,848,943.5	1,431,293.2	120.00				Average	
		point64	64	6,848,750.5	1,431,308.6	130.00				Average	
		point65	65	6,848,568.0	1,431,344.1	140.00				Average	
		point66	66	6,848,413.5	1,431,387.5	150.00				Average	
		point67	67	6,848,132.5	1,431,487.5	150.00				Average	
		point68	68	6,847,866.0	1,431,581.6	150.00				Average	
		point69	69	6,847,663.0	1,431,655.5	150.00				Average	
		point70	70	6,847,387.5	1,431,752.0	150.00				Average	
		point71	71	6,847,167.0	1,431,822.4	155.00				Average	
		point72	72	6,847,078.0	1,431,834.8	160.00				Average	
		point73	73	6,847,005.0	1,431,837.6	165.00				Average	
		point74	74	6,846,827.0	1,431,825.2	165.00				Average	
		point75	75	6,846,549.5	1,431,738.6	170.00				Average	
		point76	76	6,846,269.5	1,431,641.4	170.00				Average	
		point77	77	6,846,048.5	1,431,616.0	170.00				Average	
		point78	78	6,845,854.5	1,431,617.4	175.00				Average	
		point79	79	6,845,493.5	1,431,715.0	175.00				Average	
		point80	80	6,845,013.5	1,431,848.1	175.00					
Spring Canyon Rd East	45.0	point81	81	6,844,996.0	1,431,808.0	175.00				Average	
		point82	82	6,845,322.5	1,431,716.1	175.00				Average	
		point83	83	6,845,442.0	1,431,689.4	175.00				Average	
		point84	84	6,845,576.5	1,431,647.2	175.00				Average	
		point85	85	6,845,698.0	1,431,616.1	175.00				Average	
		point86	86	6,845,832.5	1,431,585.5	175.00				Average	

		point87	87	6,845,932.0	1,431,574.6	175.00				Average	
		point88	88	6,846,078.0	1,431,572.8	175.00				Average	
		point89	89	6,846,202.0	1,431,592.2	175.00				Average	
		point90	90	6,846,261.0	1,431,610.1	170.00				Average	
		point91	91	6,846,361.0	1,431,638.8	170.00				Average	
		point92	92	6,846,489.0	1,431,675.6	170.00				Average	
		point93	93	6,846,613.0	1,431,714.9	165.00				Average	
		point94	94	6,846,712.5	1,431,741.5	165.00				Average	
		point95	95	6,846,790.5	1,431,765.5	165.00				Average	
		point96	96	6,846,902.0	1,431,788.8	165.00				Average	
		point97	97	6,846,979.0	1,431,795.2	165.00				Average	
		point98	98	6,847,065.0	1,431,798.4	165.00				Average	
		point99	99	6,847,102.5	1,431,791.6	165.00				Average	
		point100	100	6,847,169.5	1,431,783.9	160.00				Average	
		point101	101	6,847,265.5	1,431,750.4	155.00				Average	
		point102	102	6,847,387.5	1,431,705.2	150.00				Average	
		point103	103	6,847,553.5	1,431,645.6	150.00				Average	
		point104	104	6,847,729.5	1,431,583.6	150.00				Average	
		point105	105	6,847,921.5	1,431,518.6	150.00				Average	
		point106	106	6,848,060.5	1,431,468.6	150.00				Average	
		point107	107	6,848,275.5	1,431,394.9	150.00				Average	
		point108	108	6,848,397.5	1,431,352.8	150.00				Average	
		point109	109	6,848,522.5	1,431,317.6	145.00				Average	
		point110	110	6,848,679.0	1,431,281.2	140.00				Average	
		point111	111	6,848,791.0	1,431,266.5	130.00				Average	
		point112	112	6,848,918.0	1,431,248.2	120.00				Average	
		point113	113	6,849,082.5	1,431,247.6	110.00				Average	
		point114	114	6,849,379.5	1,431,268.2	100.00					
Cypress Canyon Park Rd-2	40.0	point115	115	6,849,062.0	1,432,149.2	60.00				Average	
		point48	48	6,849,088.5	1,431,960.2	60.00				Average	
		point49	49	6,849,159.5	1,431,800.0	75.00				Average	
		point50	50	6,849,239.5	1,431,728.1	85.00				Average	
		point51	51	6,849,335.0	1,431,612.5	95.00				Average	
		point52	52	6,849,418.5	1,431,369.1	100.00					
Cypress Canyon Park Rd-2	40.0	point116	116	6,847,800.0	1,433,879.2	-5.00				Average	
		point33	33	6,848,040.0	1,433,808.8	5.00				Average	
		point34	34	6,848,202.5	1,433,740.2	15.00				Average	
		point35	35	6,848,365.5	1,433,650.4	20.00				Average	
		point36	36	6,848,476.5	1,433,580.0	25.00				Average	

		point37	37	6,848,562.0	1,433,489.9	30.00				Average	
		point38	38	6,848,682.0	1,433,319.9	35.00				Average	
		point39	39	6,848,779.0	1,433,188.9	35.00				Average	
		point40	40	6,848,835.0	1,433,080.8	40.00				Average	
		point41	41	6,848,859.0	1,432,989.1	40.00				Average	
		point42	42	6,848,889.5	1,432,842.9	45.00				Average	
		point43	43	6,848,908.5	1,432,701.2	50.00				Average	
		point44	44	6,848,975.5	1,432,557.1	55.00				Average	
		point45	45	6,849,048.0	1,432,373.2	55.00				Average	
		point46	46	6,849,061.0	1,432,274.2	58.00				Average	
		point47	47	6,849,062.0	1,432,149.2	60.00					
Angelique St-2	40.0	point118	118	6,846,778.0	1,433,727.6	0.00				Average	
		point24	24	6,846,792.5	1,433,611.8	0.00				Average	
		point25	25	6,846,758.5	1,433,410.6	0.00					
Roadway13	12.0	point119	119	6,847,758.5	1,433,459.5	-5.00				Average	
		point120	120	6,847,886.0	1,433,809.9	-30.00					

Dudek				**18 October 2021**								
CB				**TNM 2.5**								
INPUT: TRAFFIC FOR LAeq1h Volumes												
PROJECT/CONTRACT:	**Cypress Canyon**											
RUN:	**Cal**											
Roadway	**Points**											
Name	**Name**	**No.**	**Segment**									
			Autos		**MTrucks**		**HTrucks**		**Buses**		**Motorcycles**	
			V	**S**	**V**	**S**	**V**	**S**	**V**	**S**	**V**	**S**
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
Cypress Valley Drive	point1	1	0	0	0	0	0	0	0	0	0	0
	point2	2	0	0	0	0	0	0	0	0	0	0
	point3	3	0	0	0	0	0	0	0	0	0	0
	point4	4	0	0	0	0	0	0	0	0	0	0
	point5	5	0	0	0	0	0	0	0	0	0	0
	point6	6	0	0	0	0	0	0	0	0	0	0
	point7	7	0	0	0	0	0	0	0	0	0	0
	point8	8										
Cypress Canyon Rd west	point9	9	248	25	5	25	2	25	0	0	0	0
	point10	10	248	25	5	25	2	25	0	0	0	0
	point11	11	248	25	5	25	2	25	0	0	0	0
	point12	12	248	25	5	25	2	25	0	0	0	0
	point13	13	248	25	5	25	2	25	0	0	0	0
	point14	14	248	25	5	25	2	25	0	0	0	0
	point15	15	248	25	5	25	2	25	0	0	0	0
	point16	16	248	25	5	25	2	25	0	0	0	0
	point17	17	248	25	5	25	2	25	0	0	0	0
	point18	18	248	25	5	25	2	25	0	0	0	0
	point19	19	248	25	5	25	2	25	0	0	0	0
	point20	20										
Angelique St	point21	21	136	25	2	25	1	25	0	0	0	0
	point22	22	136	25	2	25	1	25	0	0	0	0
	point23	23										

Cypress Canyon Park Rd	point26	26	129	25	2	25	1	25	0	0	0	0
	point27	27	129	25	2	25	1	25	0	0	0	0
	point28	28	129	25	2	25	1	25	0	0	0	0
	point29	29	129	25	2	25	1	25	0	0	0	0
	point30	30	129	25	2	25	1	25	0	0	0	0
	point31	31	129	25	2	25	1	25	0	0	0	0
	point32	32										
Cypress Canyon Rd east	point53	53	70	25	1	25	0	0	0	0	0	0
	point54	54	70	25	1	25	0	0	0	0	0	0
	point55	55										
Elderwood Ln	point56	56	0	0	0	0	0	0	0	0	0	0
	point57	57	0	0	0	0	0	0	0	0	0	0
	point58	58	0	0	0	0	0	0	0	0	0	0
	point59	59	0	0	0	0	0	0	0	0	0	0
	point60	60										
Spring Canyon Rd West	point61	61	430	45	8	45	4	45	0	0	0	0
	point62	62	430	45	8	45	4	45	0	0	0	0
	point63	63	430	45	8	45	4	45	0	0	0	0
	point64	64	430	45	8	45	4	45	0	0	0	0
	point65	65	430	45	8	45	4	45	0	0	0	0
	point66	66	430	45	8	45	4	45	0	0	0	0
	point67	67	430	45	8	45	4	45	0	0	0	0
	point68	68	430	45	8	45	4	45	0	0	0	0
	point69	69	430	45	8	45	4	45	0	0	0	0
	point70	70	430	45	8	45	4	45	0	0	0	0
	point71	71	430	45	8	45	4	45	0	0	0	0
	point72	72	430	45	8	45	4	45	0	0	0	0
	point73	73	430	45	8	45	4	45	0	0	0	0
	point74	74	430	45	8	45	4	45	0	0	0	0
	point75	75	430	45	8	45	4	45	0	0	0	0
	point76	76	430	45	8	45	4	45	0	0	0	0
	point77	77	430	45	8	45	4	45	0	0	0	0
	point78	78	430	45	8	45	4	45	0	0	0	0
	point79	79	430	45	8	45	4	45	0	0	0	0
	point80	80										
Spring Canyon Rd East	point81	81	430	45	8	45	4	45	0	0	0	0

	point82	82	430	45	8	45	4	45	0	0	0	0
	point83	83	430	45	8	45	4	45	0	0	0	0
	point84	84	430	45	8	45	4	45	0	0	0	0
	point85	85	430	45	8	45	4	45	0	0	0	0
	point86	86	430	45	8	45	4	45	0	0	0	0
	point87	87	430	45	8	45	4	45	0	0	0	0
	point88	88	430	45	8	45	4	45	0	0	0	0
	point89	89	430	45	8	45	4	45	0	0	0	0
	point90	90	430	45	8	45	4	45	0	0	0	0
	point91	91	430	45	8	45	4	45	0	0	0	0
	point92	92	430	45	8	45	4	45	0	0	0	0
	point93	93	430	45	8	45	4	45	0	0	0	0
	point94	94	430	45	8	45	4	45	0	0	0	0
	point95	95	430	45	8	45	4	45	0	0	0	0
	point96	96	430	45	8	45	4	45	0	0	0	0
	point97	97	430	45	8	45	4	45	0	0	0	0
	point98	98	430	45	8	45	4	45	0	0	0	0
	point99	99	430	45	8	45	4	45	0	0	0	0
	point100	100	430	45	8	45	4	45	0	0	0	0
	point101	101	430	45	8	45	4	45	0	0	0	0
	point102	102	430	45	8	45	4	45	0	0	0	0
	point103	103	430	45	8	45	4	45	0	0	0	0
	point104	104	430	45	8	45	4	45	0	0	0	0
	point105	105	430	45	8	45	4	45	0	0	0	0
	point106	106	430	45	8	45	4	45	0	0	0	0
	point107	107	430	45	8	45	4	45	0	0	0	0
	point108	108	430	45	8	45	4	45	0	0	0	0
	point109	109	430	45	8	45	4	45	0	0	0	0
	point110	110	430	45	8	45	4	45	0	0	0	0
	point111	111	430	45	8	45	4	45	0	0	0	0
	point112	112	430	45	8	45	4	45	0	0	0	0
	point113	113	430	45	8	45	4	45	0	0	0	0
	point114	114										
Cypress Canyon Park Rd-2	point115	115	325	25	6	25	3	25	0	0	0	0
	point48	48	325	25	6	25	3	25	0	0	0	0
	point49	49	325	25	6	25	3	25	0	0	0	0

	point50	50	325	25	6	25	3	25	0	0	0	0
	point51	51	325	25	6	25	3	25	0	0	0	0
	point52	52										
Cypress Canyon Park Rd-2	point116	116	177	25	0	25	1	25	0	0	0	0
	point33	33	177	25	3	25	1	25	0	0	0	0
	point34	34	177	25	3	25	1	25	0	0	0	0
	point35	35	177	25	3	25	1	25	0	0	0	0
	point36	36	177	25	3	25	1	25	0	0	0	0
	point37	37	177	25	3	25	1	25	0	0	0	0
	point38	38	177	25	3	25	1	25	0	0	0	0
	point39	39	177	25	3	25	1	25	0	0	0	0
	point40	40	177	25	3	25	1	25	0	0	0	0
	point41	41	177	25	3	25	1	25	0	0	0	0
	point42	42	177	25	3	25	1	25	0	0	0	0
	point43	43	177	25	3	25	1	25	0	0	0	0
	point44	44	177	25	3	25	1	25	0	0	0	0
	point45	45	177	25	3	25	1	25	0	0	0	0
	point46	46	177	25	3	25	1	25	0	0	0	0
	point47	47										
Angelique St-2	point118	118	159	25	3	25	1	25	0	0	0	0
	point24	24	159	25	3	25	1	25	0	0	0	0
	point25	25										
Roadway13	point119	119	23	25	0	0	0	0	0	0	0	0
	point120	120										

Dudek 18 October 2021
CB TNM 2.5

INPUT: RECEIVERS
PROJECT/CONTRACT: Cypress Canyon
RUN: Cal

Receiver Name	No.	#DUs	Coordinates (ground) X	Y	Z	Height above Ground	Input Sound Levels and Criteria: Existing LAeq1h	Impact Criteria LAeq1h	Impact Criteria Sub'l	NR Goal	Active in Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
ST1	1	1	6,846,733.5	1,431,833.0	165.00	4.92	63.90	66	10.0	8.0	Y
ST3	2	1	6,848,246.0	1,432,106.9	100.00	4.92	44.40	66	10.0	8.0	Y
ST4	3	1	6,847,735.5	1,433,467.5	-30.00	4.92	46.00	66	10.0	8.0	Y
ST2	4	1	6,846,837.0	1,432,585.2	0.00	4.92	41.20	66	10.0	8.0	Y
M65	6	1	6,846,961.5	1,433,088.5	62.00	4.92	0.00	66	10.0	8.0	Y
M23	7	1	6,848,145.0	1,432,173.5	95.00	4.92	0.00	66	10.0	8.0	Y
M11	8	1	6,847,435.5	1,432,422.9	100.00	4.92	0.00	66	10.0	8.0	Y
M97	9	1	6,847,800.0	1,433,418.0	-30.00	4.92	0.00	66	10.0	8.0	Y

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CB

18 October 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Cypress Canyon
RUN: Cal
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
ST1	1	1	63.9	67.0	66	3.1	10	Snd Lvl	67.0	0.0	8	-8.0
ST3	2	1	44.4	51.0	66	6.6	10	----	51.0	0.0	8	-8.0
ST4	3	1	46.0	40.8	66	-5.2	10	----	40.8	0.0	8	-8.0
ST2	4	1	41.2	41.0	66	-0.2	10	----	41.0	0.0	8	-8.0
M65	6	1	0.0	45.3	66	45.3	10	----	45.3	0.0	8	-8.0
M23	7	1	0.0	46.5	66	46.5	10	----	46.5	0.0	8	-8.0
M11	8	1	0.0	44.7	66	44.7	10	----	44.7	0.0	8	-8.0
M97	9	1	0.0	37.7	66	37.7	10	----	37.7	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction Min	Avg	Max
		dB	dB	dB
All Selected	8	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

Dudek 18 October 2021
CB TNM 2.5

INPUT: ROADWAYS
PROJECT/CONTRACT: Cypress Canyon
RUN: Cal

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA

Roadway Name	Width	Points Name	No.	Coordinates (pavement) X	Y	Z	Flow Control Control Device	Speed Constraint	Percent Vehicles Affected	Segment Pvmt Type	On Struct?
	ft			ft	ft	ft		mph	%		
Cypress Valley Drive	40.0	point1	1	6,845,362.0	1,433,528.1	0.00				Average	
		point2	2	6,845,379.0	1,433,329.0	0.00				Average	
		point3	3	6,845,419.0	1,433,223.1	0.00				Average	
		point4	4	6,845,512.0	1,433,123.2	0.00				Average	
		point5	5	6,845,703.0	1,433,009.8	0.00				Average	
		point6	6	6,846,063.0	1,432,857.2	0.00				Average	
		point7	7	6,846,258.0	1,432,787.8	0.00				Average	
		point8	8	6,846,742.0	1,432,628.4	0.00					
Cypress Canyon Rd west	12.0	point9	9	6,846,839.5	1,433,373.9	0.00				Average	
		point10	10	6,846,775.5	1,433,394.6	0.00				Average	
		point11	11	6,846,623.5	1,433,418.9	0.00				Average	
		point12	12	6,846,567.0	1,433,416.0	0.00				Average	
		point13	13	6,846,439.5	1,433,412.2	0.00				Average	
		point14	14	6,846,320.0	1,433,432.0	0.00				Average	
		point15	15	6,846,092.5	1,433,516.1	0.00				Average	
		point16	16	6,845,951.0	1,433,537.5	0.00				Average	
		point17	17	6,845,779.5	1,433,537.0	0.00				Average	
		point18	18	6,845,503.0	1,433,533.5	0.00				Average	
		point19	19	6,845,273.5	1,433,553.1	0.00				Average	
		point20	20	6,845,071.0	1,433,602.9	0.00					
Angelique St	40.0	point21	21	6,846,648.0	1,434,408.5	0.00				Average	
		point22	22	6,846,724.5	1,434,066.4	0.00				Average	
		point23	23	6,846,778.0	1,433,727.6	0.00					
Cypress Canyon Park Rd	40.0	point26	26	6,846,801.5	1,433,797.6	0.00				Average	
		point27	27	6,846,857.0	1,433,805.6	-10.00				Average	

		point28	28	6,847,086.0	1,433,859.8	-20.00				Average	
		point29	29	6,847,256.5	1,433,913.1	-30.00				Average	
		point30	30	6,847,440.5	1,433,942.0	-20.00				Average	
		point31	31	6,847,553.0	1,433,944.6	-10.00				Average	
		point32	32	6,847,800.0	1,433,879.2	-5.00					
Cypress Canyon Rd east	40.0	point53	53	6,848,233.5	1,432,134.5	100.00				Average	
		point54	54	6,848,705.5	1,432,117.4	80.00				Average	
		point55	55	6,849,035.5	1,432,123.0	50.00					
Elderwood Ln	30.0	point56	56	6,846,366.0	1,432,104.5	120.00				Average	
		point57	57	6,846,540.5	1,431,987.9	130.00				Average	
		point58	58	6,846,602.5	1,431,939.9	140.00				Average	
		point59	59	6,846,633.5	1,431,906.8	155.00				Average	
		point60	60	6,846,684.5	1,431,806.9	165.00					
Spring Canyon Rd West	45.0	point61	61	6,849,404.5	1,431,314.0	100.00				Average	
		point62	62	6,849,121.5	1,431,294.2	110.00				Average	
		point63	63	6,848,943.5	1,431,293.2	120.00				Average	
		point64	64	6,848,750.5	1,431,308.6	130.00				Average	
		point65	65	6,848,568.0	1,431,344.1	140.00				Average	
		point66	66	6,848,413.5	1,431,387.5	150.00				Average	
		point67	67	6,848,132.5	1,431,487.5	150.00				Average	
		point68	68	6,847,866.0	1,431,581.6	150.00				Average	
		point69	69	6,847,663.0	1,431,655.5	150.00				Average	
		point70	70	6,847,387.5	1,431,752.0	150.00				Average	
		point71	71	6,847,167.0	1,431,822.4	155.00				Average	
		point72	72	6,847,078.0	1,431,834.8	160.00				Average	
		point73	73	6,847,005.0	1,431,837.6	165.00				Average	
		point74	74	6,846,827.0	1,431,825.2	165.00				Average	
		point75	75	6,846,549.5	1,431,738.6	170.00				Average	
		point76	76	6,846,269.5	1,431,641.4	170.00				Average	
		point77	77	6,846,048.5	1,431,616.0	170.00				Average	
		point78	78	6,845,854.5	1,431,617.4	175.00				Average	
		point79	79	6,845,493.5	1,431,715.0	175.00				Average	
		point80	80	6,845,013.5	1,431,848.1	175.00					
Spring Canyon Rd East	45.0	point81	81	6,844,996.0	1,431,808.0	175.00				Average	
		point82	82	6,845,322.5	1,431,716.1	175.00				Average	
		point83	83	6,845,442.0	1,431,689.4	175.00				Average	
		point84	84	6,845,576.5	1,431,647.2	175.00				Average	
		point85	85	6,845,698.0	1,431,616.1	175.00				Average	
		point86	86	6,845,832.5	1,431,585.5	175.00				Average	

		point87	87	6,845,932.0	1,431,574.6	175.00				Average	
		point88	88	6,846,078.0	1,431,572.8	175.00				Average	
		point89	89	6,846,202.0	1,431,592.2	175.00				Average	
		point90	90	6,846,261.0	1,431,610.1	170.00				Average	
		point91	91	6,846,361.0	1,431,638.8	170.00				Average	
		point92	92	6,846,489.0	1,431,675.6	170.00				Average	
		point93	93	6,846,613.0	1,431,714.9	165.00				Average	
		point94	94	6,846,712.5	1,431,741.5	165.00				Average	
		point95	95	6,846,790.5	1,431,765.5	165.00				Average	
		point96	96	6,846,902.0	1,431,788.8	165.00				Average	
		point97	97	6,846,979.0	1,431,795.2	165.00				Average	
		point98	98	6,847,065.0	1,431,798.4	165.00				Average	
		point99	99	6,847,102.5	1,431,791.6	165.00				Average	
		point100	100	6,847,169.5	1,431,783.9	160.00				Average	
		point101	101	6,847,265.5	1,431,750.4	155.00				Average	
		point102	102	6,847,387.5	1,431,705.2	150.00				Average	
		point103	103	6,847,553.5	1,431,645.6	150.00				Average	
		point104	104	6,847,729.5	1,431,583.6	150.00				Average	
		point105	105	6,847,921.5	1,431,518.6	150.00				Average	
		point106	106	6,848,060.5	1,431,468.6	150.00				Average	
		point107	107	6,848,275.5	1,431,394.9	150.00				Average	
		point108	108	6,848,397.5	1,431,352.8	150.00				Average	
		point109	109	6,848,522.5	1,431,317.6	145.00				Average	
		point110	110	6,848,679.0	1,431,281.2	140.00				Average	
		point111	111	6,848,791.0	1,431,266.5	130.00				Average	
		point112	112	6,848,918.0	1,431,248.2	120.00				Average	
		point113	113	6,849,082.5	1,431,247.6	110.00				Average	
		point114	114	6,849,379.5	1,431,268.2	100.00					
Cypress Canyon Park Rd-2	40.0	point115	115	6,849,062.0	1,432,149.2	60.00				Average	
		point48	48	6,849,088.5	1,431,960.2	60.00				Average	
		point49	49	6,849,159.5	1,431,800.0	75.00				Average	
		point50	50	6,849,239.5	1,431,728.1	85.00				Average	
		point51	51	6,849,335.0	1,431,612.5	95.00				Average	
		point52	52	6,849,418.5	1,431,369.1	100.00					
Cypress Canyon Park Rd-2	40.0	point116	116	6,847,800.0	1,433,879.2	-5.00				Average	
		point33	33	6,848,040.0	1,433,808.8	5.00				Average	
		point34	34	6,848,202.5	1,433,740.2	15.00				Average	
		point35	35	6,848,365.5	1,433,650.4	20.00				Average	
		point36	36	6,848,476.5	1,433,580.0	25.00				Average	

		point37	37	6,848,562.0	1,433,489.9	30.00				Average	
		point38	38	6,848,682.0	1,433,319.9	35.00				Average	
		point39	39	6,848,779.0	1,433,188.9	35.00				Average	
		point40	40	6,848,835.0	1,433,080.8	40.00				Average	
		point41	41	6,848,859.0	1,432,989.1	40.00				Average	
		point42	42	6,848,889.5	1,432,842.9	45.00				Average	
		point43	43	6,848,908.5	1,432,701.2	50.00				Average	
		point44	44	6,848,975.5	1,432,557.1	55.00				Average	
		point45	45	6,849,048.0	1,432,373.2	55.00				Average	
		point46	46	6,849,061.0	1,432,274.2	58.00				Average	
		point47	47	6,849,062.0	1,432,149.2	60.00					
Angelique St-2	40.0	point118	118	6,846,778.0	1,433,727.6	0.00				Average	
		point24	24	6,846,792.5	1,433,611.8	0.00				Average	
		point25	25	6,846,758.5	1,433,410.6	0.00					
Roadway13	12.0	point119	119	6,847,758.5	1,433,459.5	-5.00				Average	
		point120	120	6,847,886.0	1,433,809.9	-30.00					

Dudek				**18 October 2021**								
CB				**TNM 2.5**								
INPUT: TRAFFIC FOR LAeq1h Volumes												
PROJECT/CONTRACT:	**Cypress Canyon**											
RUN:	**Cal**											
Roadway	**Points**											
Name	**Name**	**No.**	**Segment**									
			Autos		**MTrucks**		**HTrucks**		**Buses**		**Motorcycles**	
			V	**S**	**V**	**S**	**V**	**S**	**V**	**S**	**V**	**S**
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
Cypress Valley Drive	point1	1	0	0	0	0	0	0	0	0	0	0
	point2	2	0	0	0	0	0	0	0	0	0	0
	point3	3	0	0	0	0	0	0	0	0	0	0
	point4	4	0	0	0	0	0	0	0	0	0	0
	point5	5	0	0	0	0	0	0	0	0	0	0
	point6	6	0	0	0	0	0	0	0	0	0	0
	point7	7	0	0	0	0	0	0	0	0	0	0
	point8	8										
Cypress Canyon Rd west	point9	9	284	25	5	25	2	25	0	0	0	0
	point10	10	284	25	5	25	2	25	0	0	0	0
	point11	11	284	25	5	25	2	25	0	0	0	0
	point12	12	284	25	5	25	2	25	0	0	0	0
	point13	13	284	25	5	25	2	25	0	0	0	0
	point14	14	284	25	5	25	2	25	0	0	0	0
	point15	15	284	25	5	25	2	25	0	0	0	0
	point16	16	284	25	5	25	2	25	0	0	0	0
	point17	17	284	25	5	25	2	25	0	0	0	0
	point18	18	284	25	5	25	2	25	0	0	0	0
	point19	19	284	25	5	25	2	25	0	0	0	0
	point20	20										
Angelique St	point21	21	175	25	3	25	1	25	0	0	0	0
	point22	22	175	25	3	25	1	25	0	0	0	0
	point23	23										

Cypress Canyon Park Rd	point26	26	132	25	2	25	1	25	0	0	0	0
	point27	27	132	25	2	25	1	25	0	0	0	0
	point28	28	132	25	2	25	1	25	0	0	0	0
	point29	29	132	25	2	25	1	25	0	0	0	0
	point30	30	132	25	2	25	1	25	0	0	0	0
	point31	31	132	25	2	25	1	25	0	0	0	0
	point32	32										
Cypress Canyon Rd east	point53	53	100	25	2	25	1	25	0	0	0	0
	point54	54	100	25	2	25	1	25	0	0	0	0
	point55	55										
Elderwood Ln	point56	56	0	0	0	0	0	0	0	0	0	0
	point57	57	0	0	0	0	0	0	0	0	0	0
	point58	58	0	0	0	0	0	0	0	0	0	0
	point59	59	0	0	0	0	0	0	0	0	0	0
	point60	60										
Spring Canyon Rd West	point61	61	430	45	8	45	4	45	0	0	0	0
	point62	62	430	45	8	45	4	45	0	0	0	0
	point63	63	430	45	8	45	4	45	0	0	0	0
	point64	64	430	45	8	45	4	45	0	0	0	0
	point65	65	430	45	8	45	4	45	0	0	0	0
	point66	66	430	45	8	45	4	45	0	0	0	0
	point67	67	430	45	8	45	4	45	0	0	0	0
	point68	68	430	45	8	45	4	45	0	0	0	0
	point69	69	430	45	8	45	4	45	0	0	0	0
	point70	70	430	45	8	45	4	45	0	0	0	0
	point71	71	430	45	8	45	4	45	0	0	0	0
	point72	72	430	45	8	45	4	45	0	0	0	0
	point73	73	430	45	8	45	4	45	0	0	0	0
	point74	74	430	45	8	45	4	45	0	0	0	0
	point75	75	430	45	8	45	4	45	0	0	0	0
	point76	76	430	45	8	45	4	45	0	0	0	0
	point77	77	430	45	8	45	4	45	0	0	0	0
	point78	78	430	45	8	45	4	45	0	0	0	0
	point79	79	430	45	8	45	4	45	0	0	0	0
	point80	80										
Spring Canyon Rd East	point81	81	430	45	8	45	4	45	0	0	0	0

	point82	82	430	45	8	45	4	45	0	0	0	0
	point83	83	430	45	8	45	4	45	0	0	0	0
	point84	84	430	45	8	45	4	45	0	0	0	0
	point85	85	430	45	8	45	4	45	0	0	0	0
	point86	86	430	45	8	45	4	45	0	0	0	0
	point87	87	430	45	8	45	4	45	0	0	0	0
	point88	88	430	45	8	45	4	45	0	0	0	0
	point89	89	430	45	8	45	4	45	0	0	0	0
	point90	90	430	45	8	45	4	45	0	0	0	0
	point91	91	430	45	8	45	4	45	0	0	0	0
	point92	92	430	45	8	45	4	45	0	0	0	0
	point93	93	430	45	8	45	4	45	0	0	0	0
	point94	94	430	45	8	45	4	45	0	0	0	0
	point95	95	430	45	8	45	4	45	0	0	0	0
	point96	96	430	45	8	45	4	45	0	0	0	0
	point97	97	430	45	8	45	4	45	0	0	0	0
	point98	98	430	45	8	45	4	45	0	0	0	0
	point99	99	430	45	8	45	4	45	0	0	0	0
	point100	100	430	45	8	45	4	45	0	0	0	0
	point101	101	430	45	8	45	4	45	0	0	0	0
	point102	102	430	45	8	45	4	45	0	0	0	0
	point103	103	430	45	8	45	4	45	0	0	0	0
	point104	104	430	45	8	45	4	45	0	0	0	0
	point105	105	430	45	8	45	4	45	0	0	0	0
	point106	106	430	45	8	45	4	45	0	0	0	0
	point107	107	430	45	8	45	4	45	0	0	0	0
	point108	108	430	45	8	45	4	45	0	0	0	0
	point109	109	430	45	8	45	4	45	0	0	0	0
	point110	110	430	45	8	45	4	45	0	0	0	0
	point111	111	430	45	8	45	4	45	0	0	0	0
	point112	112	430	45	8	45	4	45	0	0	0	0
	point113	113	430	45	8	45	4	45	0	0	0	0
	point114	114										
Cypress Canyon Park Rd-2	point115	115	357	25	7	25	3	25	0	0	0	0
	point48	48	357	25	7	25	3	25	0	0	0	0
	point49	49	357	25	7	25	3	25	0	0	0	0

	point50	50	357	25	7	25	3	25	0	0	0	0
	point51	51	357	25	7	25	3	25	0	0	0	0
	point52	52										
Cypress Canyon Park Rd-2	point116	116	179	25	3	25	1	25	0	0	0	0
	point33	33	179	25	3	25	1	25	0	0	0	0
	point34	34	179	25	3	25	1	25	0	0	0	0
	point35	35	179	25	3	25	1	25	0	0	0	0
	point36	36	179	25	3	25	1	25	0	0	0	0
	point37	37	179	25	3	25	1	25	0	0	0	0
	point38	38	179	25	3	25	1	25	0	0	0	0
	point39	39	179	25	3	25	1	25	0	0	0	0
	point40	40	179	25	3	25	1	25	0	0	0	0
	point41	41	179	25	3	25	1	25	0	0	0	0
	point42	42	179	25	3	25	1	25	0	0	0	0
	point43	43	179	25	3	25	1	25	0	0	0	0
	point44	44	179	25	3	25	1	25	0	0	0	0
	point45	45	179	25	3	25	1	25	0	0	0	0
	point46	46	179	25	3	25	1	25	0	0	0	0
	point47	47										
Angelique St-2	point118	118	194	25	4	25	2	25	0	0	0	0
	point24	24	194	25	4	25	2	25	0	0	0	0
	point25	25										
Roadway13	point119	119	28	25	0	0	0	0	0	0	0	0
	point120	120										

Dudek 18 October 2021
CB TNM 2.5

INPUT: RECEIVERS
PROJECT/CONTRACT: Cypress Canyon
RUN: Cal

Receiver Name	No.	#DUs	Coordinates (ground) X	Y	Z	Height above Ground	Input Sound Levels and Criteria: Existing LAeq1h	Impact Criteria LAeq1h	Impact Criteria Sub'l	NR Goal	Active in Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
ST1	1	1	6,846,733.5	1,431,833.0	165.00	4.92	63.90	66	10.0	8.0	Y
ST3	2	1	6,848,246.0	1,432,106.9	100.00	4.92	44.40	66	10.0	8.0	Y
ST4	3	1	6,847,735.5	1,433,467.5	-30.00	4.92	46.00	66	10.0	8.0	Y
ST2	4	1	6,846,837.0	1,432,585.2	0.00	4.92	41.20	66	10.0	8.0	Y
M65	6	1	6,846,961.5	1,433,088.5	62.00	4.92	0.00	66	10.0	8.0	Y
M23	7	1	6,848,145.0	1,432,173.5	95.00	4.92	0.00	66	10.0	8.0	Y
M11	8	1	6,847,435.5	1,432,422.9	100.00	4.92	0.00	66	10.0	8.0	Y
M97	9	1	6,847,800.0	1,433,418.0	-30.00	4.92	0.00	66	10.0	8.0	Y

Dudek
CB

18 October 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Cypress Canyon
RUN: Cal
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
ST1	1	1	63.9	67.0	66	3.1	10	Snd Lvl	67.0	0.0	8	-8.0
ST3	2	1	44.4	53.3	66	8.9	10	----	53.3	0.0	8	-8.0
ST4	3	1	46.0	41.1	66	-4.9	10	----	41.1	0.0	8	-8.0
ST2	4	1	41.2	41.1	66	-0.1	10	----	41.1	0.0	8	-8.0
M65	6	1	0.0	45.6	66	45.6	10	----	45.6	0.0	8	-8.0
M23	7	1	0.0	47.3	66	47.3	10	----	47.3	0.0	8	-8.0
M11	8	1	0.0	44.8	66	44.8	10	----	44.8	0.0	8	-8.0
M97	9	1	0.0	38.1	66	38.1	10	----	38.1	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction Min	Avg	Max
		dB	dB	dB
All Selected	8	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

Dudek					**18 October 2021**						
CB					**TNM 2.5**						
INPUT: ROADWAYS							**Average pavement type shall be used unless**				
PROJECT/CONTRACT:	**Cypress Canyon**						**a State highway agency substantiates the use**				
RUN:	**Cal**						**of a different type with the approval of FHWA**				
Roadway		**Points**									
Name	**Width**	**Name**	**No.**	**Coordinates (pavement)**			**Flow Control**			**Segment**	
				X	**Y**	**Z**	**Control Device**	**Speed Constraint**	**Percent Vehicles Affected**	**Pvmt Type**	**On Struct?**
	ft			ft	ft	ft		mph	%		
Cypress Valley Drive	40.0	point1	1	6,845,362.0	1,433,528.1	0.00				Average	
		point2	2	6,845,379.0	1,433,329.0	0.00				Average	
		point3	3	6,845,419.0	1,433,223.1	0.00				Average	
		point4	4	6,845,512.0	1,433,123.2	0.00				Average	
		point5	5	6,845,703.0	1,433,009.8	0.00				Average	
		point6	6	6,846,063.0	1,432,857.2	0.00				Average	
		point7	7	6,846,258.0	1,432,787.8	0.00				Average	
		point8	8	6,846,742.0	1,432,628.4	0.00					
Cypress Canyon Rd west	12.0	point9	9	6,846,839.5	1,433,373.9	0.00				Average	
		point10	10	6,846,775.5	1,433,394.6	0.00				Average	
		point11	11	6,846,623.5	1,433,418.9	0.00				Average	
		point12	12	6,846,567.0	1,433,416.0	0.00				Average	
		point13	13	6,846,439.5	1,433,412.2	0.00				Average	
		point14	14	6,846,320.0	1,433,432.0	0.00				Average	
		point15	15	6,846,092.5	1,433,516.1	0.00				Average	
		point16	16	6,845,951.0	1,433,537.5	0.00				Average	
		point17	17	6,845,779.5	1,433,537.0	0.00				Average	
		point18	18	6,845,503.0	1,433,533.5	0.00				Average	
		point19	19	6,845,273.5	1,433,553.1	0.00				Average	
		point20	20	6,845,071.0	1,433,602.9	0.00					
Angelique St	40.0	point21	21	6,846,648.0	1,434,408.5	0.00				Average	
		point22	22	6,846,724.5	1,434,066.4	0.00				Average	
		point23	23	6,846,778.0	1,433,727.6	0.00					
Cypress Canyon Park Rd	40.0	point26	26	6,846,801.5	1,433,797.6	0.00				Average	
		point27	27	6,846,857.0	1,433,805.6	-10.00				Average	

		point28	28	6,847,086.0	1,433,859.8	-20.00				Average	
		point29	29	6,847,256.5	1,433,913.1	-30.00				Average	
		point30	30	6,847,440.5	1,433,942.0	-20.00				Average	
		point31	31	6,847,553.0	1,433,944.6	-10.00				Average	
		point32	32	6,847,800.0	1,433,879.2	-5.00					
Cypress Canyon Rd east	40.0	point53	53	6,848,233.5	1,432,134.5	100.00				Average	
		point54	54	6,848,705.5	1,432,117.4	80.00				Average	
		point55	55	6,849,035.5	1,432,123.0	50.00					
Elderwood Ln	30.0	point56	56	6,846,366.0	1,432,104.5	120.00				Average	
		point57	57	6,846,540.5	1,431,987.9	130.00				Average	
		point58	58	6,846,602.5	1,431,939.9	140.00				Average	
		point59	59	6,846,633.5	1,431,906.8	155.00				Average	
		point60	60	6,846,684.5	1,431,806.9	165.00					
Spring Canyon Rd West	45.0	point61	61	6,849,404.5	1,431,314.0	100.00				Average	
		point62	62	6,849,121.5	1,431,294.2	110.00				Average	
		point63	63	6,848,943.5	1,431,293.2	120.00				Average	
		point64	64	6,848,750.5	1,431,308.6	130.00				Average	
		point65	65	6,848,568.0	1,431,344.1	140.00				Average	
		point66	66	6,848,413.5	1,431,387.5	150.00				Average	
		point67	67	6,848,132.5	1,431,487.5	150.00				Average	
		point68	68	6,847,866.0	1,431,581.6	150.00				Average	
		point69	69	6,847,663.0	1,431,655.5	150.00				Average	
		point70	70	6,847,387.5	1,431,752.0	150.00				Average	
		point71	71	6,847,167.0	1,431,822.4	155.00				Average	
		point72	72	6,847,078.0	1,431,834.8	160.00				Average	
		point73	73	6,847,005.0	1,431,837.6	165.00				Average	
		point74	74	6,846,827.0	1,431,825.2	165.00				Average	
		point75	75	6,846,549.5	1,431,738.6	170.00				Average	
		point76	76	6,846,269.5	1,431,641.4	170.00				Average	
		point77	77	6,846,048.5	1,431,616.0	170.00				Average	
		point78	78	6,845,854.5	1,431,617.4	175.00				Average	
		point79	79	6,845,493.5	1,431,715.0	175.00				Average	
		point80	80	6,845,013.5	1,431,848.1	175.00					
Spring Canyon Rd East	45.0	point81	81	6,844,996.0	1,431,808.0	175.00				Average	
		point82	82	6,845,322.5	1,431,716.1	175.00				Average	
		point83	83	6,845,442.0	1,431,689.4	175.00				Average	
		point84	84	6,845,576.5	1,431,647.2	175.00				Average	
		point85	85	6,845,698.0	1,431,616.1	175.00				Average	
		point86	86	6,845,832.5	1,431,585.5	175.00				Average	

		point87	87	6,845,932.0	1,431,574.6	175.00				Average	
		point88	88	6,846,078.0	1,431,572.8	175.00				Average	
		point89	89	6,846,202.0	1,431,592.2	175.00				Average	
		point90	90	6,846,261.0	1,431,610.1	170.00				Average	
		point91	91	6,846,361.0	1,431,638.8	170.00				Average	
		point92	92	6,846,489.0	1,431,675.6	170.00				Average	
		point93	93	6,846,613.0	1,431,714.9	165.00				Average	
		point94	94	6,846,712.5	1,431,741.5	165.00				Average	
		point95	95	6,846,790.5	1,431,765.5	165.00				Average	
		point96	96	6,846,902.0	1,431,788.8	165.00				Average	
		point97	97	6,846,979.0	1,431,795.2	165.00				Average	
		point98	98	6,847,065.0	1,431,798.4	165.00				Average	
		point99	99	6,847,102.5	1,431,791.6	165.00				Average	
		point100	100	6,847,169.5	1,431,783.9	160.00				Average	
		point101	101	6,847,265.5	1,431,750.4	155.00				Average	
		point102	102	6,847,387.5	1,431,705.2	150.00				Average	
		point103	103	6,847,553.5	1,431,645.6	150.00				Average	
		point104	104	6,847,729.5	1,431,583.6	150.00				Average	
		point105	105	6,847,921.5	1,431,518.6	150.00				Average	
		point106	106	6,848,060.5	1,431,468.6	150.00				Average	
		point107	107	6,848,275.5	1,431,394.9	150.00				Average	
		point108	108	6,848,397.5	1,431,352.8	150.00				Average	
		point109	109	6,848,522.5	1,431,317.6	145.00				Average	
		point110	110	6,848,679.0	1,431,281.2	140.00				Average	
		point111	111	6,848,791.0	1,431,266.5	130.00				Average	
		point112	112	6,848,918.0	1,431,248.2	120.00				Average	
		point113	113	6,849,082.5	1,431,247.6	110.00				Average	
		point114	114	6,849,379.5	1,431,268.2	100.00					
Cypress Canyon Park Rd-2	40.0	point115	115	6,849,062.0	1,432,149.2	60.00				Average	
		point48	48	6,849,088.5	1,431,960.2	60.00				Average	
		point49	49	6,849,159.5	1,431,800.0	75.00				Average	
		point50	50	6,849,239.5	1,431,728.1	85.00				Average	
		point51	51	6,849,335.0	1,431,612.5	95.00				Average	
		point52	52	6,849,418.5	1,431,369.1	100.00					
Cypress Canyon Park Rd-2	40.0	point116	116	6,847,800.0	1,433,879.2	-5.00				Average	
		point33	33	6,848,040.0	1,433,808.8	5.00				Average	
		point34	34	6,848,202.5	1,433,740.2	15.00				Average	
		point35	35	6,848,365.5	1,433,650.4	20.00				Average	
		point36	36	6,848,476.5	1,433,580.0	25.00				Average	

		point37	37	6,848,562.0	1,433,489.9	30.00				Average	
		point38	38	6,848,682.0	1,433,319.9	35.00				Average	
		point39	39	6,848,779.0	1,433,188.9	35.00				Average	
		point40	40	6,848,835.0	1,433,080.8	40.00				Average	
		point41	41	6,848,859.0	1,432,989.1	40.00				Average	
		point42	42	6,848,889.5	1,432,842.9	45.00				Average	
		point43	43	6,848,908.5	1,432,701.2	50.00				Average	
		point44	44	6,848,975.5	1,432,557.1	55.00				Average	
		point45	45	6,849,048.0	1,432,373.2	55.00				Average	
		point46	46	6,849,061.0	1,432,274.2	58.00				Average	
		point47	47	6,849,062.0	1,432,149.2	60.00					
Angelique St-2	40.0	point118	118	6,846,778.0	1,433,727.6	0.00				Average	
		point24	24	6,846,792.5	1,433,611.8	0.00				Average	
		point25	25	6,846,758.5	1,433,410.6	0.00					
Roadway13	12.0	point119	119	6,847,758.5	1,433,459.5	-5.00				Average	
		point120	120	6,847,886.0	1,433,809.9	-30.00					

Dudek				**18 October 2021**								
CB				**TNM 2.5**								
INPUT: TRAFFIC FOR LAeq1h Volumes												
PROJECT/CONTRACT:	**Cypress Canyon**											
RUN:	**Cal**											
Roadway	**Points**											
Name	**Name**	**No.**	**Segment**									
			Autos		**MTrucks**		**HTrucks**		**Buses**		**Motorcycles**	
			V	**S**	**V**	**S**	**V**	**S**	**V**	**S**	**V**	**S**
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
Cypress Valley Drive	point1	1	0	0	0	0	0	0	0	0	0	0
	point2	2	0	0	0	0	0	0	0	0	0	0
	point3	3	0	0	0	0	0	0	0	0	0	0
	point4	4	0	0	0	0	0	0	0	0	0	0
	point5	5	0	0	0	0	0	0	0	0	0	0
	point6	6	0	0	0	0	0	0	0	0	0	0
	point7	7	0	0	0	0	0	0	0	0	0	0
	point8	8										
Cypress Canyon Rd west	point9	9	271	25	5	25	2	25	0	0	0	0
	point10	10	271	25	5	25	2	25	0	0	0	0
	point11	11	271	25	5	25	2	25	0	0	0	0
	point12	12	271	25	5	25	2	25	0	0	0	0
	point13	13	271	25	5	25	2	25	0	0	0	0
	point14	14	271	25	5	25	2	25	0	0	0	0
	point15	15	271	25	5	25	2	25	0	0	0	0
	point16	16	271	25	5	25	2	25	0	0	0	0
	point17	17	271	25	5	25	2	25	0	0	0	0
	point18	18	271	25	5	25	2	25	0	0	0	0
	point19	19	271	25	5	25	2	25	0	0	0	0
	point20	20										
Angelique St	point21	21	212	25	4	25	2	25	0	0	0	0
	point22	22	212	25	4	25	2	25	0	0	0	0
	point23	23										

Cypress Canyon Park Rd	point26	26	90	25	1	25	1	25	0	0	0	0
	point27	27	90	25	1	25	1	25	0	0	0	0
	point28	28	90	25	1	25	1	25	0	0	0	0
	point29	29	90	25	1	25	1	25	0	0	0	0
	point30	30	90	25	1	25	1	25	0	0	0	0
	point31	31	90	25	1	25	1	25	0	0	0	0
	point32	32										
Cypress Canyon Rd east	point53	53	198	25	4	25	2	25	0	0	0	0
	point54	54	198	25	4	25	2	25	0	0	0	0
	point55	55										
Elderwood Ln	point56	56	0	0	0	0	0	0	0	0	0	0
	point57	57	0	0	0	0	0	0	0	0	0	0
	point58	58	0	0	0	0	0	0	0	0	0	0
	point59	59	0	0	0	0	0	0	0	0	0	0
	point60	60										
Spring Canyon Rd West	point61	61	451	45	9	45	4	45	0	0	0	0
	point62	62	451	45	9	45	4	45	0	0	0	0
	point63	63	451	45	9	45	4	45	0	0	0	0
	point64	64	451	45	9	45	4	45	0	0	0	0
	point65	65	451	45	9	45	4	45	0	0	0	0
	point66	66	451	45	9	45	4	45	0	0	0	0
	point67	67	451	45	9	45	4	45	0	0	0	0
	point68	68	451	45	9	45	4	45	0	0	0	0
	point69	69	451	45	9	45	4	45	0	0	0	0
	point70	70	451	45	9	45	4	45	0	0	0	0
	point71	71	451	45	9	0	4	45	0	0	0	0
	point72	72	451	45	9	45	4	45	0	0	0	0
	point73	73	451	45	9	45	4	45	0	0	0	0
	point74	74	451	45	9	45	4	45	0	0	0	0
	point75	75	451	45	9	45	4	45	0	0	0	0
	point76	76	451	45	9	45	4	45	0	0	0	0
	point77	77	451	45	9	45	4	45	0	0	0	0
	point78	78	451	45	9	45	4	45	0	0	0	0
	point79	79	451	45	9	45	4	45	0	0	0	0
	point80	80										
Spring Canyon Rd East	point81	81	451	45	9	45	4	45	0	0	0	0

	point82	82	451	45	9	45	4	45	0	0	0	0
	point83	83	451	45	9	45	4	45	0	0	0	0
	point84	84	451	45	9	45	4	45	0	0	0	0
	point85	85	451	45	9	45	4	45	0	0	0	0
	point86	86	451	45	9	45	4	45	0	0	0	0
	point87	87	451	45	9	45	4	45	0	0	0	0
	point88	88	451	45	9	45	4	45	0	0	0	0
	point89	89	451	45	9	45	4	45	0	0	0	0
	point90	90	451	45	9	45	4	45	0	0	0	0
	point91	91	451	45	9	45	4	45	0	0	0	0
	point92	92	451	45	9	45	4	45	0	0	0	0
	point93	93	451	45	9	45	4	45	0	0	0	0
	point94	94	451	45	9	45	4	45	0	0	0	0
	point95	95	451	45	9	45	4	45	0	0	0	0
	point96	96	451	45	9	45	4	45	0	0	0	0
	point97	97	451	45	9	45	4	45	0	0	0	0
	point98	98	451	45	9	45	4	45	0	0	0	0
	point99	99	451	45	9	45	4	45	0	0	0	0
	point100	100	451	45	9	45	4	45	0	0	0	0
	point101	101	451	45	9	45	4	45	0	0	0	0
	point102	102	451	45	9	45	4	45	0	0	0	0
	point103	103	451	45	9	45	4	45	0	0	0	0
	point104	104	451	45	9	45	4	45	0	0	0	0
	point105	105	451	45	9	45	4	45	0	0	0	0
	point106	106	451	45	9	45	4	45	0	0	0	0
	point107	107	451	45	9	45	4	45	0	0	0	0
	point108	108	451	45	9	45	4	45	0	0	0	0
	point109	109	451	45	9	45	4	45	0	0	0	0
	point110	110	451	45	9	45	4	45	0	0	0	0
	point111	111	451	45	9	45	4	45	0	0	0	0
	point112	112	451	45	9	45	4	45	0	0	0	0
	point113	113	451	45	9	45	4	45	0	0	0	0
	point114	114										
Cypress Canyon Park Rd-2	point115	115	412	25	8	25	4	25	0	0	0	0
	point48	48	412	25	8	25	4	25	0	0	0	0
	point49	49	412	25	8	25	4	25	0	0	0	0

	point50	50	412	25	8	25	4	25	0	0	0	0
	point51	51	412	25	8	25	4	25	0	0	0	0
	point52	52										
Cypress Canyon Park Rd-2	point116	116	140	25	2	25	1	25	0	0	0	0
	point33	33	140	25	2	25	1	25	0	0	0	0
	point34	34	140	25	2	25	1	25	0	0	0	0
	point35	35	140	25	2	25	1	25	0	0	0	0
	point36	36	140	25	2	25	1	25	0	0	0	0
	point37	37	140	25	2	25	1	25	0	0	0	0
	point38	38	140	25	2	25	1	25	0	0	0	0
	point39	39	140	25	2	25	1	25	0	0	0	0
	point40	40	140	25	2	25	1	25	0	0	0	0
	point41	41	140	25	2	25	1	25	0	0	0	0
	point42	42	140	25	2	25	1	25	0	0	0	0
	point43	43	140	25	2	25	1	25	0	0	0	0
	point44	44	140	25	2	25	1	25	0	0	0	0
	point45	45	140	25	2	25	1	25	0	0	0	0
	point46	46	140	25	2	25	1	25	0	0	0	0
	point47	47										
Angelique St-2	point118	118	231	25	4	25	2	25	0	0	0	0
	point24	24	231	25	4	25	2	25	0	0	0	0
	point25	25										
Roadway13	point119	119	24	25	0	0	0	0	0	0	0	0
	point120	120										

Dudek 18 October 2021
CB TNM 2.5

INPUT: RECEIVERS
PROJECT/CONTRACT: Cypress Canyon
RUN: Cal

Receiver Name	No.	#DUs	Coordinates (ground) X	Y	Z	Height above Ground	Input Sound Levels and Criteria: Existing LAeq1h	Impact Criteria LAeq1h	Impact Criteria Sub'l	NR Goal	Active in Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
ST1	1	1	6,846,733.5	1,431,833.0	165.00	4.92	63.90	66	10.0	8.0	Y
ST3	2	1	6,848,246.0	1,432,106.9	100.00	4.92	44.40	66	10.0	8.0	Y
ST4	3	1	6,847,735.5	1,433,467.5	-30.00	4.92	46.00	66	10.0	8.0	Y
ST2	4	1	6,846,837.0	1,432,585.2	0.00	4.92	41.20	66	10.0	8.0	Y
M65	6	1	6,846,961.5	1,433,088.5	62.00	4.92	0.00	66	10.0	8.0	Y
M23	7	1	6,848,145.0	1,432,173.5	95.00	4.92	0.00	66	10.0	8.0	Y
M11	8	1	6,847,435.5	1,432,422.9	100.00	4.92	0.00	66	10.0	8.0	Y
M97	9	1	6,847,800.0	1,433,418.0	-30.00	4.92	0.00	66	10.0	8.0	Y

Dudek
CB

18 October 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Cypress Canyon
RUN: Cal
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
ST1	1	1	63.9	67.2	66	3.3	10	Snd Lvl	67.2	0.0	8	-8.0
ST3	2	1	44.4	55.9	66	11.5	10	Sub'l Inc	55.9	0.0	8	-8.0
ST4	3	1	46.0	40.9	66	-5.1	10	----	40.9	0.0	8	-8.0
ST2	4	1	41.2	41.3	66	0.1	10	----	41.3	0.0	8	-8.0
M65	6	1	0.0	45.8	66	45.8	10	----	45.8	0.0	8	-8.0
M23	7	1	0.0	48.7	66	48.7	10	----	48.7	0.0	8	-8.0
M11	8	1	0.0	45.0	66	45.0	10	----	45.0	0.0	8	-8.0
M97	9	1	0.0	37.6	66	37.6	10	----	37.6	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction Min	Avg	Max
		dB	dB	dB
All Selected	8	0.0	0.0	0.0
All Impacted	2	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

Dudek					**18 October 2021**						
CB					**TNM 2.5**						
INPUT: ROADWAYS							**Average pavement type shall be used unless**				
PROJECT/CONTRACT:	**Cypress Canyon**						**a State highway agency substantiates the use**				
RUN:	**Cal**						**of a different type with the approval of FHWA**				
Roadway		**Points**									
Name	**Width**	**Name**	**No.**	**Coordinates (pavement)**			**Flow Control**			**Segment**	
				X	**Y**	**Z**	**Control Device**	**Speed Constraint**	**Percent Vehicles Affected**	**Pvmt Type**	**On Struct?**
	ft			ft	ft	ft		mph	%		
Cypress Valley Drive	40.0	point1	1	6,845,362.0	1,433,528.1	0.00				Average	
		point2	2	6,845,379.0	1,433,329.0	0.00				Average	
		point3	3	6,845,419.0	1,433,223.1	0.00				Average	
		point4	4	6,845,512.0	1,433,123.2	0.00				Average	
		point5	5	6,845,703.0	1,433,009.8	0.00				Average	
		point6	6	6,846,063.0	1,432,857.2	0.00				Average	
		point7	7	6,846,258.0	1,432,787.8	0.00				Average	
		point8	8	6,846,742.0	1,432,628.4	0.00					
Cypress Canyon Rd west	12.0	point9	9	6,846,839.5	1,433,373.9	0.00				Average	
		point10	10	6,846,775.5	1,433,394.6	0.00				Average	
		point11	11	6,846,623.5	1,433,418.9	0.00				Average	
		point12	12	6,846,567.0	1,433,416.0	0.00				Average	
		point13	13	6,846,439.5	1,433,412.2	0.00				Average	
		point14	14	6,846,320.0	1,433,432.0	0.00				Average	
		point15	15	6,846,092.5	1,433,516.1	0.00				Average	
		point16	16	6,845,951.0	1,433,537.5	0.00				Average	
		point17	17	6,845,779.5	1,433,537.0	0.00				Average	
		point18	18	6,845,503.0	1,433,533.5	0.00				Average	
		point19	19	6,845,273.5	1,433,553.1	0.00				Average	
		point20	20	6,845,071.0	1,433,602.9	0.00					
Angelique St	40.0	point21	21	6,846,648.0	1,434,408.5	0.00				Average	
		point22	22	6,846,724.5	1,434,066.4	0.00				Average	
		point23	23	6,846,778.0	1,433,727.6	0.00					
Cypress Canyon Park Rd	40.0	point26	26	6,846,801.5	1,433,797.6	0.00				Average	
		point27	27	6,846,857.0	1,433,805.6	-10.00				Average	

		point28	28	6,847,086.0	1,433,859.8	-20.00				Average	
		point29	29	6,847,256.5	1,433,913.1	-30.00				Average	
		point30	30	6,847,440.5	1,433,942.0	-20.00				Average	
		point31	31	6,847,553.0	1,433,944.6	-10.00				Average	
		point32	32	6,847,800.0	1,433,879.2	-5.00					
Cypress Canyon Rd east	40.0	point53	53	6,848,233.5	1,432,134.5	100.00				Average	
		point54	54	6,848,705.5	1,432,117.4	80.00				Average	
		point55	55	6,849,035.5	1,432,123.0	50.00					
Elderwood Ln	30.0	point56	56	6,846,366.0	1,432,104.5	120.00				Average	
		point57	57	6,846,540.5	1,431,987.9	130.00				Average	
		point58	58	6,846,602.5	1,431,939.9	140.00				Average	
		point59	59	6,846,633.5	1,431,906.8	155.00				Average	
		point60	60	6,846,684.5	1,431,806.9	165.00					
Spring Canyon Rd West	45.0	point61	61	6,849,404.5	1,431,314.0	100.00				Average	
		point62	62	6,849,121.5	1,431,294.2	110.00				Average	
		point63	63	6,848,943.5	1,431,293.2	120.00				Average	
		point64	64	6,848,750.5	1,431,308.6	130.00				Average	
		point65	65	6,848,568.0	1,431,344.1	140.00				Average	
		point66	66	6,848,413.5	1,431,387.5	150.00				Average	
		point67	67	6,848,132.5	1,431,487.5	150.00				Average	
		point68	68	6,847,866.0	1,431,581.6	150.00				Average	
		point69	69	6,847,663.0	1,431,655.5	150.00				Average	
		point70	70	6,847,387.5	1,431,752.0	150.00				Average	
		point71	71	6,847,167.0	1,431,822.4	155.00				Average	
		point72	72	6,847,078.0	1,431,834.8	160.00				Average	
		point73	73	6,847,005.0	1,431,837.6	165.00				Average	
		point74	74	6,846,827.0	1,431,825.2	165.00				Average	
		point75	75	6,846,549.5	1,431,738.6	170.00				Average	
		point76	76	6,846,269.5	1,431,641.4	170.00				Average	
		point77	77	6,846,048.5	1,431,616.0	170.00				Average	
		point78	78	6,845,854.5	1,431,617.4	175.00				Average	
		point79	79	6,845,493.5	1,431,715.0	175.00				Average	
		point80	80	6,845,013.5	1,431,848.1	175.00					
Spring Canyon Rd East	45.0	point81	81	6,844,996.0	1,431,808.0	175.00				Average	
		point82	82	6,845,322.5	1,431,716.1	175.00				Average	
		point83	83	6,845,442.0	1,431,689.4	175.00				Average	
		point84	84	6,845,576.5	1,431,647.2	175.00				Average	
		point85	85	6,845,698.0	1,431,616.1	175.00				Average	
		point86	86	6,845,832.5	1,431,585.5	175.00				Average	

		point87	87	6,845,932.0	1,431,574.6	175.00				Average	
		point88	88	6,846,078.0	1,431,572.8	175.00				Average	
		point89	89	6,846,202.0	1,431,592.2	175.00				Average	
		point90	90	6,846,261.0	1,431,610.1	170.00				Average	
		point91	91	6,846,361.0	1,431,638.8	170.00				Average	
		point92	92	6,846,489.0	1,431,675.6	170.00				Average	
		point93	93	6,846,613.0	1,431,714.9	165.00				Average	
		point94	94	6,846,712.5	1,431,741.5	165.00				Average	
		point95	95	6,846,790.5	1,431,765.5	165.00				Average	
		point96	96	6,846,902.0	1,431,788.8	165.00				Average	
		point97	97	6,846,979.0	1,431,795.2	165.00				Average	
		point98	98	6,847,065.0	1,431,798.4	165.00				Average	
		point99	99	6,847,102.5	1,431,791.6	165.00				Average	
		point100	100	6,847,169.5	1,431,783.9	160.00				Average	
		point101	101	6,847,265.5	1,431,750.4	155.00				Average	
		point102	102	6,847,387.5	1,431,705.2	150.00				Average	
		point103	103	6,847,553.5	1,431,645.6	150.00				Average	
		point104	104	6,847,729.5	1,431,583.6	150.00				Average	
		point105	105	6,847,921.5	1,431,518.6	150.00				Average	
		point106	106	6,848,060.5	1,431,468.6	150.00				Average	
		point107	107	6,848,275.5	1,431,394.9	150.00				Average	
		point108	108	6,848,397.5	1,431,352.8	150.00				Average	
		point109	109	6,848,522.5	1,431,317.6	145.00				Average	
		point110	110	6,848,679.0	1,431,281.2	140.00				Average	
		point111	111	6,848,791.0	1,431,266.5	130.00				Average	
		point112	112	6,848,918.0	1,431,248.2	120.00				Average	
		point113	113	6,849,082.5	1,431,247.6	110.00				Average	
		point114	114	6,849,379.5	1,431,268.2	100.00					
Cypress Canyon Park Rd-2	40.0	point115	115	6,849,062.0	1,432,149.2	60.00				Average	
		point48	48	6,849,088.5	1,431,960.2	60.00				Average	
		point49	49	6,849,159.5	1,431,800.0	75.00				Average	
		point50	50	6,849,239.5	1,431,728.1	85.00				Average	
		point51	51	6,849,335.0	1,431,612.5	95.00				Average	
		point52	52	6,849,418.5	1,431,369.1	100.00					
Cypress Canyon Park Rd-2	40.0	point116	116	6,847,800.0	1,433,879.2	-5.00				Average	
		point33	33	6,848,040.0	1,433,808.8	5.00				Average	
		point34	34	6,848,202.5	1,433,740.2	15.00				Average	
		point35	35	6,848,365.5	1,433,650.4	20.00				Average	
		point36	36	6,848,476.5	1,433,580.0	25.00				Average	

		point37	37	6,848,562.0	1,433,489.9	30.00				Average	
		point38	38	6,848,682.0	1,433,319.9	35.00				Average	
		point39	39	6,848,779.0	1,433,188.9	35.00				Average	
		point40	40	6,848,835.0	1,433,080.8	40.00				Average	
		point41	41	6,848,859.0	1,432,989.1	40.00				Average	
		point42	42	6,848,889.5	1,432,842.9	45.00				Average	
		point43	43	6,848,908.5	1,432,701.2	50.00				Average	
		point44	44	6,848,975.5	1,432,557.1	55.00				Average	
		point45	45	6,849,048.0	1,432,373.2	55.00				Average	
		point46	46	6,849,061.0	1,432,274.2	58.00				Average	
		point47	47	6,849,062.0	1,432,149.2	60.00					
Angelique St-2	40.0	point118	118	6,846,778.0	1,433,727.6	0.00				Average	
		point24	24	6,846,792.5	1,433,611.8	0.00				Average	
		point25	25	6,846,758.5	1,433,410.6	0.00					
Roadway13	12.0	point119	119	6,847,758.5	1,433,459.5	-5.00				Average	
		point120	120	6,847,886.0	1,433,809.9	-30.00					

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INPUT: TRAFFIC FOR LAeq1h Volumes
PROJECT/CONTRACT: Cypress Canyon
RUN: Cal

Roadway	Points		Segment									
Name	Name	No.	Autos		MTrucks		HTrucks		Buses		Motorcycles	
			V	S	V	S	V	S	V	S	V	S
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
Cypress Valley Drive	point1	1	0	0	0	0	0	0	0	0	0	0
	point2	2	0	0	0	0	0	0	0	0	0	0
	point3	3	0	0	0	0	0	0	0	0	0	0
	point4	4	0	0	0	0	0	0	0	0	0	0
	point5	5	0	0	0	0	0	0	0	0	0	0
	point6	6	0	0	0	0	0	0	0	0	0	0
	point7	7	0	0	0	0	0	0	0	0	0	0
	point8	8										
Cypress Canyon Rd west	point9	9	307	25	6	25	3	25	0	0	0	0
	point10	10	307	25	6	25	3	25	0	0	0	0
	point11	11	307	25	6	25	3	25	0	0	0	0
	point12	12	307	25	6	25	3	25	0	0	0	0
	point13	13	307	25	6	25	3	25	0	0	0	0
	point14	14	307	25	6	25	3	25	0	0	0	0
	point15	15	307	25	6	25	3	25	0	0	0	0
	point16	16	307	25	6	25	3	25	0	0	0	0
	point17	17	307	25	6	25	3	25	0	0	0	0
	point18	18	307	25	6	25	3	25	0	0	0	0
	point19	19	307	25	6	25	3	25	0	0	0	0
	point20	20										
Angelique St	point21	21	250	25	5	25	2	25	0	0	0	0
	point22	22	250	25	5	25	2	25	0	0	0	0
	point23	23										

Cypress Canyon Park Rd	point26	26	93	25	1	25	1	25	0	0	0	0
	point27	27	93	25	1	25	1	25	0	0	0	0
	point28	28	93	25	1	25	1	25	0	0	0	0
	point29	29	93	25	1	25	1	25	0	0	0	0
	point30	30	93	25	1	25	1	25	0	0	0	0
	point31	31	93	25	1	25	1	25	0	0	0	0
	point32	32										
Cypress Canyon Rd east	point53	53	228	25	4	25	2	25	0	0	0	0
	point54	54	228	25	4	25	2	25	0	0	0	0
	point55	55										
Elderwood Ln	point56	56	0	0	0	0	0	0	0	0	0	0
	point57	57	0	0	0	0	0	0	0	0	0	0
	point58	58	0	0	0	0	0	0	0	0	0	0
	point59	59	0	0	0	0	0	0	0	0	0	0
	point60	60										
Spring Canyon Rd West	point61	61	452	45	9	45	4	45	0	0	0	0
	point62	62	452	45	9	45	4	45	0	0	0	0
	point63	63	452	45	9	45	4	45	0	0	0	0
	point64	64	452	45	9	45	4	45	0	0	0	0
	point65	65	452	45	9	45	4	45	0	0	0	0
	point66	66	452	45	9	45	4	45	0	0	0	0
	point67	67	452	45	9	45	4	45	0	0	0	0
	point68	68	452	45	9	45	4	45	0	0	0	0
	point69	69	452	45	9	45	4	45	0	0	0	0
	point70	70	452	45	9	45	4	45	0	0	0	0
	point71	71	452	45	9	45	4	45	0	0	0	0
	point72	72	452	45	9	45	4	45	0	0	0	0
	point73	73	452	45	9	45	4	45	0	0	0	0
	point74	74	452	45	9	45	4	45	0	0	0	0
	point75	75	452	45	9	45	4	45	0	0	0	0
	point76	76	452	45	9	45	4	45	0	0	0	0
	point77	77	452	45	9	45	4	45	0	0	0	0
	point78	78	452	45	9	45	4	45	0	0	0	0
	point79	79	452	45	9	45	4	45	0	0	0	0
	point80	80										
Spring Canyon Rd East	point81	81	452	45	9	45	4	45	0	0	0	0

	point82	82	452	45	9	45	4	45	0	0	0	0
	point83	83	452	45	9	45	4	45	0	0	0	0
	point84	84	452	45	9	45	4	45	0	0	0	0
	point85	85	452	45	9	45	4	45	0	0	0	0
	point86	86	452	45	9	45	4	45	0	0	0	0
	point87	87	452	45	9	45	4	45	0	0	0	0
	point88	88	452	45	9	45	4	45	0	0	0	0
	point89	89	452	45	9	45	4	45	0	0	0	0
	point90	90	452	45	9	45	4	45	0	0	0	0
	point91	91	452	45	9	45	4	45	0	0	0	0
	point92	92	452	45	9	45	4	45	0	0	0	0
	point93	93	452	45	9	45	4	45	0	0	0	0
	point94	94	452	45	9	45	4	45	0	0	0	0
	point95	95	452	45	9	45	4	45	0	0	0	0
	point96	96	452	45	9	45	4	45	0	0	0	0
	point97	97	452	45	9	45	4	45	0	0	0	0
	point98	98	452	45	9	45	4	45	0	0	0	0
	point99	99	452	45	9	45	4	45	0	0	0	0
	point100	100	452	45	9	45	4	45	0	0	0	0
	point101	101	452	45	9	45	4	45	0	0	0	0
	point102	102	452	45	9	45	4	45	0	0	0	0
	point103	103	452	45	9	45	4	45	0	0	0	0
	point104	104	452	45	9	45	4	45	0	0	0	0
	point105	105	452	45	9	45	4	45	0	0	0	0
	point106	106	452	45	9	45	4	45	0	0	0	0
	point107	107	452	45	9	45	4	45	0	0	0	0
	point108	108	452	45	9	45	4	45	0	0	0	0
	point109	109	452	45	9	45	4	45	0	0	0	0
	point110	110	452	45	9	45	4	45	0	0	0	0
	point111	111	452	45	9	45	4	45	0	0	0	0
	point112	112	452	45	9	45	4	45	0	0	0	0
	point113	113	452	45	9	45	4	45	0	0	0	0
	point114	114										
Cypress Canyon Park Rd-2	point115	115	444	25	9	25	4	25	0	0	0	0
	point48	48	444	25	9	25	4	25	0	0	0	0
	point49	49	444	25	9	25	4	25	0	0	0	0

	point50	50	444	25	9	25	4	25	0	0	0	0
	point51	51	444	25	9	25	4	25	0	0	0	0
	point52	52										
Cypress Canyon Park Rd-2	point116	116	142	25	2	25	1	25	0	0	0	0
	point33	33	142	25	2	25	1	25	0	0	0	0
	point34	34	142	25	2	25	1	25	0	0	0	0
	point35	35	142	25	2	25	1	25	0	0	0	0
	point36	36	142	25	2	25	1	25	0	0	0	0
	point37	37	142	25	2	25	1	25	0	0	0	0
	point38	38	142	25	2	25	1	25	0	0	0	0
	point39	39	142	25	2	25	1	25	0	0	0	0
	point40	40	142	25	2	25	1	25	0	0	0	0
	point41	41	142	25	2	25	1	25	0	0	0	0
	point42	42	142	25	2	25	1	25	0	0	0	0
	point43	43	142	25	2	25	1	25	0	0	0	0
	point44	44	142	25	2	25	1	25	0	0	0	0
	point45	45	142	25	2	25	1	25	0	0	0	0
	point46	46	142	25	2	25	1	25	0	0	0	0
	point47	47										
Angelique St-2	point118	118	266	25	5	25	2	25	0	0	0	0
	point24	24	266	25	5	25	2	25	0	0	0	0
	point25	25										
Roadway13	point119	119	29	25	0	0	0	0	0	0	0	0
	point120	120										

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INPUT: RECEIVERS
PROJECT/CONTRACT: Cypress Canyon
RUN: Cal

Receiver Name	No.	#DUs	Coordinates (ground) X	Y	Z	Height above Ground	Input Sound Levels and Criteria: Existing LAeq1h	Impact Criteria LAeq1h	Impact Criteria Sub'l	NR Goal	Active in Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
ST1	1	1	6,846,733.5	1,431,833.0	165.00	4.92	63.90	66	10.0	8.0	Y
ST3	2	1	6,848,246.0	1,432,106.9	100.00	4.92	44.40	66	10.0	8.0	Y
ST4	3	1	6,847,735.5	1,433,467.5	-30.00	4.92	46.00	66	10.0	8.0	Y
ST2	4	1	6,846,837.0	1,432,585.2	0.00	4.92	41.20	66	10.0	8.0	Y
M65	6	1	6,846,961.5	1,433,088.5	62.00	4.92	0.00	66	10.0	8.0	Y
M23	7	1	6,848,145.0	1,432,173.5	95.00	4.92	0.00	66	10.0	8.0	Y
M11	8	1	6,847,435.5	1,432,422.9	100.00	4.92	0.00	66	10.0	8.0	Y
M97	9	1	6,847,800.0	1,433,418.0	-30.00	4.92	0.00	66	10.0	8.0	Y

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TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Cypress Canyon
RUN: Cal
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
ST1	1	1	63.9	67.2	66	3.3	10	Snd Lvl	67.2	0.0	8	-8.0
ST3	2	1	44.4	56.3	66	11.9	10	Sub'l Inc	56.3	0.0	8	-8.0
ST4	3	1	46.0	41.1	66	-4.9	10	----	41.1	0.0	8	-8.0
ST2	4	1	41.2	41.5	66	0.3	10	----	41.5	0.0	8	-8.0
M65	6	1	0.0	46.1	66	46.1	10	----	46.1	0.0	8	-8.0
M23	7	1	0.0	48.9	66	48.9	10	----	48.9	0.0	8	-8.0
M11	8	1	0.0	45.1	66	45.1	10	----	45.1	0.0	8	-8.0
M97	9	1	0.0	38.0	66	38.0	10	----	38.0	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction Min	Avg	Max
		dB	dB	dB
All Selected	8	0.0	0.0	0.0
All Impacted	2	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

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INPUT: ROADWAYS
PROJECT/CONTRACT: Cypress Canyon
RUN: Cal

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA

Roadway Name	Width	Points Name	No.	Coordinates (pavement) X	Y	Z	Flow Control Control Device	Speed Constraint	Percent Vehicles Affected	Segment Pvmt Type	On Struct?
	ft			ft	ft	ft		mph	%		
Cypress Valley Drive	40.0	point1	1	6,845,362.0	1,433,528.1	0.00				Average	
		point2	2	6,845,379.0	1,433,329.0	0.00				Average	
		point3	3	6,845,419.0	1,433,223.1	0.00				Average	
		point4	4	6,845,512.0	1,433,123.2	0.00				Average	
		point5	5	6,845,703.0	1,433,009.8	0.00				Average	
		point6	6	6,846,063.0	1,432,857.2	0.00				Average	
		point7	7	6,846,258.0	1,432,787.8	0.00				Average	
		point8	8	6,846,742.0	1,432,628.4	0.00					
Cypress Canyon Rd west	12.0	point9	9	6,846,839.5	1,433,373.9	0.00				Average	
		point10	10	6,846,775.5	1,433,394.6	0.00				Average	
		point11	11	6,846,623.5	1,433,418.9	0.00				Average	
		point12	12	6,846,567.0	1,433,416.0	0.00				Average	
		point13	13	6,846,439.5	1,433,412.2	0.00				Average	
		point14	14	6,846,320.0	1,433,432.0	0.00				Average	
		point15	15	6,846,092.5	1,433,516.1	0.00				Average	
		point16	16	6,845,951.0	1,433,537.5	0.00				Average	
		point17	17	6,845,779.5	1,433,537.0	0.00				Average	
		point18	18	6,845,503.0	1,433,533.5	0.00				Average	
		point19	19	6,845,273.5	1,433,553.1	0.00				Average	
		point20	20	6,845,071.0	1,433,602.9	0.00					
Angelique St	40.0	point21	21	6,846,648.0	1,434,408.5	0.00				Average	
		point22	22	6,846,724.5	1,434,066.4	0.00				Average	
		point23	23	6,846,778.0	1,433,727.6	0.00					
Cypress Canyon Park Rd	40.0	point26	26	6,846,801.5	1,433,797.6	0.00				Average	
		point27	27	6,846,857.0	1,433,805.6	-10.00				Average	

		point28	28	6,847,086.0	1,433,859.8	-20.00				Average	
		point29	29	6,847,256.5	1,433,913.1	-30.00				Average	
		point30	30	6,847,440.5	1,433,942.0	-20.00				Average	
		point31	31	6,847,553.0	1,433,944.6	-10.00				Average	
		point32	32	6,847,800.0	1,433,879.2	-5.00					
Cypress Canyon Rd east	40.0	point53	53	6,848,233.5	1,432,134.5	100.00				Average	
		point54	54	6,848,705.5	1,432,117.4	80.00				Average	
		point55	55	6,849,035.5	1,432,123.0	50.00					
Elderwood Ln	30.0	point56	56	6,846,366.0	1,432,104.5	120.00				Average	
		point57	57	6,846,540.5	1,431,987.9	130.00				Average	
		point58	58	6,846,602.5	1,431,939.9	140.00				Average	
		point59	59	6,846,633.5	1,431,906.8	155.00				Average	
		point60	60	6,846,684.5	1,431,806.9	165.00					
Spring Canyon Rd West	45.0	point61	61	6,849,404.5	1,431,314.0	100.00				Average	
		point62	62	6,849,121.5	1,431,294.2	110.00				Average	
		point63	63	6,848,943.5	1,431,293.2	120.00				Average	
		point64	64	6,848,750.5	1,431,308.6	130.00				Average	
		point65	65	6,848,568.0	1,431,344.1	140.00				Average	
		point66	66	6,848,413.5	1,431,387.5	150.00				Average	
		point67	67	6,848,132.5	1,431,487.5	150.00				Average	
		point68	68	6,847,866.0	1,431,581.6	150.00				Average	
		point69	69	6,847,663.0	1,431,655.5	150.00				Average	
		point70	70	6,847,387.5	1,431,752.0	150.00				Average	
		point71	71	6,847,167.0	1,431,822.4	155.00				Average	
		point72	72	6,847,078.0	1,431,834.8	160.00				Average	
		point73	73	6,847,005.0	1,431,837.6	165.00				Average	
		point74	74	6,846,827.0	1,431,825.2	165.00				Average	
		point75	75	6,846,549.5	1,431,738.6	170.00				Average	
		point76	76	6,846,269.5	1,431,641.4	170.00				Average	
		point77	77	6,846,048.5	1,431,616.0	170.00				Average	
		point78	78	6,845,854.5	1,431,617.4	175.00				Average	
		point79	79	6,845,493.5	1,431,715.0	175.00				Average	
		point80	80	6,845,013.5	1,431,848.1	175.00					
Spring Canyon Rd East	45.0	point81	81	6,844,996.0	1,431,808.0	175.00				Average	
		point82	82	6,845,322.5	1,431,716.1	175.00				Average	
		point83	83	6,845,442.0	1,431,689.4	175.00				Average	
		point84	84	6,845,576.5	1,431,647.2	175.00				Average	
		point85	85	6,845,698.0	1,431,616.1	175.00				Average	
		point86	86	6,845,832.5	1,431,585.5	175.00				Average	

		point87	87	6,845,932.0	1,431,574.6	175.00				Average	
		point88	88	6,846,078.0	1,431,572.8	175.00				Average	
		point89	98	6,846,202.0	1,431,592.2	175.00				Average	
		point90	90	6,846,261.0	1,431,610.1	170.00				Average	
		point91	91	6,846,361.0	1,431,638.8	170.00				Average	
		point92	92	6,846,489.0	1,431,675.6	170.00				Average	
		point93	93	6,846,613.0	1,431,714.9	165.00				Average	
		point94	94	6,846,712.5	1,431,741.5	165.00				Average	
		point95	95	6,846,790.5	1,431,765.5	165.00				Average	
		point96	96	6,846,902.0	1,431,788.8	165.00				Average	
		point97	97	6,846,979.0	1,431,795.2	165.00				Average	
		point98	98	6,847,065.0	1,431,798.4	165.00				Average	
		point99	99	6,847,102.5	1,431,791.6	165.00				Average	
		point100	100	6,847,169.5	1,431,783.9	160.00				Average	
		point101	101	6,847,265.5	1,431,750.4	155.00				Average	
		point102	102	6,847,387.5	1,431,705.2	150.00				Average	
		point103	103	6,847,553.5	1,431,645.6	150.00				Average	
		point104	104	6,847,729.5	1,431,583.6	150.00				Average	
		point105	105	6,847,921.5	1,431,518.6	150.00				Average	
		point106	106	6,848,060.5	1,431,468.6	150.00				Average	
		point107	107	6,848,275.5	1,431,394.9	150.00				Average	
		point108	108	6,848,397.5	1,431,352.8	150.00				Average	
		point109	109	6,848,522.5	1,431,317.6	145.00				Average	
		point110	110	6,848,679.0	1,431,281.2	140.00				Average	
		point111	111	6,848,791.0	1,431,266.5	130.00				Average	
		point112	112	6,848,918.0	1,431,248.2	120.00				Average	
		point113	113	6,849,082.5	1,431,247.6	110.00				Average	
		point114	114	6,849,379.5	1,431,268.2	100.00					
Cypress Canyon Park Rd-2	40.0	point115	115	6,849,062.0	1,432,149.2	60.00				Average	
		point48	48	6,849,088.5	1,431,960.2	60.00				Average	
		point49	49	6,849,159.5	1,431,800.0	75.00				Average	
		point50	50	6,849,239.5	1,431,728.1	85.00				Average	
		point51	51	6,849,335.0	1,431,612.5	95.00				Average	
		point52	52	6,849,418.5	1,431,369.1	100.00					
Cypress Canyon Park Rd-2	40.0	point116	116	6,847,800.0	1,433,879.2	-5.00				Average	
		point33	33	6,848,040.0	1,433,808.8	5.00				Average	
		point34	34	6,848,202.5	1,433,740.2	15.00				Average	
		point35	35	6,848,365.5	1,433,650.4	20.00				Average	
		point36	36	6,848,476.5	1,433,580.0	25.00				Average	

		point37	37	6,848,562.0	1,433,489.9	30.00				Average	
		point38	38	6,848,682.0	1,433,319.9	35.00				Average	
		point39	39	6,848,779.0	1,433,188.9	35.00				Average	
		point40	40	6,848,835.0	1,433,080.8	40.00				Average	
		point41	41	6,848,859.0	1,432,989.1	40.00				Average	
		point42	42	6,848,889.5	1,432,842.9	45.00				Average	
		point43	43	6,848,908.5	1,432,701.2	50.00				Average	
		point44	44	6,848,975.5	1,432,557.1	55.00				Average	
		point45	45	6,849,048.0	1,432,373.2	55.00				Average	
		point46	46	6,849,061.0	1,432,274.2	58.00				Average	
		point47	47	6,849,062.0	1,432,149.2	60.00					
Angelique St-2	40.0	point118	118	6,846,778.0	1,433,727.6	0.00				Average	
		point24	24	6,846,792.5	1,433,611.8	0.00				Average	
		point25	25	6,846,758.5	1,433,410.6	0.00					
Roadway13	12.0	point119	119	6,847,758.5	1,433,459.5	-5.00				Average	
		point120	120	6,847,886.0	1,433,809.9	-30.00					

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INPUT: TRAFFIC FOR LAeq1h Volumes
PROJECT/CONTRACT: Cypress Canyon
RUN: Cal

Roadway	Points		Segment									
Name	Name	No.	Autos		MTrucks		HTrucks		Buses		Motorcycles	
			V	S	V	S	V	S	V	S	V	S
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
Cypress Valley Drive	point1	1	0	0	0	0	0	0	0	0	0	0
	point2	2	0	0	0	0	0	0	0	0	0	0
	point3	3	0	0	0	0	0	0	0	0	0	0
	point4	4	0	0	0	0	0	0	0	0	0	0
	point5	5	0	0	0	0	0	0	0	0	0	0
	point6	6	0	0	0	0	0	0	0	0	0	0
	point7	7	0	0	0	0	0	0	0	0	0	0
	point8	8										
Cypress Canyon Rd west	point9	9	256	25	5	25	2	25	0	0	0	0
	point10	10	256	25	5	25	2	25	0	0	0	0
	point11	11	256	25	5	25	2	25	0	0	0	0
	point12	12	256	25	5	25	2	25	0	0	0	0
	point13	13	256	25	5	25	2	25	0	0	0	0
	point14	14	256	25	5	25	2	25	0	0	0	0
	point15	15	256	25	5	25	2	25	0	0	0	0
	point16	16	256	25	5	25	2	25	0	0	0	0
	point17	17	256	25	5	25	2	25	0	0	0	0
	point18	18	256	25	5	25	2	25	0	0	0	0
	point19	19	256	25	5	25	2	25	0	0	0	0
	point20	20										
Angelique St	point21	21	396	25	8	25	4	25	0	0	0	0
	point22	22	396	25	8	25	4	25	0	0	0	0
	point23	23										

Cypress Canyon Park Rd	point26	26	186	25	3	25	1	25	0	0	0	0
	point27	27	186	25	3	25	1	25	0	0	0	0
	point28	28	186	25	3	25	1	25	0	0	0	0
	point29	29	186	25	3	25	1	25	0	0	0	0
	point30	30	186	25	3	25	1	25	0	0	0	0
	point31	31	186	25	3	25	1	25	0	0	0	0
	point32	32										
Cypress Canyon Rd east	point53	53	191	25	3	25	1	25	0	0	0	0
	point54	54	191	25	3	25	1	25	0	0	0	0
	point55	55										
Elderwood Ln	point56	56	0	0	0	0	0	0	0	0	0	0
	point57	57	0	0	0	0	0	0	0	0	0	0
	point58	58	0	0	0	0	0	0	0	0	0	0
	point59	59	0	0	0	0	0	0	0	0	0	0
	point60	60										
Spring Canyon Rd West	point61	61	580	45	11	45	5	45	0	0	0	0
	point62	62	580	45	11	45	5	45	0	0	0	0
	point63	63	580	45	11	45	5	45	0	0	0	0
	point64	64	580	45	11	45	5	45	0	0	0	0
	point65	65	580	45	11	45	5	45	0	0	0	0
	point66	66	580	45	11	45	5	45	0	0	0	0
	point67	67	580	45	11	45	5	45	0	0	0	0
	point68	68	580	45	11	45	5	45	0	0	0	0
	point69	69	580	45	11	45	5	45	0	0	0	0
	point70	70	580	45	11	45	5	45	0	0	0	0
	point71	71	580	45	11	45	5	45	0	0	0	0
	point72	72	580	45	11	45	5	45	0	0	0	0
	point73	73	580	45	11	45	5	45	0	0	0	0
	point74	74	580	45	11	45	5	45	0	0	0	0
	point75	75	580	45	11	45	5	45	0	0	0	0
	point76	76	580	45	11	45	5	45	0	0	0	0
	point77	77	580	45	11	45	5	45	0	0	0	0
	point78	78	580	45	11	45	5	45	0	0	0	0
	point79	79	580	45	11	45	5	45	0	0	0	0
	point80	80										
Spring Canyon Rd East	point81	81	580	45	11	45	5	45	0	0	0	0

	point82	82	580	45	11	45	5	45	0	0	0	0
	point83	83	580	45	11	45	5	45	0	0	0	0
	point84	84	580	45	11	45	5	45	0	0	0	0
	point85	85	580	45	11	45	5	45	0	0	0	0
	point86	86	580	45	11	45	5	45	0	0	0	0
	point87	87	580	45	11	45	5	45	0	0	0	0
	point88	88	580	45	11	45	5	45	0	0	0	0
	point89	89	580	45	11	45	5	45	0	0	0	0
	point90	90	580	45	11	45	5	45	0	0	0	0
	point91	91	580	45	11	45	5	45	0	0	0	0
	point92	92	580	45	11	45	5	45	0	0	0	0
	point93	93	580	45	11	45	5	45	0	0	0	0
	point94	94	580	45	11	45	5	45	0	0	0	0
	point95	95	580	45	11	45	5	45	0	0	0	0
	point96	96	580	45	11	45	5	45	0	0	0	0
	point97	97	580	45	11	45	5	45	0	0	0	0
	point98	98	580	45	11	45	5	45	0	0	0	0
	point99	99	580	45	11	45	5	45	0	0	0	0
	point100	100	580	45	11	45	5	45	0	0	0	0
	point101	101	580	45	11	45	5	45	0	0	0	0
	point102	102	580	45	11	45	5	45	0	0	0	0
	point103	103	580	45	11	45	5	45	0	0	0	0
	point104	104	580	45	11	45	5	45	0	0	0	0
	point105	105	580	45	11	45	5	45	0	0	0	0
	point106	106	580	45	11	45	5	45	0	0	0	0
	point107	107	580	45	11	45	5	45	0	0	0	0
	point108	108	580	45	11	45	5	45	0	0	0	0
	point109	109	580	45	11	45	5	45	0	0	0	0
	point110	110	580	45	11	45	5	45	0	0	0	0
	point111	111	580	45	11	45	5	45	0	0	0	0
	point112	112	580	45	11	45	5	45	0	0	0	0
	point113	113	580	45	11	45	5	45	0	0	0	0
	point114	114										
Cypress Canyon Park Rd-2	point115	115	248	25	5	25	2	25	0	0	0	0
	point48	48	248	25	5	25	2	25	0	0	0	0
	point49	49	248	25	5	25	2	25	0	0	0	0

	point50	50	248	25	5	25	2	25	0	0	0	0
	point51	51	248	25	5	25	2	25	0	0	0	0
	point52	52										
Cypress Canyon Park Rd-2	point116	116	186	25	3	25	1	25	0	0	0	0
	point33	33	186	25	3	25	1	25	0	0	0	0
	point34	34	186	25	3	25	1	25	0	0	0	0
	point35	35	186	25	3	25	1	25	0	0	0	0
	point36	36	186	25	3	25	1	25	0	0	0	0
	point37	37	186	25	3	25	1	25	0	0	0	0
	point38	38	186	25	3	25	1	25	0	0	0	0
	point39	39	186	25	3	25	1	25	0	0	0	0
	point40	40	186	25	3	25	1	25	0	0	0	0
	point41	41	186	25	3	25	1	25	0	0	0	0
	point42	42	186	25	3	25	1	25	0	0	0	0
	point43	43	186	25	3	25	1	25	0	0	0	0
	point44	44	186	25	3	25	1	25	0	0	0	0
	point45	45	186	25	3	25	1	25	0	0	0	0
	point46	46	186	25	3	25	1	25	0	0	0	0
	point47	47										
Angelique St-2	point118	118	309	25	6	25	3	25	0	0	0	0
	point24	24	309	25	6	25	3	25	0	0	0	0
	point25	25										
Roadway13	point119	119	24	25	0	0	0	0	0	0	0	0
	point120	120										

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INPUT: RECEIVERS
PROJECT/CONTRACT: Cypress Canyon
RUN: Cal

Receiver Name	No.	#DUs	Coordinates (ground) X	Y	Z	Height above Ground	Input Sound Levels and Criteria: Existing LAeq1h	Impact Criteria LAeq1h	Impact Criteria Sub'l	NR Goal	Active in Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
ST1	1	1	6,846,733.5	1,431,833.0	165.00	4.92	63.90	66	10.0	8.0	Y
ST3	2	1	6,848,246.0	1,432,106.9	100.00	4.92	44.40	66	10.0	8.0	Y
ST4	3	1	6,847,735.5	1,433,467.5	-30.00	4.92	46.00	66	10.0	8.0	Y
ST2	4	1	6,846,837.0	1,432,585.2	0.00	4.92	41.20	66	10.0	8.0	Y
M65	6	1	6,846,961.5	1,433,088.5	62.00	4.92	0.00	66	10.0	8.0	Y
M23	7	1	6,848,145.0	1,432,173.5	95.00	4.92	0.00	66	10.0	8.0	Y
M11	8	1	6,847,435.5	1,432,422.9	100.00	4.92	0.00	66	10.0	8.0	Y
M97	9	1	6,847,800.0	1,433,418.0	-30.00	4.92	0.00	66	10.0	8.0	Y

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TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Cypress Canyon
RUN: Cal
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
ST1	1	1	63.9	68.2	66	4.3	10	Snd Lvl	68.2	0.0	8	-8.0
ST3	2	1	44.4	55.3	66	10.9	10	Sub'l Inc	55.3	0.0	8	-8.0
ST4	3	1	46.0	41.8	66	-4.2	10	----	41.8	0.0	8	-8.0
ST2	4	1	41.2	42.4	66	1.2	10	----	42.4	0.0	8	-8.0
M65	6	1	0.0	46.6	66	46.6	10	----	46.6	0.0	8	-8.0
M23	7	1	0.0	48.8	66	48.8	10	----	48.8	0.0	8	-8.0
M11	8	1	0.0	46.1	66	46.1	10	----	46.1	0.0	8	-8.0
M97	9	1	0.0	38.4	66	38.4	10	----	38.4	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction Min	Avg	Max
		dB	dB	dB
All Selected	8	0.0	0.0	0.0
All Impacted	2	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

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INPUT: ROADWAYS
PROJECT/CONTRACT: Cypress Canyon
RUN: Cal

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA

Roadway Name	Width	Points Name	No.	Coordinates (pavement) X	Y	Z	Flow Control Control Device	Speed Constraint	Percent Vehicles Affected	Segment Pvmt Type	On Struct?
	ft			ft	ft	ft		mph	%		
Cypress Valley Drive	40.0	point1	1	6,845,362.0	1,433,528.1	0.00				Average	
		point2	2	6,845,379.0	1,433,329.0	0.00				Average	
		point3	3	6,845,419.0	1,433,223.1	0.00				Average	
		point4	4	6,845,512.0	1,433,123.2	0.00				Average	
		point5	5	6,845,703.0	1,433,009.8	0.00				Average	
		point6	6	6,846,063.0	1,432,857.2	0.00				Average	
		point7	7	6,846,258.0	1,432,787.8	0.00				Average	
		point8	8	6,846,742.0	1,432,628.4	0.00					
Cypress Canyon Rd west	12.0	point9	9	6,846,839.5	1,433,373.9	0.00				Average	
		point10	10	6,846,775.5	1,433,394.6	0.00				Average	
		point11	11	6,846,623.5	1,433,418.9	0.00				Average	
		point12	12	6,846,567.0	1,433,416.0	0.00				Average	
		point13	13	6,846,439.5	1,433,412.2	0.00				Average	
		point14	14	6,846,320.0	1,433,432.0	0.00				Average	
		point15	15	6,846,092.5	1,433,516.1	0.00				Average	
		point16	16	6,845,951.0	1,433,537.5	0.00				Average	
		point17	17	6,845,779.5	1,433,537.0	0.00				Average	
		point18	18	6,845,503.0	1,433,533.5	0.00				Average	
		point19	19	6,845,273.5	1,433,553.1	0.00				Average	
		point20	20	6,845,071.0	1,433,602.9	0.00					
Angelique St	40.0	point21	21	6,846,648.0	1,434,408.5	0.00				Average	
		point22	22	6,846,724.5	1,434,066.4	0.00				Average	
		point23	23	6,846,778.0	1,433,727.6	0.00					
Cypress Canyon Park Rd	40.0	point26	26	6,846,801.5	1,433,797.6	0.00				Average	
		point27	27	6,846,857.0	1,433,805.6	-10.00				Average	

		point28	28	6,847,086.0	1,433,859.8	-20.00				Average	
		point29	29	6,847,256.5	1,433,913.1	-30.00				Average	
		point30	30	6,847,440.5	1,433,942.0	-20.00				Average	
		point31	31	6,847,553.0	1,433,944.6	-10.00				Average	
		point32	32	6,847,800.0	1,433,879.2	-5.00					
Cypress Canyon Rd east	40.0	point53	53	6,848,233.5	1,432,134.5	100.00				Average	
		point54	54	6,848,705.5	1,432,117.4	80.00				Average	
		point55	55	6,849,035.5	1,432,123.0	50.00					
Elderwood Ln	30.0	point56	56	6,846,366.0	1,432,104.5	120.00				Average	
		point57	57	6,846,540.5	1,431,987.9	130.00				Average	
		point58	58	6,846,602.5	1,431,939.9	140.00				Average	
		point59	59	6,846,633.5	1,431,906.8	155.00				Average	
		point60	60	6,846,684.5	1,431,806.9	165.00					
Spring Canyon Rd West	45.0	point61	61	6,849,404.5	1,431,314.0	100.00				Average	
		point62	62	6,849,121.5	1,431,294.2	110.00				Average	
		point63	63	6,848,943.5	1,431,293.2	120.00				Average	
		point64	64	6,848,750.5	1,431,308.6	130.00				Average	
		point65	65	6,848,568.0	1,431,344.1	140.00				Average	
		point66	66	6,848,413.5	1,431,387.5	150.00				Average	
		point67	67	6,848,132.5	1,431,487.5	150.00				Average	
		point68	68	6,847,866.0	1,431,581.6	150.00				Average	
		point69	69	6,847,663.0	1,431,655.5	150.00				Average	
		point70	70	6,847,387.5	1,431,752.0	150.00				Average	
		point71	71	6,847,167.0	1,431,822.4	155.00				Average	
		point72	72	6,847,078.0	1,431,834.8	160.00				Average	
		point73	73	6,847,005.0	1,431,837.6	165.00				Average	
		point74	74	6,846,827.0	1,431,825.2	165.00				Average	
		point75	75	6,846,549.5	1,431,738.6	170.00				Average	
		point76	76	6,846,269.5	1,431,641.4	170.00				Average	
		point77	77	6,846,048.5	1,431,616.0	170.00				Average	
		point78	78	6,845,854.5	1,431,617.4	175.00				Average	
		point79	79	6,845,493.5	1,431,715.0	175.00				Average	
		point80	80	6,845,013.5	1,431,848.1	175.00					
Spring Canyon Rd East	45.0	point81	81	6,844,996.0	1,431,808.0	175.00				Average	
		point82	82	6,845,322.5	1,431,716.1	175.00				Average	
		point83	83	6,845,442.0	1,431,689.4	175.00				Average	
		point84	84	6,845,576.5	1,431,647.2	175.00				Average	
		point85	85	6,845,698.0	1,431,616.1	175.00				Average	
		point86	86	6,845,832.5	1,431,585.5	175.00				Average	

		point87	87	6,845,932.0	1,431,574.6	175.00				Average	
		point88	88	6,846,078.0	1,431,572.8	175.00				Average	
		point89	89	6,846,202.0	1,431,592.2	175.00				Average	
		point90	90	6,846,261.0	1,431,610.1	170.00				Average	
		point91	91	6,846,361.0	1,431,638.8	170.00				Average	
		point92	92	6,846,489.0	1,431,675.6	170.00				Average	
		point93	93	6,846,613.0	1,431,714.9	165.00				Average	
		point94	94	6,846,712.5	1,431,741.5	165.00				Average	
		point95	95	6,846,790.5	1,431,765.5	165.00				Average	
		point96	96	6,846,902.0	1,431,788.8	165.00				Average	
		point97	97	6,846,979.0	1,431,795.2	165.00				Average	
		point98	98	6,847,065.0	1,431,798.4	165.00				Average	
		point99	98	6,847,102.5	1,431,791.6	165.00				Average	
		point100	100	6,847,169.5	1,431,783.9	160.00				Average	
		point101	101	6,847,265.5	1,431,750.4	155.00				Average	
		point102	102	6,847,387.5	1,431,705.2	150.00				Average	
		point103	103	6,847,553.5	1,431,645.6	150.00				Average	
		point104	104	6,847,729.5	1,431,583.6	150.00				Average	
		point105	105	6,847,921.5	1,431,518.6	150.00				Average	
		point106	106	6,848,060.5	1,431,468.6	150.00				Average	
		point107	107	6,848,275.5	1,431,394.9	150.00				Average	
		point108	108	6,848,397.5	1,431,352.8	150.00				Average	
		point109	109	6,848,522.5	1,431,317.6	145.00				Average	
		point110	110	6,848,679.0	1,431,281.2	140.00				Average	
		point111	111	6,848,791.0	1,431,266.5	130.00				Average	
		point112	112	6,848,918.0	1,431,248.2	120.00				Average	
		point113	113	6,849,082.5	1,431,247.6	110.00				Average	
		point114	114	6,849,379.5	1,431,268.2	100.00					
Cypress Canyon Park Rd-2	40.0	point115	115	6,849,062.0	1,432,149.2	60.00				Average	
		point48	48	6,849,088.5	1,431,960.2	60.00				Average	
		point49	49	6,849,159.5	1,431,800.0	75.00				Average	
		point50	50	6,849,239.5	1,431,728.1	85.00				Average	
		point51	51	6,849,335.0	1,431,612.5	95.00				Average	
		point52	52	6,849,418.5	1,431,369.1	100.00					
Cypress Canyon Park Rd-2	40.0	point116	116	6,847,800.0	1,433,879.2	-5.00				Average	
		point33	33	6,848,040.0	1,433,808.8	5.00				Average	
		point34	34	6,848,202.5	1,433,740.2	15.00				Average	
		point35	35	6,848,365.5	1,433,650.4	20.00				Average	
		point36	36	6,848,476.5	1,433,580.0	25.00				Average	

		point37	37	6,848,562.0	1,433,489.9	30.00				Average	
		point38	38	6,848,682.0	1,433,319.9	35.00				Average	
		point39	39	6,848,779.0	1,433,188.9	35.00				Average	
		point40	40	6,848,835.0	1,433,080.8	40.00				Average	
		point41	41	6,848,859.0	1,432,989.1	40.00				Average	
		point42	42	6,848,889.5	1,432,842.9	45.00				Average	
		point43	43	6,848,908.5	1,432,701.2	50.00				Average	
		point44	44	6,848,975.5	1,432,557.1	55.00				Average	
		point45	45	6,849,048.0	1,432,373.2	55.00				Average	
		point46	46	6,849,061.0	1,432,274.2	58.00				Average	
		point47	47	6,849,062.0	1,432,149.2	60.00					
Angelique St-2	40.0	point118	118	6,846,778.0	1,433,727.6	0.00				Average	
		point24	24	6,846,792.5	1,433,611.8	0.00				Average	
		point25	25	6,846,758.5	1,433,410.6	0.00					
Roadway13	12.0	point119	119	6,847,758.5	1,433,459.5	-5.00				Average	
		point120	120	6,847,886.0	1,433,809.9	-30.00					

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INPUT: TRAFFIC FOR LAeq1h Volumes
PROJECT/CONTRACT: Cypress Canyon
RUN: Cal

Roadway	Points		Segment									
Name	Name	No.	Autos		MTrucks		HTrucks		Buses		Motorcycles	
			V	S	V	S	V	S	V	S	V	S
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
Cypress Valley Drive	point1	1	0	0	0	0	0	0	0	0	0	0
	point2	2	0	0	0	0	0	0	0	0	0	0
	point3	3	0	0	0	0	0	0	0	0	0	0
	point4	4	0	0	0	0	0	0	0	0	0	0
	point5	5	0	0	0	0	0	0	0	0	0	0
	point6	6	0	0	0	0	0	0	0	0	0	0
	point7	7	0	0	0	0	0	0	0	0	0	0
	point8	8										
Cypress Canyon Rd west	point9	9	292	25	6	25	3	25	0	0	0	0
	point10	10	292	25	6	25	3	25	0	0	0	0
	point11	11	292	25	6	25	3	25	0	0	0	0
	point12	12	292	25	6	25	3	25	0	0	0	0
	point13	13	292	25	6	25	3	25	0	0	0	0
	point14	14	292	25	6	25	3	25	0	0	0	0
	point15	15	292	25	6	25	3	25	0	0	0	0
	point16	16	292	25	6	25	3	25	0	0	0	0
	point17	17	292	25	6	25	3	25	0	0	0	0
	point18	18	292	25	6	25	3	25	0	0	0	0
	point19	19	292	25	6	25	3	25	0	0	0	0
	point20	20										
Angelique St	point21	21	435	25	8	25	4	25	0	0	0	0
	point22	22	435	25	8	25	4	25	0	0	0	0
	point23	23										

Cypress Canyon Park Rd	point26	26	189	25	3	25	1	25	0	0	0	0
	point27	27	189	25	3	25	1	25	0	0	0	0
	point28	28	189	25	3	25	1	25	0	0	0	0
	point29	29	189	25	3	25	1	25	0	0	0	0
	point30	30	189	25	3	25	1	25	0	0	0	0
	point31	31	189	25	3	25	1	25	0	0	0	0
	point32	32										
Cypress Canyon Rd east	point53	53	220	25	4	25	2	25	0	0	0	0
	point54	54	220	25	4	25	2	25	0	0	0	0
	point55	55										
Elderwood Ln	point56	56	0	0	0	0	0	0	0	0	0	0
	point57	57	0	0	0	0	0	0	0	0	0	0
	point58	58	0	0	0	0	0	0	0	0	0	0
	point59	59	0	0	0	0	0	0	0	0	0	0
	point60	60										
Spring Canyon Rd West	point61	61	581	45	11	45	5	45	0	0	0	0
	point62	62	581	45	11	45	5	45	0	0	0	0
	point63	63	581	45	11	45	5	45	0	0	0	0
	point64	64	581	45	11	45	5	45	0	0	0	0
	point65	65	581	45	11	45	5	45	0	0	0	0
	point66	66	581	45	11	45	5	45	0	0	0	0
	point67	67	581	45	11	45	5	45	0	0	0	0
	point68	68	581	45	11	45	5	45	0	0	0	0
	point69	69	581	45	11	45	5	45	0	0	0	0
	point70	70	581	45	11	45	5	45	0	0	0	0
	point71	71	581	45	11	45	5	45	0	0	0	0
	point72	72	581	45	11	45	5	45	0	0	0	0
	point73	73	581	45	11	45	5	45	0	0	0	0
	point74	74	581	45	11	45	5	45	0	0	0	0
	point75	75	581	45	11	45	5	45	0	0	0	0
	point76	76	581	45	11	45	5	45	0	0	0	0
	point77	77	581	45	11	45	5	45	0	0	0	0
	point78	78	581	45	11	45	5	45	0	0	0	0
	point79	79	581	45	11	45	5	45	0	0	0	0
	point80	80										
Spring Canyon Rd East	point81	81	581	45	11	45	5	45	0	0	0	0

	point82	82	581	45	11	45	5	45	0	0	0	0
	point83	83	581	45	11	45	5	45	0	0	0	0
	point84	84	581	45	11	45	5	45	0	0	0	0
	point85	85	581	45	11	45	5	45	0	0	0	0
	point86	86	581	45	11	45	5	45	0	0	0	0
	point87	87	581	45	11	45	5	45	0	0	0	0
	point88	88	581	45	11	45	5	45	0	0	0	0
	point89	89	581	45	11	45	5	45	0	0	0	0
	point90	90	581	45	11	45	5	45	0	0	0	0
	point91	91	581	45	11	45	5	45	0	0	0	0
	point92	92	581	45	11	45	5	45	0	0	0	0
	point93	93	581	45	11	45	5	45	0	0	0	0
	point94	94	581	45	11	45	5	45	0	0	0	0
	point95	95	581	45	11	45	5	45	0	0	0	0
	point96	96	581	45	11	45	5	45	0	0	0	0
	point97	97	581	45	11	45	5	45	0	0	0	0
	point98	98	581	45	11	45	5	45	0	0	0	0
	point99	99	581	45	11	45	5	45	0	0	0	0
	point100	100	581	45	11	45	5	45	0	0	0	0
	point101	101	581	45	11	45	5	45	0	0	0	0
	point102	102	581	45	11	45	5	45	0	0	0	0
	point103	103	581	45	11	45	5	45	0	0	0	0
	point104	104	581	45	11	45	5	45	0	0	0	0
	point105	105	581	45	11	45	5	45	0	0	0	0
	point106	106	581	45	11	45	5	45	0	0	0	0
	point107	107	581	45	11	45	5	45	0	0	0	0
	point108	108	581	45	11	45	5	45	0	0	0	0
	point109	109	581	45	11	45	5	45	0	0	0	0
	point110	110	581	45	11	45	5	45	0	0	0	0
	point111	111	581	45	11	45	5	45	0	0	0	0
	point112	112	581	45	11	45	5	45	0	0	0	0
	point113	113	581	45	11	45	5	45	0	0	0	0
	point114	114										
Cypress Canyon Park Rd-2	point115	115	280	25	5	25	2	25	0	0	0	0
	point48	48	280	25	5	25	2	25	0	0	0	0
	point49	49	280	25	5	25	2	25	0	0	0	0

	point50	50	280	25	5	25	2	25	0	0	0	0
	point51	51	280	25	5	25	2	25	0	0	0	0
	point52	52										
Cypress Canyon Park Rd-2	point116	116	188	25	3	25	1	25	0	0	0	0
	point33	33	188	25	3	25	1	25	0	0	0	0
	point34	34	188	25	3	25	1	25	0	0	0	0
	point35	35	188	25	3	25	1	25	0	0	0	0
	point36	36	188	25	3	25	1	25	0	0	0	0
	point37	37	188	25	3	25	1	25	0	0	0	0
	point38	38	188	25	3	25	1	25	0	0	0	0
	point39	39	188	25	3	25	1	25	0	0	0	0
	point40	40	188	25	3	25	1	25	0	0	0	0
	point41	41	188	25	3	25	1	25	0	0	0	0
	point42	42	188	25	3	25	1	25	0	0	0	0
	point43	43	188	25	3	25	1	25	0	0	0	0
	point44	44	188	25	3	25	1	25	0	0	0	0
	point45	45	188	25	3	25	1	25	0	0	0	0
	point46	46	188	25	3	25	1	25	0	0	0	0
	point47	47										
Angelique St-2	point118	118	344	25	7	25	3	25	0	0	0	0
	point24	24	344	25	7	25	3	25	0	0	0	0
	point25	25										
Roadway13	point119	119	29	25	0	0	0	0	0	0	0	0
	point120	120										

Dudek 18 October 2021
CB TNM 2.5

INPUT: RECEIVERS
PROJECT/CONTRACT: Cypress Canyon
RUN: Cal

Receiver Name	No.	#DUs	Coordinates (ground) X	Y	Z	Height above Ground	Input Sound Levels and Criteria: Existing LAeq1h	Impact Criteria LAeq1h	Impact Criteria Sub'l	NR Goal	Active in Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
ST1	1	1	6,846,733.5	1,431,833.0	165.00	4.92	63.90	66	10.0	8.0	Y
ST3	2	1	6,848,246.0	1,432,106.9	100.00	4.92	44.40	66	10.0	8.0	Y
ST4	3	1	6,847,735.5	1,433,467.5	-30.00	4.92	46.00	66	10.0	8.0	Y
ST2	4	1	6,846,837.0	1,432,585.2	0.00	4.92	41.20	66	10.0	8.0	Y
M65	6	1	6,846,961.5	1,433,088.5	62.00	4.92	0.00	66	10.0	8.0	Y
M23	7	1	6,848,145.0	1,432,173.5	95.00	4.92	0.00	66	10.0	8.0	Y
M11	8	1	6,847,435.5	1,432,422.9	100.00	4.92	0.00	66	10.0	8.0	Y
M97	9	1	6,847,800.0	1,433,418.0	-30.00	4.92	0.00	66	10.0	8.0	Y

Dudek
CB

18 October 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Cypress Canyon
RUN: Cal
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
ST1	1	1	63.9	68.2	66	4.3	10	Snd Lvl	68.2	0.0	8	-8.0
ST3	2	1	44.4	56.3	66	11.9	10	Sub'l Inc	56.3	0.0	8	-8.0
ST4	3	1	46.0	42.0	66	-4.0	10	----	42.0	0.0	8	-8.0
ST2	4	1	41.2	42.5	66	1.3	10	----	42.5	0.0	8	-8.0
M65	6	1	0.0	46.9	66	46.9	10	----	46.9	0.0	8	-8.0
M23	7	1	0.0	49.3	66	49.3	10	----	49.3	0.0	8	-8.0
M11	8	1	0.0	46.1	66	46.1	10	----	46.1	0.0	8	-8.0
M97	9	1	0.0	38.7	66	38.7	10	----	38.7	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction Min	Avg	Max
		dB	dB	dB
All Selected	8	0.0	0.0	0.0
All Impacted	2	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

Dudek 28 February 2023
CB TNM 2.5

INPUT: RECEIVERS
PROJECT/CONTRACT: Cypress Canyon
RUN: Future + Project

Receiver Name	No.	#DUs	Coordinates (ground) X	Y	Z	Height above Ground	Input Sound Levels and Criteria: Existing LAeq1h	Impact Criteria LAeq1h	Impact Criteria Sub'l	NR Goal	Active in Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
ST1	1	1	6,846,733.5	1,431,833.0	165.00	4.92	63.90	66	10.0	8.0	Y
ST3	2	1	6,848,246.0	1,432,106.9	100.00	4.92	44.40	66	10.0	8.0	Y
ST4	3	1	6,847,735.5	1,433,467.5	-30.00	4.92	46.00	66	10.0	8.0	Y
ST2	4	1	6,846,837.0	1,432,585.2	0.00	4.92	41.20	66	10.0	8.0	Y
M12	11	1	6,847,481.5	1,433,016.4	100.00	4.92	0.00	66	10.0	8.0	Y
M53	12	1	6,847,870.0	1,432,302.0	95.00	4.92	0.00	66	10.0	8.0	Y
M84	13	1	6,847,292.0	1,432,359.5	100.00	4.92	0.00	66	10.0	8.0	Y
M100	14	1	6,846,923.5	1,432,991.5	62.00	4.92	0.00	66	10.0	8.0	Y

Dudek 28 February 2023
CB TNM 2.5

INPUT: ROADWAYS
PROJECT/CONTRACT: Cypress Canyon
RUN: Future + Project

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA

Roadway Name	Width	Points Name	No.	Coordinates (pavement) X	Y	Z	Flow Control Control Device	Speed Constraint	Percent Vehicles Affected	Segment Pvmt Type	On Struct?
	ft			ft	ft	ft		mph	%		
Cypress Valley Drive	40.0	point1	1	6,845,362.0	1,433,528.1	0.00				Average	
		point2	2	6,845,379.0	1,433,329.0	0.00				Average	
		point3	3	6,845,419.0	1,433,223.1	0.00				Average	
		point4	4	6,845,512.0	1,433,123.2	0.00				Average	
		point5	5	6,845,703.0	1,433,009.8	0.00				Average	
		point6	6	6,846,063.0	1,432,857.2	0.00				Average	
		point7	7	6,846,258.0	1,432,787.8	0.00				Average	
		point8	8	6,846,742.0	1,432,628.4	0.00					
Cypress Canyon Rd west	12.0	point9	9	6,846,839.5	1,433,373.9	0.00				Average	
		point10	10	6,846,775.5	1,433,394.6	0.00				Average	
		point11	11	6,846,623.5	1,433,418.9	0.00				Average	
		point12	12	6,846,567.0	1,433,416.0	0.00				Average	
		point13	13	6,846,439.5	1,433,412.2	0.00				Average	
		point14	14	6,846,320.0	1,433,432.0	0.00				Average	
		point15	15	6,846,092.5	1,433,516.1	0.00				Average	
		point16	16	6,845,951.0	1,433,537.5	0.00				Average	
		point17	17	6,845,779.5	1,433,537.0	0.00				Average	
		point18	18	6,845,503.0	1,433,533.5	0.00				Average	
		point19	19	6,845,273.5	1,433,553.1	0.00				Average	
		point20	20	6,845,071.0	1,433,602.9	0.00					
Angelique St	40.0	point21	21	6,846,648.0	1,434,408.5	0.00				Average	
		point22	22	6,846,724.5	1,434,066.4	0.00				Average	
		point23	23	6,846,778.0	1,433,727.6	0.00					
Cypress Canyon Park Rd	40.0	point26	26	6,846,801.5	1,433,797.6	0.00				Average	
		point27	27	6,846,857.0	1,433,805.6	-10.00				Average	

		point28	28	6,847,086.0	1,433,859.8	-20.00				Average	
		point29	29	6,847,256.5	1,433,913.1	-30.00				Average	
		point30	30	6,847,440.5	1,433,942.0	-20.00				Average	
		point31	31	6,847,553.0	1,433,944.6	-10.00				Average	
		point32	32	6,847,800.0	1,433,879.2	-5.00					
Cypress Canyon Rd east	40.0	point53	53	6,848,233.5	1,432,134.5	100.00				Average	
		point54	54	6,848,705.5	1,432,117.4	80.00				Average	
		point55	55	6,849,035.5	1,432,123.0	50.00					
Elderwood Ln	30.0	point56	56	6,846,366.0	1,432,104.5	120.00				Average	
		point57	57	6,846,540.5	1,431,987.9	130.00				Average	
		point58	58	6,846,602.5	1,431,939.9	140.00				Average	
		point59	59	6,846,633.5	1,431,906.8	155.00				Average	
		point60	60	6,846,684.5	1,431,806.9	165.00					
Spring Canyon Rd West	45.0	point61	61	6,849,404.5	1,431,314.0	100.00				Average	
		point62	62	6,849,121.5	1,431,294.2	110.00				Average	
		point63	63	6,848,943.5	1,431,293.2	120.00				Average	
		point64	64	6,848,750.5	1,431,308.6	130.00				Average	
		point65	65	6,848,568.0	1,431,344.1	140.00				Average	
		point66	66	6,848,413.5	1,431,387.5	150.00				Average	
		point67	67	6,848,132.5	1,431,487.5	150.00				Average	
		point68	68	6,847,866.0	1,431,581.6	150.00				Average	
		point69	69	6,847,663.0	1,431,655.5	150.00				Average	
		point70	70	6,847,387.5	1,431,752.0	150.00				Average	
		point71	71	6,847,167.0	1,431,822.4	155.00				Average	
		point72	72	6,847,078.0	1,431,834.8	160.00				Average	
		point73	73	6,847,005.0	1,431,837.6	165.00				Average	
		point74	74	6,846,827.0	1,431,825.2	165.00				Average	
		point75	75	6,846,549.5	1,431,738.6	170.00				Average	
		point76	76	6,846,269.5	1,431,641.4	170.00				Average	
		point77	77	6,846,048.5	1,431,616.0	170.00				Average	
		point78	78	6,845,854.5	1,431,617.4	175.00				Average	
		point79	79	6,845,493.5	1,431,715.0	175.00				Average	
		point80	80	6,845,013.5	1,431,848.1	175.00					
Spring Canyon Rd East	45.0	point81	81	6,844,996.0	1,431,808.0	175.00				Average	
		point82	82	6,845,322.5	1,431,716.1	175.00				Average	
		point83	83	6,845,442.0	1,431,689.4	175.00				Average	
		point84	84	6,845,576.5	1,431,647.2	175.00				Average	
		point85	85	6,845,698.0	1,431,616.1	175.00				Average	
		point86	86	6,845,832.5	1,431,585.5	175.00				Average	

		point87	87	6,845,932.0	1,431,574.6	175.00				Average	
		point88	88	6,846,078.0	1,431,572.8	175.00				Average	
		point89	89	6,846,202.0	1,431,592.2	175.00				Average	
		point90	90	6,846,261.0	1,431,610.1	170.00				Average	
		point91	91	6,846,361.0	1,431,638.8	170.00				Average	
		point92	92	6,846,489.0	1,431,675.6	170.00				Average	
		point93	93	6,846,613.0	1,431,714.9	165.00				Average	
		point94	94	6,846,712.5	1,431,741.5	165.00				Average	
		point95	95	6,846,790.5	1,431,765.5	165.00				Average	
		point96	96	6,846,902.0	1,431,788.8	165.00				Average	
		point97	97	6,846,979.0	1,431,795.2	165.00				Average	
		point98	98	6,847,065.0	1,431,798.4	165.00				Average	
		point99	99	6,847,102.5	1,431,791.6	165.00				Average	
		point100	100	6,847,169.5	1,431,783.9	160.00				Average	
		point101	101	6,847,265.5	1,431,750.4	155.00				Average	
		point102	102	6,847,387.5	1,431,705.2	150.00				Average	
		point103	103	6,847,553.5	1,431,645.6	150.00				Average	
		point104	104	6,847,729.5	1,431,583.6	150.00				Average	
		point105	105	6,847,921.5	1,431,518.6	150.00				Average	
		point106	106	6,848,060.5	1,431,468.6	150.00				Average	
		point107	107	6,848,275.5	1,431,394.9	150.00				Average	
		point108	108	6,848,397.5	1,431,352.8	150.00				Average	
		point109	109	6,848,522.5	1,431,317.6	145.00				Average	
		point110	110	6,848,679.0	1,431,281.2	140.00				Average	
		point111	111	6,848,791.0	1,431,266.5	130.00				Average	
		point112	112	6,848,918.0	1,431,248.2	120.00				Average	
		point113	113	6,849,082.5	1,431,247.6	110.00				Average	
		point114	114	6,849,379.5	1,431,268.2	100.00					
Cypress Canyon Park Rd-2	40.0	point115	115	6,849,062.0	1,432,149.2	60.00				Average	
		point48	48	6,849,088.5	1,431,960.2	60.00				Average	
		point49	49	6,849,159.5	1,431,800.0	75.00				Average	
		point50	50	6,849,239.5	1,431,728.1	85.00				Average	
		point51	51	6,849,335.0	1,431,612.5	95.00				Average	
		point52	52	6,849,418.5	1,431,369.1	100.00					
Cypress Canyon Park Rd-2	40.0	point116	116	6,847,800.0	1,433,879.2	-5.00				Average	
		point33	33	6,848,040.0	1,433,808.8	5.00				Average	
		point34	34	6,848,202.5	1,433,740.2	15.00				Average	
		point35	35	6,848,365.5	1,433,650.4	20.00				Average	
		point36	36	6,848,476.5	1,433,580.0	25.00				Average	

		point37	37	6,848,562.0	1,433,489.9	30.00				Average	
		point38	38	6,848,682.0	1,433,319.9	35.00				Average	
		point39	39	6,848,779.0	1,433,188.9	35.00				Average	
		point40	40	6,848,835.0	1,433,080.8	40.00				Average	
		point41	41	6,848,859.0	1,432,989.1	40.00				Average	
		point42	42	6,848,889.5	1,432,842.9	45.00				Average	
		point43	43	6,848,908.5	1,432,701.2	50.00				Average	
		point44	44	6,848,975.5	1,432,557.1	55.00				Average	
		point45	45	6,849,048.0	1,432,373.2	55.00				Average	
		point46	46	6,849,061.0	1,432,274.2	58.00				Average	
		point47	47	6,849,062.0	1,432,149.2	60.00					
Angelique St-2	40.0	point118	118	6,846,778.0	1,433,727.6	0.00				Average	
		point24	24	6,846,792.5	1,433,611.8	0.00				Average	
		point25	25	6,846,758.5	1,433,410.6	0.00					
Roadway13	12.0	point119	119	6,847,758.5	1,433,459.5	-5.00				Average	
		point120	120	6,847,886.0	1,433,809.9	-30.00					

Dudek **28 February 2023**
CB **TNM 2.5**

INPUT: TRAFFIC FOR LAeq1h Volumes
PROJECT/CONTRACT: **Cypress Canyon**
RUN: **Future + Project**

Roadway	Points											
Name	Name	No.	Segment									
			Autos		MTrucks		HTrucks		Buses		Motorcycles	
			V	S	V	S	V	S	V	S	V	S
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
Cypress Valley Drive	point1	1	0	0	0	0	0	0	0	0	0	0
	point2	2	0	0	0	0	0	0	0	0	0	0
	point3	3	0	0	0	0	0	0	0	0	0	0
	point4	4	0	0	0	0	0	0	0	0	0	0
	point5	5	0	0	0	0	0	0	0	0	0	0
	point6	6	0	0	0	0	0	0	0	0	0	0
	point7	7	0	0	0	0	0	0	0	0	0	0
	point8	8										
Cypress Canyon Rd west	point9	9	292	25	6	25	3	25	0	0	0	0
	point10	10	292	25	6	25	3	25	0	0	0	0
	point11	11	292	25	6	25	3	25	0	0	0	0
	point12	12	292	25	6	25	3	25	0	0	0	0
	point13	13	292	25	6	25	3	25	0	0	0	0
	point14	14	292	25	6	25	3	25	0	0	0	0
	point15	15	292	25	6	25	3	25	0	0	0	0
	point16	16	292	25	6	25	3	25	0	0	0	0
	point17	17	292	25	6	25	3	25	0	0	0	0
	point18	18	292	25	6	25	3	25	0	0	0	0
	point19	19	292	25	6	25	3	25	0	0	0	0
	point20	20										
Angelique St	point21	21	435	25	8	25	4	25	0	0	0	0
	point22	22	435	25	8	25	4	25	0	0	0	0
	point23	23										

Cypress Canyon Park Rd	point26	26	189	25	3	25	1	25	0	0	0	0
	point27	27	189	25	3	25	1	25	0	0	0	0
	point28	28	189	25	3	25	1	25	0	0	0	0
	point29	29	189	25	3	25	1	25	0	0	0	0
	point30	30	189	25	3	25	1	25	0	0	0	0
	point31	31	189	25	3	25	1	25	0	0	0	0
	point32	32										
Cypress Canyon Rd east	point53	53	220	25	4	25	2	25	0	0	0	0
	point54	54	220	25	4	25	2	25	0	0	0	0
	point55	55										
Elderwood Ln	point56	56	0	0	0	0	0	0	0	0	0	0
	point57	57	0	0	0	0	0	0	0	0	0	0
	point58	58	0	0	0	0	0	0	0	0	0	0
	point59	59	0	0	0	0	0	0	0	0	0	0
	point60	60										
Spring Canyon Rd West	point61	61	581	45	11	45	5	45	0	0	0	0
	point62	62	581	45	11	45	5	45	0	0	0	0
	point63	63	581	45	11	45	5	45	0	0	0	0
	point64	64	581	45	11	45	5	45	0	0	0	0
	point65	65	581	45	11	45	5	45	0	0	0	0
	point66	66	581	45	11	45	5	45	0	0	0	0
	point67	67	581	45	11	45	5	45	0	0	0	0
	point68	68	581	45	11	45	5	45	0	0	0	0
	point69	69	581	45	11	45	5	45	0	0	0	0
	point70	70	581	45	11	45	5	45	0	0	0	0
	point71	71	581	45	11	45	5	45	0	0	0	0
	point72	72	581	45	11	45	5	45	0	0	0	0
	point73	73	581	45	11	45	5	45	0	0	0	0
	point74	74	581	45	11	45	5	45	0	0	0	0
	point75	75	581	45	11	45	5	45	0	0	0	0
	point76	76	581	45	11	45	5	45	0	0	0	0
	point77	77	581	45	11	45	5	45	0	0	0	0
	point78	78	581	45	11	45	5	45	0	0	0	0
	point79	79	581	45	11	45	5	45	0	0	0	0
	point80	80										
Spring Canyon Rd East	point81	81	581	45	11	45	5	45	0	0	0	0

	point82	82	581	45	11	45	5	45	0	0	0	0
	point83	83	581	45	11	45	5	45	0	0	0	0
	point84	84	581	45	11	45	5	45	0	0	0	0
	point85	85	581	45	11	45	5	45	0	0	0	0
	point86	86	581	45	11	45	5	45	0	0	0	0
	point87	87	581	45	11	45	5	45	0	0	0	0
	point88	88	581	45	11	45	5	45	0	0	0	0
	point89	89	581	45	11	45	5	45	0	0	0	0
	point90	90	581	45	11	45	5	45	0	0	0	0
	point91	91	581	45	11	45	5	45	0	0	0	0
	point92	92	581	45	11	45	5	45	0	0	0	0
	point93	93	581	45	11	45	5	45	0	0	0	0
	point94	94	581	45	11	45	5	45	0	0	0	0
	point95	95	581	45	11	45	5	45	0	0	0	0
	point96	96	581	45	11	45	5	45	0	0	0	0
	point97	97	581	45	11	45	5	45	0	0	0	0
	point98	98	581	45	11	45	5	45	0	0	0	0
	point99	99	581	45	11	45	5	45	0	0	0	0
	point100	100	581	45	11	45	5	45	0	0	0	0
	point101	101	581	45	11	45	5	45	0	0	0	0
	point102	102	581	45	11	45	5	45	0	0	0	0
	point103	103	581	45	11	45	5	45	0	0	0	0
	point104	104	581	45	11	45	5	45	0	0	0	0
	point105	105	581	45	11	45	5	45	0	0	0	0
	point106	106	581	45	11	45	5	45	0	0	0	0
	point107	107	581	45	11	45	5	45	0	0	0	0
	point108	108	581	45	11	45	5	45	0	0	0	0
	point109	109	581	45	11	45	5	45	0	0	0	0
	point110	110	581	45	11	45	5	45	0	0	0	0
	point111	111	581	45	11	45	5	45	0	0	0	0
	point112	112	581	45	11	45	5	45	0	0	0	0
	point113	113	581	45	11	45	5	45	0	0	0	0
	point114	114										
Cypress Canyon Park Rd-2	point115	115	280	25	5	25	2	25	0	0	0	0
	point48	48	280	25	5	25	2	25	0	0	0	0
	point49	49	280	25	5	25	2	25	0	0	0	0

	point50	50	280	25	5	25	2	25	0	0	0	0
	point51	51	280	25	5	25	2	25	0	0	0	0
	point52	52										
Cypress Canyon Park Rd-2	point116	116	188	25	3	25	1	25	0	0	0	0
	point33	33	188	25	3	25	1	25	0	0	0	0
	point34	34	188	25	3	25	1	25	0	0	0	0
	point35	35	188	25	3	25	1	25	0	0	0	0
	point36	36	188	25	3	25	1	25	0	0	0	0
	point37	37	188	25	3	25	1	25	0	0	0	0
	point38	38	188	25	3	25	1	25	0	0	0	0
	point39	39	188	25	3	25	1	25	0	0	0	0
	point40	40	188	25	3	25	1	25	0	0	0	0
	point41	41	188	25	3	25	1	25	0	0	0	0
	point42	42	188	25	3	25	1	25	0	0	0	0
	point43	43	188	25	3	25	1	25	0	0	0	0
	point44	44	188	25	3	25	1	25	0	0	0	0
	point45	45	188	25	3	25	1	25	0	0	0	0
	point46	46	188	25	3	25	1	25	0	0	0	0
	point47	47										
Angelique St-2	point118	118	344	25	7	25	3	25	0	0	0	0
	point24	24	344	25	7	25	3	25	0	0	0	0
	point25	25										
Roadway13	point119	119	29	25	0	0	0	0	0	0	0	0
	point120	120										

Dudek
CB

28 February 2023
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Cypress Canyon
RUN: Future + Project
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

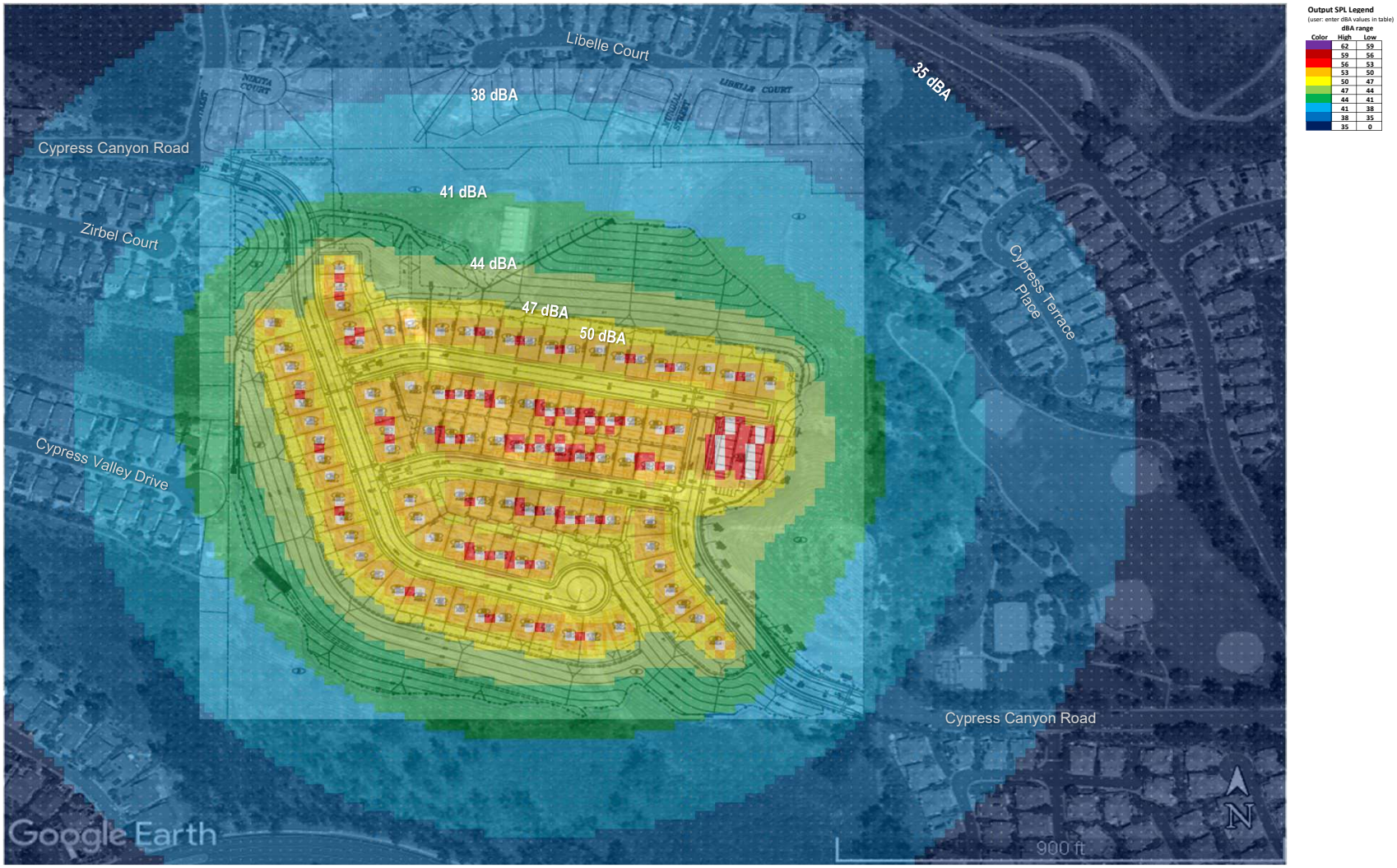
Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h		Increase over existing		Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
				Calculated	Crit'n	Calculated	Crit'n Sub'l Inc					
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
ST1	1	1	63.9	68.2	66	4.3	10	Snd Lvl	68.2	0.0	8	-8.0
ST3	2	1	44.4	56.3	66	11.9	10	Sub'l Inc	56.3	0.0	8	-8.0
ST4	3	1	46.0	42.0	66	-4.0	10	----	42.0	0.0	8	-8.0
ST2	4	1	41.2	42.5	66	1.3	10	----	42.5	0.0	8	-8.0
M12	11	1	0.0	43.6	66	43.6	10	----	43.6	0.0	8	-8.0
M53	12	1	0.0	46.6	66	46.6	10	----	46.6	0.0	8	-8.0
M84	13	1	0.0	46.7	66	46.7	10	----	46.7	0.0	8	-8.0
M100	14	1	0.0	46.9	66	46.9	10	----	46.9	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	8	0.0	0.0	0.0
All Impacted	2	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

Appendix D

Residential HVAC Noise Prediction


Libelle Court
38 dBA
35 dBA
Cypress Canyon Road
41 dBA
Zirbel Court
44 dBA
47 dBA
50 dBA
Cypress Terrace Place
Cypress Valley Drive
Cypress Canyon Road
Google Earth
900 ft
N
Output SPL Legend
(user: enter dBA values in table)
dBA range
Color
High
Low
62 59
59 56
56 53
53 50
50 47
47 44
44 41
41 38
38 35
35 0