Temescal Valley Business Park (PAR190052)

NOISE IMPACT ANALYSIS

COUNTY OF RIVERSIDE

PREPARED BY:

Bill Lawson, PE, INCE
blawson@urbanxroads.com
(949) 584-3148

Sama Shami
sshami@urbanxroads.com
(949) 945-4407

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LIST OF ABBREVIATED TERMS

(1)	Reference
ADT	Average Daily Traffic
ANSI	American National Standards Institute
Calveno	California Vehicle Noise
CEQA	California Environmental Quality Act
CNEL	Community Noise Equivalent Level
dBA	A-weighted decibels
EPA	Environmental Protection Agency
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
Hz	Hertz
I-15	Interstate 15
INCE	Institute of Noise Control Engineering
L_{eq}	Equivalent continuous (average) sound level
L_{max}	Maximum level measured over the time interval
L_{min}	Minimum level measured over the time interval
mph	Miles per hour
OPR	Office of Planning and Research
PPV	Peak particle velocity
Project	Temescal Valley Business Park
REMEL	Reference Energy Mean Emission Level
RMS	Root-mean-square
VdB	Vibration Decibels

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EXECUTIVE SUMMARY

Urban Crossroads, Inc. has prepared this noise study to determine the potential noise impacts and the necessary noise mitigation measures, if any, for the proposed Temescal Valley Business Park development ("Project"). The Project site is located south of Dawson Canyon Road and east of Temescal Canyon road in unincorporated County of Riverside. The Project is proposed to consist of the development of a 183,456 square foot warehouse. This noise study includes a conservative analysis of the proposed Project uses. This study has been prepared to satisfy applicable County of Riverside standards and thresholds of significance based on guidance provided by Appendix G of the California Environmental Quality Act (CEQA) Guidelines. (1)

SUMMARY OF CEQA SIGNIFICANCE FINDINGS

The results of this Temescal Valley Business Park Noise Impact Analysis are summarized below based on the significance criteria in Section 4 of this report consistent with Appendix G of the California Environmental Quality Act (CEQA) Guidelines. (1). Table ES-1 shows the findings of significance for each potential noise and/or vibration impact under CEQA before and after any required mitigation measures.

TABLE ES-1: SUMMARY OF CEQA SIGNIFICANCE FINDINGS

Analysis	Report Section	Significance Findings	
		Unmitigated	Mitigated
Off-Site Traffic Noise	7	*Less Than Significant*	-
Operational Noise	9	*Less Than Significant*	-
Construction Noise	10	*Less Than Significant*	-
Construction Vibration		*Less Than Significant*	-

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1 INTRODUCTION

This noise analysis has been completed to determine the noise impacts associated with the development of the proposed Temescal Valley Business Park ("Project"). This noise study briefly describes the proposed Project, provides information regarding noise fundamentals, sets out the local regulatory setting, presents the study methods and procedures for transportation related CNEL traffic noise analysis, and evaluates the future exterior noise environment. In addition, this study includes an analysis of the potential Project-related long-term stationary-source operational noise and short-term construction noise impacts.

1.1 SITE LOCATION

The proposed Temescal Valley Business Park site is located south of Dawson Canyon Road and east of Temescal Canyon road in unincorporated County of Riverside, as shown on Exhibit 1-A. Existing land uses near the site consist mostly of industrial land use and vacant land to the east and south of the Project site with some nearby residential homes located northwest and west of the Project site. Interstate 15 (I-15) is located approximately 600 feet west of the Project site.

1.2 PROJECT DESCRIPTION

As shown in Exhibit 1-B, the Project is proposed to consist of the development of a 183,456 square foot warehouse. The anticipated Project opening year is 2022. In addition, the Project will construct Temescal Canyon Road to align with the future extension of Temescal Canyon Road that is proposed to run along the northeast side of the I-15 Freeway.

The on-site Project-related noise sources are expected to include: loading dock activity, delivery van activity, entry gate & truck movements, roof-top air conditioning units, and trash enclosure activity. This noise analysis is intended to describe noise level impacts associated with the expected typical operational activities at the Project site. To present a conservative approach, this report assumes the Project will operate 24-hours daily for seven days per week.

Per the *Temescal Valley Business Park Traffic Analysis* prepared by Urban Crossroads, Inc. the Project is expected to generate a total of approximately 3,016 trip-ends per day (actual vehicles) and includes 82 truck trip-ends per day. (2) This noise study relies on the actual Project trips (as opposed to the passenger car equivalents) to accurately account for the effect of individual truck trips on the study area roadway network.

EXHIBIT 1-A: LOCATION MAP

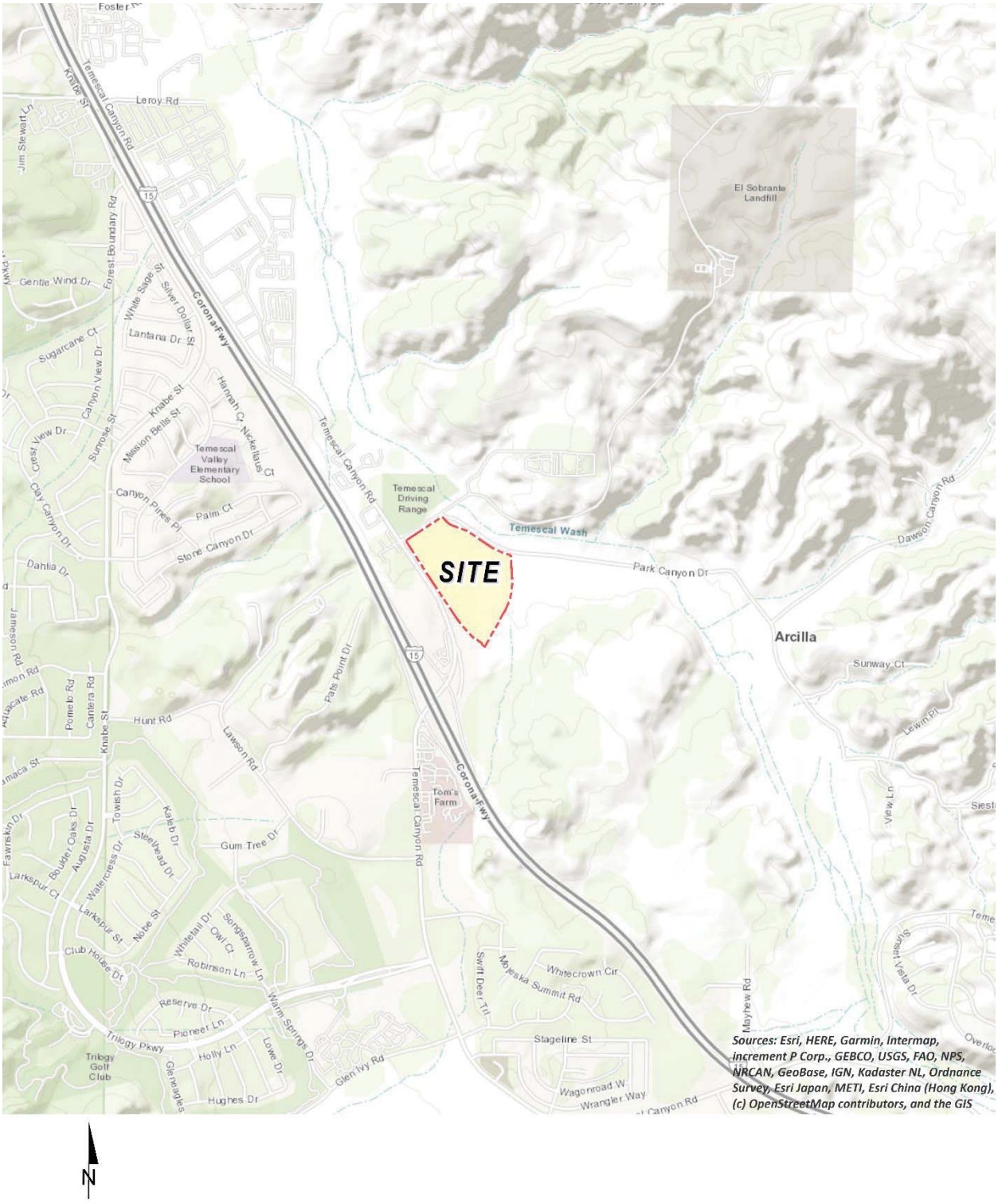
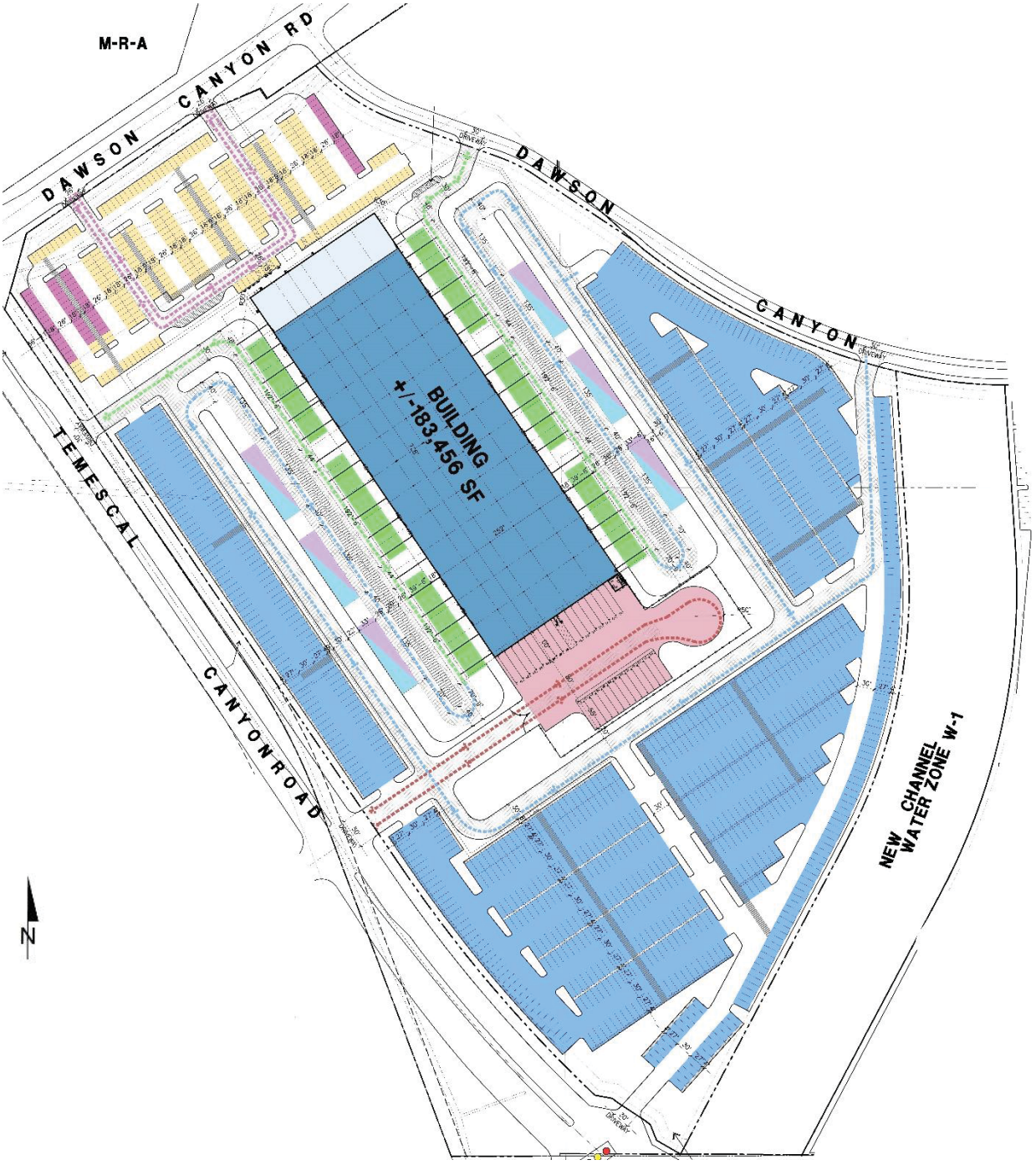


EXHIBIT 1-B: SITE PLAN



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2 FUNDAMENTALS

Noise is simply defined as "unwanted sound." Sound becomes unwanted when it interferes with normal activities, when it causes actual physical harm or when it has adverse effects on health. Noise is measured on a logarithmic scale of sound pressure level known as a decibel (dB). A-weighted decibels (dBA) approximate the subjective response of the human ear to broad frequency noise source by discriminating against very low and very high frequencies of the audible spectrum. They are adjusted to reflect only those frequencies which are audible to the human ear. Exhibit 2-A presents a summary of the typical noise levels and their subjective loudness and effects that are described in more detail below.

EXHIBIT 2-A: TYPICAL NOISE LEVELS

COMMON OUTDOOR ACTIVITIES	COMMON INDOOR ACTIVITIES	A - WEIGHTED SOUND LEVEL dBA	SUBJECTIVE LOUDNESS	EFFECTS OF NOISE
THRESHOLD OF PAIN		140	INTOLERABLE OR DEAFENING	HEARING LOSS
NEAR JET ENGINE		130		
		120		
JET FLY-OVER AT 300m (1000 ft)	ROCK BAND	110		
LOUD AUTO HORN		100	VERY NOISY	
GAS LAWN MOWER AT 1m (3 ft)		90		
DIESEL TRUCK AT 15m (50 ft), at 80 km/hr (50 mph)	FOOD BLENDER AT 1m (3 ft)	80		SPEECH INTERFERENCE
NOISY URBAN AREA, DAYTIME	VACUUM CLEANER AT 3m (10 ft)	70	LOUD	
HEAVY TRAFFIC AT 90m (300 ft)	NORMAL SPEECH AT 1m (3 ft)	60		
QUIET URBAN DAYTIME	LARGE BUSINESS OFFICE	50	MODERATE	SLEEP DISTURBANCE
QUIET URBAN NIGHTTIME	THEATER, LARGE CONFERENCE ROOM (BACKGROUND)	40		
QUIET SUBURBAN NIGHTTIME	LIBRARY	30	FAINT	NO EFFECT
QUIET RURAL NIGHTTIME	BEDROOM AT NIGHT, CONCERT HALL (BACKGROUND)	20		
	BROADCAST/RECORDING STUDIO	10	VERY FAINT	
LOWEST THRESHOLD OF HUMAN HEARING	LOWEST THRESHOLD OF HUMAN HEARING	0		

Source: Environmental Protection Agency Office of Noise Abatement and Control, Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety (EPA/ONAC 550/9-74-004) March 1974.

2.1 RANGE OF NOISE

Since the range of intensities that the human ear can detect is so large, the scale frequently used to measure intensity is a scale based on multiples of 10, the logarithmic scale. The scale for measuring intensity is the decibel scale. Each interval of 10 decibels indicates a sound energy ten times greater than before, which is perceived by the human ear as being roughly twice as loud. (3) The most common sounds vary between 40 dBA (very quiet) to 100 dBA (very loud). Normal conversation at three feet is roughly at 60 dBA, while loud jet engine noises equate to 110 dBA

at approximately 100 feet, which can cause serious discomfort. (4) Another important aspect of noise is the duration of the sound and the way it is described and distributed in time.

2.2 NOISE DESCRIPTORS

Environmental noise descriptors are generally based on averages, rather than instantaneous, noise levels. The most used figure is the equivalent level (L_{eq}). Equivalent sound levels are not measured directly but are calculated from sound pressure levels typically measured in A-weighted decibels (dBA). The equivalent sound level (L_{eq}) represents a steady state sound level containing the same total energy as a time varying signal over a given sample period and is commonly used to describe the "average" noise levels within the environment.

To describe the time-varying character of environmental noise, the statistical or percentile noise descriptors L_{50}, L_{25}, L_8 and L_2, are commonly used. The percentile noise descriptors are the noise levels equaled or exceeded during 50 percent, 25 percent, 8 percent and 2 percent of a stated time. Sound levels associated with the L_2 and L_8 typically describe transient or short-term events, while levels associated with the L_{50} describe the steady state (or median) noise conditions. The relies on the percentile noise levels to describe the stationary source noise level limits. While the L_{50} describes the noise levels occurring 50 percent of the time, the L_{eq} accounts for the total energy (average) observed for the entire hour.

Peak hour or average noise levels, while useful, do not completely describe a given noise environment. Noise levels lower than peak hour may be disturbing if they occur during times when quiet is most desirable, namely evening and nighttime (sleeping) hours. To account for this, the Community Noise Equivalent Level (CNEL), representing a composite 24-hour noise level is utilized. The CNEL is the weighted average of the intensity of a sound, with corrections for time of day, and averaged over 24 hours. The time of day corrections require the addition of 5 decibels to dBA L_{eq} sound levels in the evening from 7:00 p.m. to 10:00 p.m., and the addition of 10 decibels to dBA L_{eq} sound levels at night between 10:00 p.m. and 7:00 a.m. These additions are made to account for the noise sensitive time periods during the evening and night hours when sound appears louder. CNEL does not represent the actual sound level heard at any time, but rather represents the total sound exposure. The County of Riverside relies on the 24-hour CNEL level to assess land use compatibility with transportation related noise sources.

2.3 SOUND PROPAGATION

When sound propagates over a distance, it changes in level and frequency content. The way noise reduces with distance depends on the following factors.

2.3.1 GEOMETRIC SPREADING

Sound from a localized source (i.e., a stationary point source) propagates uniformly outward in a spherical pattern. The sound level attenuates (or decreases) at a rate of 6 dB for each doubling of distance from a point source. Highways consist of several localized noise sources on a defined path and hence can be treated as a line source, which approximates the effect of several point sources. Noise from a line source propagates outward in a cylindrical pattern, often referred to

as cylindrical spreading. Sound levels attenuate at a rate of 3 dB for each doubling of distance from a line source. (3)

2.3.2 Ground Absorption

The propagation path of noise from a highway to a receiver is usually very close to the ground. Noise attenuation from ground absorption and reflective wave canceling adds to the attenuation associated with geometric spreading. Traditionally, the excess attenuation has also been expressed in terms of attenuation per doubling of distance. This approximation is usually sufficiently accurate for distances of less than 200 ft. For acoustically hard sites (i.e., sites with a reflective surface between the source and the receiver, such as a parking lot or body of water), no excess ground attenuation is assumed. For acoustically absorptive or soft sites (i.e., those sites with an absorptive ground surface between the source and the receiver such as soft dirt, grass, or scattered bushes and trees), an excess ground attenuation value of 1.5 dB per doubling of distance is normally assumed. When added to the cylindrical spreading, the excess ground attenuation results in an overall drop-off rate of 4.5 dB per doubling of distance from a line source. (5)

2.3.3 Atmospheric Effects

Receivers located downwind from a source can be exposed to increased noise levels relative to calm conditions, whereas locations upwind can have lowered noise levels. Sound levels can be increased at large distances (e.g., more than 500 feet) due to atmospheric temperature inversion (i.e., increasing temperature with elevation). Other factors such as air temperature, humidity, and turbulence can also have significant effects. (3)

2.3.4 Shielding

A large object or barrier in the path between a noise source and a receiver can substantially attenuate noise levels at the receiver. The amount of attenuation provided by shielding depends on the size of the object and the frequency content of the noise source. Shielding by trees and other such vegetation typically only has an “out of sight, out of mind” effect. That is, the perception of noise impact tends to decrease when vegetation blocks the line-of-sight to nearby residents. However, for vegetation to provide a substantial, or even noticeable, noise reduction, the vegetation area must be at least 15 feet in height, 100 feet wide and dense enough to completely obstruct the line-of sight between the source and the receiver. This size of vegetation may provide up to 5 dBA of noise reduction. The Federal Highway Administration (FHWA) does not consider the planting of vegetation to be a noise abatement measure. (5)

2.3.5 Reflection

Field studies conducted by the FHWA have shown that the reflection from barriers and buildings does not substantially increase noise levels. (5) If all the noise striking a structure was reflected back to a given receiving point, the increase would be theoretically limited to 3 dBA. Further, not all the acoustical energy is reflected back to same point. Some of the energy would go over the structure, some is reflected to points other than the given receiving point, some is scattered by ground coverings (e.g., grass and other plants), and some is blocked by intervening structures

and/or obstacles (e.g., the noise source itself). Additionally, some of the reflected energy is lost due to the longer path that the noise must travel. FHWA measurements made to quantify reflective increases in traffic noise have not shown an increase of greater than 1-2 dBA; an increase that is not perceptible to the average human ear.

2.4 NOISE CONTROL

Noise control is the process of obtaining an acceptable noise environment for an observation point or receiver by controlling the noise source, transmission path, receiver, or all three. This concept is known as the source-path-receiver concept. In general, noise control measures can be applied to these three elements.

2.5 NOISE BARRIER ATTENUATION

Effective noise barriers can reduce noise levels by up to 10 to 15 dBA, cutting the loudness of traffic noise in half. A noise barrier is most effective when placed close to the noise source or receiver. Noise barriers, however, do have limitations. For a noise barrier to work, it must be high enough and long enough to block the path of the noise source. (5)

2.6 LAND USE COMPATIBILITY WITH NOISE

Some land uses are more tolerant of noise than others. For example, schools, hospitals, churches, and residences are more sensitive to noise intrusion than are commercial or industrial developments and related activities. As ambient noise levels affect the perceived amenity or livability of a development, so too can the mismanagement of noise impacts impair the economic health and growth potential of a community by reducing the area's desirability as a place to live, shop and work. For this reason, land use compatibility with the noise environment is an important consideration in the planning and design process. The FHWA encourages State and Local government to regulate land development in such a way that noise-sensitive land uses are either prohibited from being located adjacent to a highway, or that the developments are planned, designed, and constructed in such a way that noise impacts are minimized. (6)

2.7 COMMUNITY RESPONSE TO NOISE

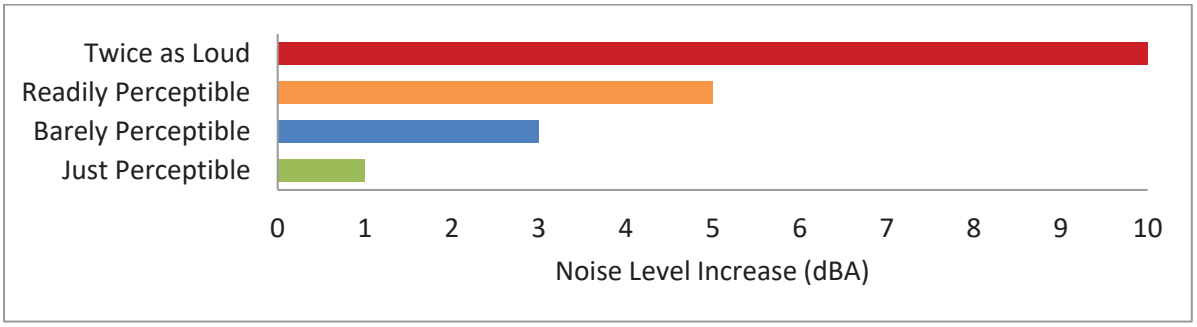
Community responses to noise may range from registering a complaint by telephone or letter, to initiating court action, depending upon everyone's susceptibility to noise and personal attitudes about noise. Several factors are related to the level of community annoyance including:

- Fear associated with noise producing activities;
- Socio-economic status and educational level;
- Perception that those affected are being unfairly treated;
- Attitudes regarding the usefulness of the noise-producing activity;
- Belief that the noise source can be controlled.

Approximately ten percent of the population has a very low tolerance for noise and will object to any noise not of their making. Consequently, even in the quietest environment, some complaints will occur. Twenty-five percent of the population will not complain even in very severe noise

environments. Thus, a variety of reactions can be expected from people exposed to any given noise environment. (7) Surveys have shown that about ten percent of the people exposed to traffic noise of 60 dBA will report being highly annoyed with the noise, and each increase of one dBA is associated with approximately two percent more people being highly annoyed. When traffic noise exceeds 60 dBA or aircraft noise exceeds 55 dBA, people may begin to complain. (7) Despite this variability in behavior on an individual level, the population can be expected to exhibit the following responses to changes in noise levels as shown on Exhibit 2-B. A change of 3 dBA are considered *barely perceptible*, and changes of 5 dBA are considered *readily perceptible*. (5)

EXHIBIT 2-B: NOISE LEVEL INCREASE PERCEPTION



2.8 EXPOSURE TO HIGH NOISE LEVELS

The Occupational Safety and Health Administration (OSHA) sets legal limits on noise exposure in the workplace. The permissible exposure limit (PEL) for a worker over an eight-hour day is 90 dBA. The OSHA standard uses a 5 dBA exchange rate. This means that when the noise level is increased by 5 dBA, the amount of time a person can be exposed to a certain noise level to receive the same dose is cut in half. The National Institute for Occupational Safety and Health (NIOSH) has recommended that all worker exposures to noise should be controlled below a level equivalent to 85 dBA for eight hours to minimize occupational noise induced hearing loss. NIOSH also recommends a 3 dBA exchange rate so that every increase by 3 dBA doubles the amount of the noise and halves the recommended amount of exposure time. (8)

OSHA has implemented requirements to protect all workers in general industry (e.g. the manufacturing and the service sectors) for employers to implement a Hearing Conservation Program where workers are exposed to a time weighted average noise level of 85 dBA or higher over an eight-hour work shift. Hearing Conservation Programs require employers to measure noise levels, provide free annual hearing exams and free hearing protection, provide training, and conduct evaluations of the adequacy of the hearing protectors in use unless changes to tools, equipment and schedules are made so that they are less noisy and worker exposure to noise is less than the 85 dBA. This noise study does not evaluate the noise exposure of workers within a project or construction site based on CEQA requirements, and instead, evaluates Project-related operational and construction noise levels at the nearby sensitive receiver locations in the Project study area.

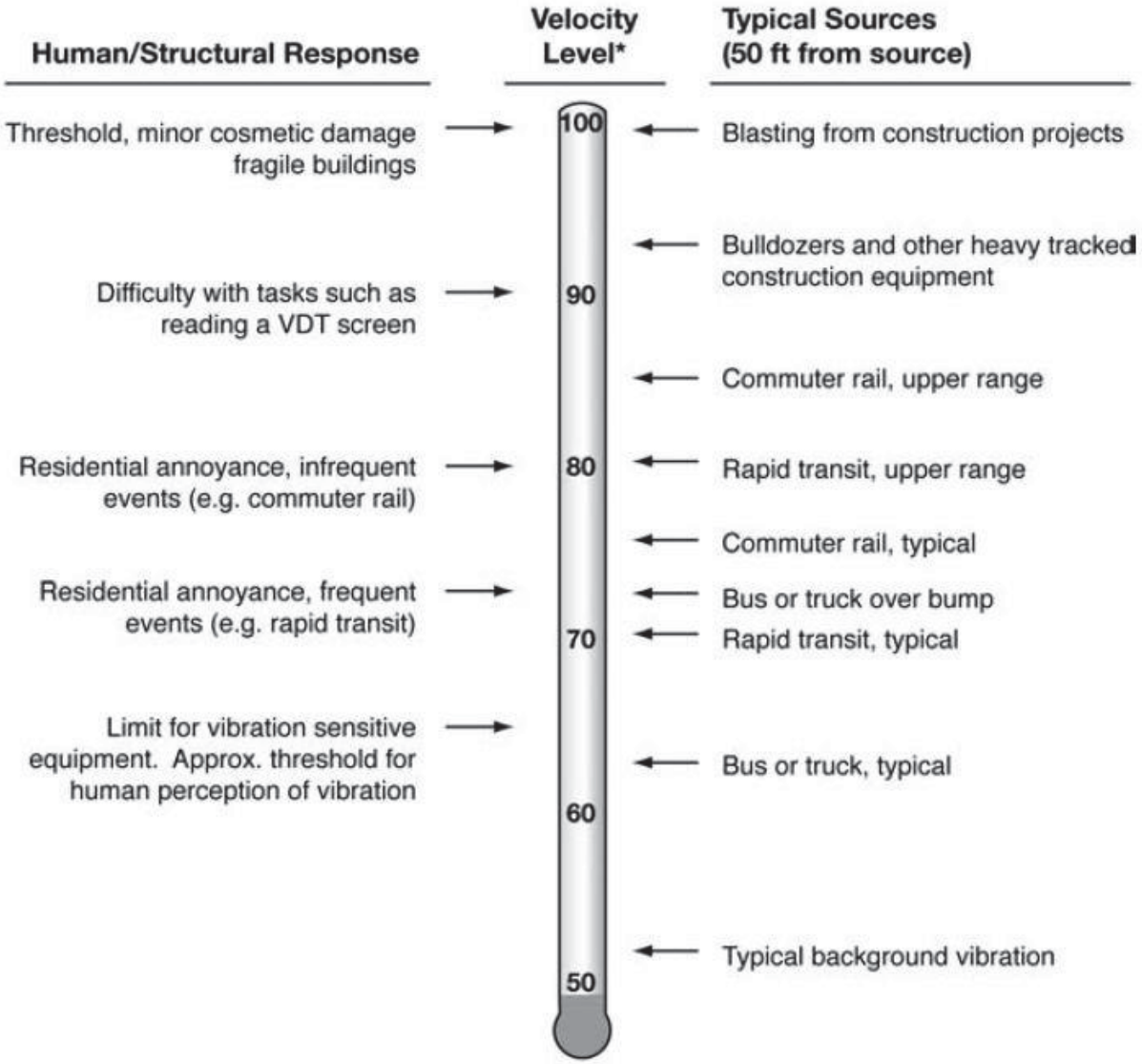
2.9 VIBRATION

Per the Federal Transit Administration (FTA) *Transit Noise Impact and Vibration Assessment* (9), vibration is the periodic oscillation of a medium or object. The rumbling sound caused by the vibration of room surfaces is called structure-borne noise. Sources of ground-borne vibrations include natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) or human-made causes (e.g., explosions, machinery, traffic, trains, construction equipment). Vibration sources may be continuous, such as factory machinery, or transient, such as explosions. As is the case with airborne sound, ground-borne vibrations may be described by amplitude and frequency.

There are several different methods that are used to quantify vibration. The peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal. The PPV is most frequently used to describe vibration impacts to buildings but is not always suitable for evaluating human response (annoyance) because it takes some time for the human body to respond to vibration signals. Instead, the human body responds to average vibration amplitude often described as the root mean square (RMS). The RMS amplitude is defined as the average of the squared amplitude of the signal and is most frequently used to describe the effect of vibration on the human body. Decibel notation (VdB) is commonly used to measure RMS. Decibel notation (VdB) serves to reduce the range of numbers used to describe human response to vibration. Typically, ground-borne vibration generated by man-made activities attenuates rapidly with distance from the source of the vibration. Sensitive receivers for vibration include structures (especially older masonry structures), people (especially residents, the elderly, and sick), and vibration-sensitive equipment and/or activities

The background vibration-velocity level in residential areas is generally 50 VdB. Ground-borne vibration is normally perceptible to humans at approximately 65 VdB. For most people, a vibration-velocity level of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels. Typical outdoor sources of perceptible ground-borne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the ground-borne vibration is rarely perceptible. The range of interest is from approximately 50 VdB, which is the typical background vibration-velocity level, to 100 VdB, which is the general threshold where minor damage can occur in fragile buildings. Exhibit 2-C illustrates common vibration sources and the human and structural response to ground-borne vibration.

EXHIBIT 2-C: TYPICAL LEVELS OF GROUND-BORNE VIBRATION



** RMS Vibration Velocity Level in VdB relative to 10^{-6} inches/second*

Source: Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual.

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3 REGULATORY SETTING

To limit population exposure to physically and/or psychologically damaging as well as intrusive noise levels, the federal government, the State of California, various county governments, and most municipalities in the state have established standards and ordinances to control noise. In most areas, automobile and truck traffic is the major source of environmental noise. Traffic activity generally produces an average sound level that remains constant with time. Air and rail traffic, and commercial and industrial activities are also major sources of noise in some areas. Federal, state, and local agencies regulate different aspects of environmental noise. Federal and state agencies generally set noise standards for mobile sources such as aircraft and motor vehicles, while regulation of stationary sources is left to local agencies.

3.1 STATE OF CALIFORNIA NOISE REQUIREMENTS

The State of California regulates freeway noise, sets standards for sound transmission, provides occupational noise control criteria, identifies noise standards, and provides guidance for local land use compatibility. State law requires that each county and city adopt a General Plan that includes a Noise Element which is to be prepared per guidelines adopted by the Governor's Office of Planning and Research (OPR). (10) The purpose of the Noise Element is to *limit the exposure of the community to excessive noise levels*. In addition, the California Environmental Quality Act (CEQA) requires that all known environmental effects of a project be analyzed, including environmental noise impacts.

3.2 STATE OF CALIFORNIA GREEN BUILDING STANDARDS CODE

The State of California's Green Building Standards Code contains mandatory measures for non-residential building construction in Section 5.507 on Environmental Comfort. (11) These noise standards are applied to new construction in California for controlling interior noise levels resulting from exterior noise sources. The regulations specify that acoustical studies must be prepared when non-residential structures are developed in areas where the exterior noise levels exceed 65 dBA CNEL, such as within a noise contour of an airport, freeway, railroad, and other areas where noise contours are not readily available. If the development falls within an airport or freeway 65 dBA CNEL noise contour, the combined sound transmission class (STC) rating of the wall and roof-ceiling assemblies must be at least 50. For those developments in areas where noise contours are not readily available and the noise level exceeds 65 dBA L_{eq} for any hour of operation, a wall and roof-ceiling combined STC rating of 45, and exterior windows with a minimum STC rating of 40 are required (Section 5.507.4.1).

3.3 COUNTY OF RIVERSIDE GENERAL PLAN NOISE ELEMENT

The County of Riverside has adopted a Noise Element of the General Plan to control and abate environmental noise, and to protect the citizens of County of Riverside from excessive exposure to noise. (12) The Noise Element specifies the maximum allowable exterior noise levels for new developments impacted by transportation noise sources such as arterial roads, freeways, airports and railroads. In addition, the Noise Element identifies several polices to minimize the impacts

of excessive noise levels throughout the community and establishes noise level requirements for all land uses. To protect County of Riverside residents from excessive noise, the Noise Element contains the following policies related to the Project:

N 1.1 Protect noise-sensitive land uses from high levels of noise by restricting noise-producing land uses from these areas. If the noise-producing land use cannot be relocated, then noise buffers such as setbacks, landscaping, or block walls shall be used.

N 1.3 Consider the following uses noise-sensitive and discourage these uses in areas in excess of 65 CNEL:

- *Schools*
- *Hospitals*
- *Rest Homes*
- *Long Term Care Facilities*
- *Mental Care Facilities*
- *Residential Uses*
- *Libraries*
- *Passive Recreation Uses*
- *Places of Worship*

N 1.5 Prevent and mitigate the adverse impacts of excessive noise exposure on the residents, employees, visitors, and noise-sensitive uses of Riverside County.

N 4.1 Prohibit facility-related noise, received by any sensitive use, from exceeding the following worst-case noise levels:

a. 45 dBA 10-minute L_{eq} between 10:00 p.m. and 7:00 a.m.

b. 65 dBA 10-minute L_{eq} between 7:00 a.m. and 10:00 p.m.

N 13.1 Minimize the impacts of construction noise on adjacent uses within acceptable standards.

N 13.2 Ensure that construction activities are regulated to establish hours of operation in order to prevent and/or mitigate the generation of excessive or adverse impacts on surrounding areas.

N 13.3 Condition subdivision approval adjacent to developed/occupied noise-sensitive land uses (see policy N 1.3) by requiring the developer to submit a construction-related noise mitigation plan to the [County] for review and approval prior to issuance of a grading permit. The plan must depict the location of construction equipment and how the noise from this equipment will be mitigated during construction of this project, using methods such as:

i. Temporary noise attenuation fences.

ii. Preferential location and equipment; and

iii. Use of current noise suppression technology and equipment.

N 16.3 Prohibit exposure of residential dwellings to perceptible ground vibration from passing trains as perceived at the ground or second floor. Perceptible motion shall be presumed to be a motion velocity of 0.01 inches/second over a range of 1 to 100 Hz.

To ensure noise-sensitive land uses are protected from high levels of noise (N 1.1), Table N-1 of the Noise Element identifies guidelines to evaluate proposed developments based on exterior and interior noise level limits for land uses and requires a noise analysis to determine needed mitigation measures if necessary. The Noise Element identifies residential use as a noise-sensitive land use (N 1.3) and discourages new development in areas with transportation related levels of 65 dBA CNEL or greater existing ambient noise levels. To prevent and mitigate noise

impacts for its residents (N 1.5), County of Riverside requires noise attenuation measures for sensitive land use exposed to transportation related noise levels higher than 65 dBA CNEL. Policy N 4.1 of the Noise Element sets a stationary-source exterior noise limit to not to be exceeded for a cumulative period of more than ten minutes in any hour of 65 dBA L_{eq} for daytime hours of 7:00 a.m. to 10:00 p.m., and 45 dBA L_{eq} during the noise-sensitive nighttime hours of 10:00 p.m. to 7:00 a.m. To prevent high levels of construction noise from impacting noise-sensitive land uses, policies N 13.1 through 13.3 identify construction noise mitigation requirements for new development located near existing noise-sensitive land uses. Policy 16.3 establishes the vibration perception threshold for rail-related vibration levels, used in this analysis as a threshold for determining potential vibration impacts due to Project construction. (12)

3.3.1 LAND USE COMPATIBILITY

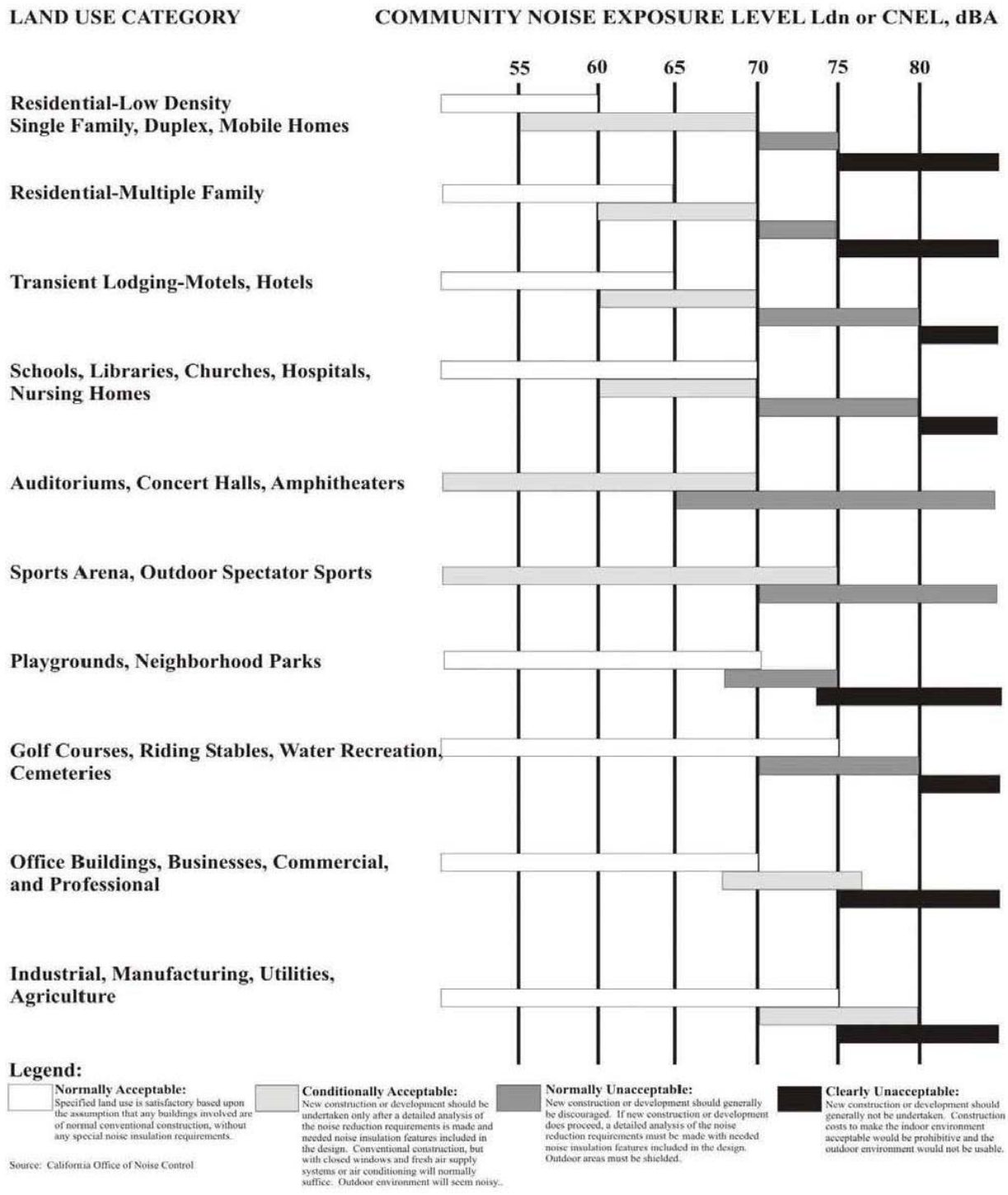
The noise criteria identified in the County of Riverside Noise Element (Table N-1) are guidelines to evaluate the land use compatibility of transportation related noise. The compatibility criteria, shown on Exhibit 3-A, provides the County with a planning tool to gauge the compatibility of land uses relative to existing and future exterior noise levels.

The *Land Use Compatibility for Community Noise Exposure* matrix describes categories of compatibility and not specific noise standards. The warehouse/industrial use of the Project is considered *normally acceptable* with unmitigated exterior noise levels of less than 70 dBA CNEL based on the *Industrial, Manufacturing, Utilities, Agriculture* land use compatibility criteria shown on Exhibit 3-A. Residential designated land uses in the Project study area are considered *normally acceptable* with exterior noise levels below 60 dBA CNEL, and *conditionally acceptable* with exterior noise levels of up to 70 dBA CNEL. For *conditionally acceptable* exterior noise levels, of up to 80 dBA CNEL for Project land uses, *new construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and the needed noise insulation features are included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice*. (12)

3.3.2 COUNTY OF RIVERSIDE STATIONARY NOISE STANDARDS

The County of Riverside has set stationary-source hourly average L_{eq} exterior noise limits to control loading dock activity, delivery van activity, entry gate & truck movements, roof-top air conditioning units, and trash enclosure activity associated with the development of the proposed Temescal Valley Business Park. The County considers noise generated using motor vehicles to be a stationary noise source when operated on private property such as at a loading dock. These facility-related noises, as projected to any portion of any surrounding property containing a *habitable dwelling, hospital, school, library or nursing home*, must not exceed the following worst-case noise levels.

EXHIBIT 3-A: LAND USE COMPATIBILITY FOR COMMUNITY NOISE EXPOSURE



Source: County of Riverside General Plan Noise Element, Table N-1.

Policy N 4.1 of the County of Riverside General Plan Noise Element sets a stationary-source average L_{eq} exterior noise limit not to be exceeded for a cumulative period of more than ten minutes in any hour of 65 dBA L_{eq} for daytime hours of 7:00 a.m. to 10:00 p.m., and 45 dBA L_{eq} during the noise-sensitive nighttime hours of 10:00 p.m. to 7:00 a.m. (12)

The County of Riverside Municipal Code Section 9.52.040 *General sound level standards* identify lower, more restrictive exterior noise level standards, which for the purpose of this report, are used to evaluate potential Project-related operational noise level limits instead of the higher the General Plan exterior noise level standards previously identified. The County of Riverside Municipal Code identifies exterior noise level limits of 55 dBA L_{eq} during the daytime hours of 7:00 a.m. to 10:00 p.m., and 45 dBA L_{eq} during the noise-sensitive nighttime hours of 10:00 p.m. to 7:00 a.m. for noise-sensitive uses. (13)

Based on several discussions with the County of Riverside Department of Environmental Health (DEH), Office of Industrial Hygiene (OIH), it is important to recognize that the County of Riverside Municipal Code noise level standards, incorrectly identify maximum noise level (L_{max}) standards that should instead reflect the average L_{eq} noise levels. Moreover, the County of Riverside DEH OIH's April 15th, 2015 *Requirements for determining and mitigating, non-transportation noise source impacts to residential properties* also identifies operational (stationary-source) noise level limits using the L_{eq} metric, consistent with the direction of the County of Riverside General Plan guidelines and standards provided in the Noise Element. Therefore, this report has been prepared consistent with direction of the County of Riverside DEH OIH guidelines and standards using the average L_{eq} noise level metric for stationary-source (operational) noise level evaluation.

3.4 CONSTRUCTION NOISE STANDARDS

To control noise impacts associated with the construction of the proposed Project, the County of Riverside has established limits to the hours of operation. Section 9.52.020 of the County's Noise Regulation ordinance indicates that noise associated with any private construction activity located within one-quarter of a mile from an inhabited dwelling is considered exempt between the hours of 6:00 a.m. and 6:00 p.m., during the months of June through September, and 7:00 a.m. and 6:00 p.m., during the months of October through May. (13) Neither the County's General Plan nor Municipal Code establish numeric maximum acceptable construction source noise levels at potentially affected receivers for CEQA analysis purposes. Therefore, a numerical construction threshold based on Federal Transit Administration (FTA) *Transit Noise and Vibration Impact Assessment Manual* is used for analysis of daytime construction impacts, as discussed below.

According to the FTA, local noise ordinances are typically not very useful in evaluating construction noise. They usually relate to nuisance and hours of allowed activity, and sometimes specify limits in terms of maximum levels, but are generally not practical for assessing the impact of a construction project. Project construction noise criteria should account for the existing noise environment, the absolute noise levels during construction activities, the duration of the construction, and the adjacent land use. Due to the lack of standardized construction noise thresholds, the FTA provides guidelines that can be considered reasonable criteria for

construction noise assessment. The FTA considers a daytime exterior construction noise level of 80 dBA L_{eq} as a reasonable threshold for noise sensitive residential land use. (9 p. 179)

3.5 VIBRATION STANDARDS

The County of Riverside does not have vibration standards for temporary construction, but the County's General Plan Noise Element does contain the human reaction to typical vibration levels. Vibration levels with peak particle velocity of 0.0787 inches per second are considered readily perceptible and above 0.1968 in/sec are considered annoying to people in buildings. Further, County of Riverside General Plan Policy N 16.3 identifies a motion velocity perception threshold for vibration due to passing trains of 0.01 inches per second (in/sec) over the range of one to 100 Hz, which is used in this noise study to assess potential impacts due to Project construction vibration levels. (12)

4 SIGNIFICANCE CRITERIA

The following significance criteria are based on currently adopted guidance provided by Appendix G of the California Environmental Quality Act (CEQA) Guidelines. (1) For the purposes of this report, impacts would be potentially significant if the Project results in or causes:

A. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

B. Generation of excessive ground-borne vibration or ground-borne noise levels?

C. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

While the County of Riverside General Plan Guidelines provide direction on noise compatibility and establish noise standards by land use type that are sufficient to assess the significance of noise impacts, they do not define the levels at which increases are considered substantial for use under Guideline A. CEQA Appendix G Guideline C applies to nearby public and private airports, if any, and the Project's land use compatibility.

4.1 CEQA GUIDELINES NOT FURTHER ANALYZED

The Project site is not located within two miles of a public airport or within an airport land use plan. The closest airport is the Corona Municipal Airport located roughly 10 miles north west of the Project site. As such, the Project site would not be exposed to excessive noise levels from airport operations, and therefore, impacts are considered *less than significant,* and no further noise analysis is conducted in relation to Guideline C.

4.2 NOISE-SENSITIVE RECEIVERS

Noise level increases resulting from the Project are evaluated based on the Appendix G CEQA Guidelines described above at the closest sensitive receiver locations. Under CEQA, consideration must be given to the magnitude of the increase, the existing ambient noise levels, and the location of noise-sensitive receivers to determine if a noise increase represents a significant adverse environmental impact. This approach recognizes *that there is no single noise increase that renders the noise impact significant.* (14)

Unfortunately, there is no completely satisfactory way to measure the subjective effects of noise or of the corresponding human reactions of annoyance and dissatisfaction. This is primarily because of the wide variation in individual thresholds of annoyance and differing individual experiences with noise. Thus, an important way of determining a person's subjective reaction to a new noise is the comparison of it to the existing environment to which one has adapted—the so-called *ambient* environment. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will typically be judged. The Federal Interagency Committee on Noise (FICON) (15) developed guidance to be used for the assessment

of project-generated increases in noise levels that consider the ambient noise level. The FICON recommendations are based on studies that relate aircraft noise levels to the percentage of persons highly annoyed by aircraft noise. Although the FICON recommendations were specifically developed to assess aircraft noise impacts, these recommendations are often used in environmental noise impact assessments involving the use of cumulative noise exposure metrics, such as the average-daily noise level (CNEL) and equivalent continuous noise level (L_{eq}).

As previously stated, the approach used in this noise study recognizes *that there is no single noise increase that renders the noise impact significant*, based on a 2008 California Court of Appeal ruling on Gray v. County of Madera. (14) For example, if the ambient noise environment is quiet (<60 dBA) and the new noise source greatly increases the noise levels, an impact may occur if the noise criteria may be exceeded. Therefore, for this analysis, a *readily perceptible* 5 dBA or greater project-related noise level increase is considered a significant impact when the without project noise levels are below 60 dBA. Per the FICON, in areas where the without project noise levels range from 60 to 65 dBA, a 3 dBA *barely perceptible* noise level increase appears to be appropriate for most people. When the without project noise levels already exceed 65 dBA, any increase in community noise louder than 1.5 dBA or greater is considered a significant impact if the noise criteria for a given land use is exceeded, since it likely contributes to an existing noise exposure exceedance. Table 4-1 below provides a summary of the potential noise impact significance criteria, based on guidance from FICON.

TABLE 4-1: SIGNIFICANCE OF NOISE IMPACTS AT NOISE-SENSITIVE RECEIVERS

Without Project Noise Level	Potential Significant Impact
< 60 dBA	5 dBA or more
60 - 65 dBA	3 dBA or more
> 65 dBA	1.5 dBA or more

Federal Interagency Committee on Noise (FICON), 1992.

The FICON guidance provides an established source of criteria to assess the impacts of substantial temporary or permanent increase in ambient noise levels. Based on the FICON criteria, the amount to which a given noise level increase is considered acceptable is reduced when the without Project noise levels are already shown to exceed certain land-use specific exterior noise level criteria. The specific levels are based on typical responses to noise level increases of 5 dBA or *readily perceptible*, 3 dBA or *barely perceptible*, and 1.5 dBA depending on the underlying without Project noise levels for noise-sensitive uses. These levels of increases and their perceived acceptance are consistent with guidance provided by both the Federal Highway Administration (5 p. 9) and Caltrans (16 p. 2_48).

4.3 NON-NOISE-SENSITIVE RECEIVERS

The County of Riverside General Plan Noise Element, Table N-1, *Land Use Compatibility for Community Noise Exposure* was used to establish the satisfactory noise levels of significance for non-noise-sensitive land uses in the Project study area. As previously shown on Exhibit 3-A, the *normally acceptable* exterior noise levels for non-noise-sensitive land uses is 70 dBA CNEL. Noise

levels greater than 70 dBA CNEL are considered *conditionally acceptable* per the *Land Use Compatibility for Community Noise Exposure*. (12)

To determine if Project-related traffic noise level increases are significant at off-site non-noise-sensitive land uses, a *readily perceptible* 5 dBA and *barely perceptible* 3 dBA criteria were used. When the without Project noise levels at the non-noise-sensitive land uses are below the *normally acceptable* 70 dBA CNEL compatibility criteria, a *readily perceptible* 5 dBA or greater noise level increase is considered a significant impact. When the without Project noise levels are greater than the *normally acceptable* 70 dBA CNEL land use compatibility criteria, a *barely perceptible* 3 dBA or greater noise level increase is considered a significant impact since the noise level criteria is already exceeded. The noise level increases used to determine significant impacts for non-noise-sensitive land uses is generally consistent with the FICON noise level increase thresholds for noise-sensitive land uses but instead rely on the County of Riverside General Plan Noise Element, Table N-1, *Land Use Compatibility for Community Noise Exposure normally acceptable* 70 dBA CNEL exterior noise level criteria.

4.4 SIGNIFICANCE CRITERIA SUMMARY

Noise impacts shall be considered significant if any of the following occur as a direct result of the proposed development. Table 4-2 shows the significance criteria summary matrix.

TABLE 4-2: SIGNIFICANCE CRITERIA SUMMARY

Analysis	Receiving Land Use	Condition(s)	Significance Criteria	
			Daytime	Nighttime
Off-Site Traffic	Noise-Sensitive[1]	If ambient is < 60 dBA CNEL	≥ 5 dBA CNEL Project increase	
		If ambient is 60 - 65 dBA CNEL	≥ 3 dBA CNEL Project increase	
		If ambient is > 65 dBA CNEL	≥ 1.5 dBA CNEL Project increase	
	Non-Noise-Sensitive[1,2]	If ambient is < 70 dBA CNEL	≥ 5 dBA CNEL Project increase	
		If ambient is > 70 dBA CNEL	≥ 3 dBA CNEL Project increase	
Operational	Noise-Sensitive	Exterior Noise Level Standards[3]	55 dBA L_{eq}	45 dBA L_{eq}
		If ambient is < 60 dBA Leq1	≥ 5 dBA L_{eq} Project increase	
		If ambient is 60 - 65 dBA Leq1	≥ 3 dBA L_{eq} Project increase	
		If ambient is > 65 dBA Leq1	≥ 1.5 dBA L_{eq} Project increase	
		Vibration Level Threshold[4]	0.01 in/sec RMS	
Construction	Noise-Sensitive	Noise Level Threshold[5]	80 dBA L_{eq}	
		Vibration Level Threshold[4]	0.01 in/sec RMS	

[1] FICON, 1992.
[2] County of Riverside General Plan Noise Element, Table N-1.
[3] County of Riverside General Plan Municipal Code, Section 9.52.040.
[4] County of Riverside General Plan Noise Element, Policy N 16.3.
[5] Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual.
"Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

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5 EXISTING NOISE LEVEL MEASUREMENTS

To assess the existing noise level environment, 24-hour noise level measurements were taken at five locations in the Project study area. The receiver locations were selected to describe and document the existing noise environment within the Project study area. Exhibit 5-A provides the boundaries of the Project study area and the noise level measurement locations. To fully describe the existing noise conditions, noise level measurements were collected by Urban Crossroads, Inc. on Wednesday, September 23rd, 2020. Appendix 5.1 includes study area photos.

5.1 MEASUREMENT PROCEDURE AND CRITERIA

To describe the existing noise environment, the hourly noise levels were measured during typical weekday conditions over a 24-hour period. By collecting individual hourly noise level measurements, it is possible to describe the daytime and nighttime hourly noise levels and calculate the 24-hour CNEL. The long-term noise readings were recorded using Piccolo Type 2 integrating sound level meter and dataloggers. The Piccolo sound level meters were calibrated using a Larson-Davis calibrator, Model CAL 150. All noise meters were programmed in "slow" mode to record noise levels in "A" weighted form. The sound level meters and microphones were equipped with a windscreen during all measurements. All noise level measurement equipment satisfies the American National Standards Institute (ANSI) standard specifications for sound level meters ANSI S1.4-2014/IEC 61672-1:2013. (17)

5.2 NOISE MEASUREMENT LOCATIONS

The long-term noise level measurements were positioned as close to the nearest sensitive receiver locations as possible to assess the existing ambient hourly noise levels surrounding the Project site. Both Caltrans and the FTA recognize that it is not reasonable to collect noise level measurements that can fully represent every part of a private yard, patio, deck, or balcony normally used for human activity when estimating impacts for new development projects. This is demonstrated in the Caltrans general site location guidelines which indicate that, *sites must be free of noise contamination by sources other than sources of interest. Avoid sites located near sources such as barking dogs, lawnmowers, pool pumps, and air conditioners unless it is the express intent of the analyst to measure these sources*. (3) Further, FTA guidance states, t*hat it is not necessary nor recommended that existing noise exposure be determined by measuring at every noise-sensitive location in the project area. Rather, the recommended approach is to characterize the noise environment for clusters of sites based on measurements or estimates at representative locations in the community*. (9)

Based on recommendations of Caltrans and the FTA, it is not necessary to collect measurements at each individual building or residence, because each receiver measurement represents a group of buildings that share acoustical equivalence. (9) In other words, the area represented by the receiver shares similar shielding, terrain, and geometric relationship to the reference noise source. Receivers represent a location of noise sensitive areas and are used to estimate the future noise level impacts. Collecting reference ambient noise level measurements at the nearby sensitive receiver locations allows for a comparison of the before and after Project noise levels

and is necessary to assess potential noise impacts due to the Project's contribution to the ambient noise levels.

5.3 NOISE MEASUREMENT RESULTS

The noise measurements presented below focus on the average or equivalent sound levels (L_{eq}). The equivalent sound level (L_{eq}) represents a steady state sound level containing the same total energy as a time varying signal over a given sample period. Table 5-1 identifies the hourly daytime (7:00 a.m. to 10:00 p.m.) and nighttime (10:00 p.m. to 7:00 a.m.) noise levels at each noise level measurement location.

TABLE 5-1: 24-HOUR AMBIENT NOISE LEVEL MEASUREMENTS

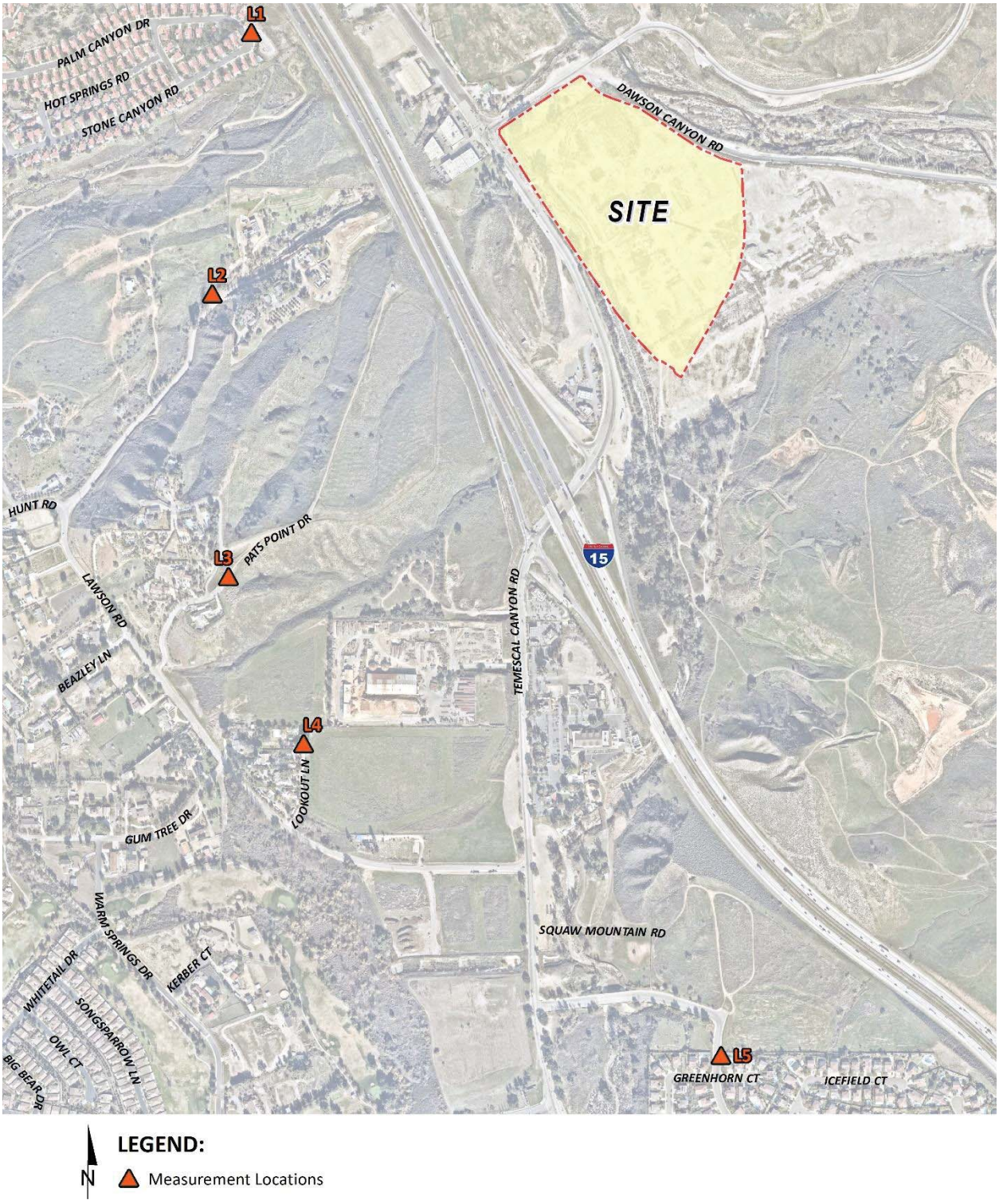
Location[1]	Description	Energy Average Noise Level (dBA L_{eq})[2]		CNEL
		Daytime	Nighttime	
L1	Located northwest of the Project site on Palm Canyon Drive near existing single-family residential home at 9575 Stone Canyon Road.	55.5	56.1	62.6
L2	Located west of the Project site on Lawson Road near existing single-family residential home at 23270 Lawson Road.	56.0	54.7	61.5
L3	Located southwest of the Project site on Pats Point Drive near existing single-family residential home at 9455 Pats Point Drive.	56.3	59.9	66.1
L4	Located southwest of the Project site on Lookout Lane near existing single-family residential home at 23905 Lookout Lane.	47.1	47.3	53.8
L5	Located south of the Project site on Mojeska Summit Road near existing single-family residential home at 10088 Greenhorn Court.	59.0	57.0	63.9

[1] See Exhibit 5-A for the noise level measurement locations.
[2] Energy (logarithmic) average levels. The long-term 24-hour measurement worksheets are included in Appendix 5.2. "Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

Table 5-1 provides the (energy average) noise levels used to describe the daytime and nighttime ambient conditions. These daytime and nighttime energy average noise levels represent the average of all hourly noise levels observed during these time periods expressed as a single number. Appendix 5.2 provides summary worksheets of the noise levels for each hour as well as the minimum, maximum, L_1, L_2, L_5, L_8, L_{25}, L_{50}, L_{90}, L_{95}, and L_{99} percentile noise levels observed during the daytime and nighttime periods.

The background ambient noise levels in the Project study area are dominated by the transportation-related noise associated with surface streets. This includes the auto and heavy truck activities on study area roadway segments near the noise level measurement locations.

EXHIBIT 5-A: NOISE MEASUREMENT LOCATIONS



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6 METHODS AND PROCEDURES

The following section outlines the methods and procedures used to model and analyze the future traffic noise environment. Consistent with the County of Riverside General Plan *Land Use Compatibility for Community Noise Exposure* matrix, all transportation related noise levels are presented in terms of the 24-hour CNEL's.

6.1 FHWA TRAFFIC NOISE PREDICTION MODEL

The expected roadway noise level increases from vehicular traffic were calculated by Urban Crossroads, Inc. using a computer program that replicates the Federal Highway Administration (FHWA) Traffic Noise Prediction Model- FHWA-RD-77-108. (18) The FHWA Model arrives at a predicted noise level through a series of adjustments to the Reference Energy Mean Emission Level (REMEL). In California the national REMELs are substituted with the California Vehicle Noise (Calveno) Emission Levels. (19) Adjustments are then made to the REMEL to account for: the roadway classification (e.g., collector, secondary, major or arterial), the roadway active width (i.e., the distance between the center of the outermost travel lanes on each side of the roadway), the total average daily traffic (ADT), the travel speed, the percentages of automobiles, medium trucks, and heavy trucks in the traffic volume, the roadway grade, the angle of view (e.g., whether the roadway view is blocked), the site conditions ("hard" or "soft" relates to the absorption of the ground, pavement, or landscaping), and the percentage of total ADT which flows each hour throughout a 24-hour period. Research conducted by Caltrans has shown that the use of soft site conditions is appropriate for the application of the FHWA traffic noise prediction model used in this analysis. (20)

6.2 OFF-SITE TRAFFIC NOISE PREDICTION MODEL INPUTS

Table 6-1 presents the roadway parameters used to assess the Project's off-site dBA CNEL transportation noise impacts. Table 6-1 identifies the 6 study area roadway segments, the distance from the centerline to adjacent land use based on the functional roadway classifications per the County of Riverside General Plan Circulation Element, and the posted vehicle speeds. Where posted vehicle speeds are unavailable, the 40-mph speed identified in the County of Riverside Office of Industrial Hygiene Noise Study Guidelines is used. The ADT volumes used in this study area presented on Table 6-2 are based on the *Temescal Valley Business Park Traffic Analysis*, prepared by Urban Crossroads, Inc. for the following traffic scenarios (2)

- Existing Without / With Project: This scenario refers to the existing present-day noise conditions, without and with the development of the full Project. The existing with Project scenario will not actually occur since the Project would not be fully constructed and operational until Year 2022.
- Existing plus Ambient Growth (EA) 2022 Without Temescal Canyon Road Extension Conditions Without / With Project: This scenario refers to the Existing + Ambient Growth conditions without the Temescal Canyon Road Extension (w/o ext.).
- Existing plus Ambient Growth (EA) 2022 With Temescal Canyon Road Extension Conditions Without / With Project: This scenario refers to the Existing + Ambient Growth conditions with the Temescal Canyon Road Extension (w/ ext.).

- Existing plus Ambient Growth plus Cumulative (EAC) 2022 Without Temescal Canyon Road Extension Conditions Without / With Project: This scenario refers to the Existing + Ambient Growth + Cumulative Projects conditions without the Temescal Canyon Road Extension (w/o ext.).
- Existing plus Ambient Growth (EAC) 2022 With Temescal Canyon Road Extension Conditions Without / With Project: This scenario refers to the Existing + Ambient Growth + Cumulative Projects conditions with the Temescal Canyon Road Extension (w/ ext.).
- Horizon Year 2040 Conditions Without / With Project: This scenario refers to the Horizon Year 2040 without and with the proposed Project.

The ADT volumes vary for each roadway segment based on the existing traffic volumes and the combination of project traffic distributions. In addition, the off-site traffic noise analysis maintains a peak hour to average daily traffic (peak-to-daily) relationship of approximately 6.31%. (2) The *General Plan Noise Element* (12) requires that future on-site traffic noise impacts be assessed using the maximum capacity design standard for highways and major roads. However, this analysis relies on a comparative analysis of the off-site traffic noise impacts, without and with project ADT traffic volumes from the Project traffic study. The use of the maximum capacity design standards is typically reserved for determining the future long-range on-site traffic noise impacts, not the comparative contributions associated with the off-site Project traffic noise level impacts.

TABLE 6-1: OFF-SITE ROADWAY PARAMETERS

ID	Roadway	Segment	Receiving Land Use[1]	Distance from Centerline to Receiving Land Use (Feet)[2]	Vehicle Speed (mph)[3]
1	Temescal Canyon Rd.	s/o I-15	Non-Sensitive	37'	40
2	Temescal Canyon Rd.	s/o Trilogy Pkwy.	Sensitive	59'	40
3	Temescal Canyon Rd.	s/o Dos Lagos Rd.	Sensitive	64'	45
4	Temescal Canyon Rd.	s/o Dawson Canyon Rd.	Non-Sensitive	64'	40
5	Campbell Ranch Rd.	s/o Temescal Canyon Rd.	Sensitive	59'	45
6	Dawson Canyon Rd.	e/o Temescal Canyon Rd.	Non-Sensitive	37'	40

[1] Noise sensitive uses limited to noise sensitive residential land uses.
[2] Distance to receiving land use is based upon the right-of-way distances.
[3] Source: Temescal Valley Business Park (PAR190052) Traffic Analysis.

To quantify the off-site noise levels, the Project related truck trips were added to the heavy truck category in the FHWA noise prediction model. The addition of the Project related truck trips increases the percentage of heavy trucks in the vehicle mix. This approach recognizes that the FHWA noise prediction model is significantly influenced by the number of heavy trucks in the vehicle mix.

TABLE 6-2: AVERAGE DAILY TRAFFIC VOLUMES

ID	Roadway	Segment	Average Daily Traffic Volumes[1]											
			Existing 2020		Existing + Ambient (EA) 2022 without Extension		Existing + Ambient 2022 with Extension		Existing + Ambient + Cumulative without Extension 2022		Existing + Ambient + Cumulative with Extension 2022		Horizon Year 2040	
			Without Project	With Project	Without Project	With Project	Without Project	With Project	Without Project	With Project	Without Project	With Project	Without Project	With Project
1	Temescal Canyon Rd.	s/o I-15	7,262	8,142	7,556	8,436	7,556	7,849	10,796	11,676	10,796	11,089	10,468	10,761
2	Temescal Canyon Rd.	s/o Trilogy Pkwy.	12,101	12,835	12,590	13,324	12,590	12,737	29,517	30,251	18,528	18,675	17,442	17,589
3	Temescal Canyon Rd.	s/o Dos Lagos Rd.	15,106	15,860	15,716	16,470	15,716	16,470	17,710	18,464	17,710	18,464	21,773	22,527
4	Temescal Canyon Rd.	s/o Dawson Canyon Rd.	15,092	16,667	15,702	17,277	15,702	17,277	26,161	27,736	26,383	27,958	23,753	25,328
5	Campbell Ranch Rd.	s/o Temescal Canyon Rd.	8,094	8,388	8,421	8,715	8,421	8,715	11,569	11,863	11,569	11,863	11,667	11,960
6	Dawson Canyon Rd.	e/o Temescal Canyon Rd.	7,540	9,388	7,844	9,693	7,844	9,693	9,184	11,033	9,184	11,033	10,867	12,716

[1] Temescal Valley Business Park (PAR190052) Traffic Analysis.

Table 6-3 provides the time of day (daytime, evening, and nighttime) vehicle splits. The daily Project truck trip-ends were assigned to the individual off-site study area roadway segments based on the Project truck trip distribution percentages documented in the *Traffic Analysis*. Using the Project truck trips in combination with the Project trip distribution, Urban Crossroads, Inc. calculated the number of additional Project truck trips and vehicle mix percentages for each of the study area roadway segments. Table 6-4 shows the traffic flow by vehicle type (vehicle mix) used for all without Project traffic scenarios, and Tables 6-5 to 6-10 show the vehicle mixes used for the with Project traffic scenarios.

Due to the added Project truck trips, the increase in Project traffic volumes and the distributions of trucks on the study area road segments, the percentage of autos, medium trucks and heavy trucks will vary for each of the traffic scenarios. This explains why the existing and future traffic volumes and vehicle mixes vary between seemingly identical study area roadway segments.

TABLE 6-3: TIME OF DAY VEHICLE SPLITS

Vehicle Type	Time of Day Splits[1]			Total of Time of Day Splits
	Daytime	Evening	Nighttime	
Autos	77.50%	12.90%	9.60%	100.00%
Medium Trucks	84.80%	4.90%	10.30%	100.00%
Heavy Trucks	86.50%	2.70%	10.80%	100.00%

[1] County of Riverside Office of Industrial Hygiene. Values rounded to the nearest one-hundredth.
"Daytime" = 7:00 a.m. to 7:00 p.m.; "Evening" = 7:00 p.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

TABLE 6-4: WITHOUT PROJECT VEHICLE MIX

Classification	Total % Traffic Flow			Total
	Autos	Medium Trucks	Heavy Trucks	
All Segments	81.35%	6.69%	11.96%	100.00%

Based on an existing vehicle count taken at Temescal Canyon Road and Dawson Canyon Road (Temescal Valley Business Park (PAR190052) Traffic Analysis, Urban Crossroads, Inc.). Vehicle mix percentage values rounded to the nearest one-hundredth.

TABLE 6-5: EXISTING 2020 WITH PROJECT VEHICLE MIX

ID	Roadway	Segment	With Project[1]			
			Autos	Medium Trucks	Heavy Trucks	Total[2]
1	Temescal Canyon Rd.	s/o I-15	83.37%	5.96%	10.67%	100.00%
2	Temescal Canyon Rd.	s/o Trilogy Pkwy.	82.42%	6.30%	11.28%	100.00%
3	Temescal Canyon Rd.	s/o Dos Lagos Rd.	82.11%	6.45%	11.44%	100.00%
4	Temescal Canyon Rd.	s/o Dawson Canyon Rd.	82.99%	6.13%	10.87%	100.00%
5	Campbell Ranch Rd.	s/o Temescal Canyon Rd.	82.00%	6.45%	11.54%	100.00%
6	Dawson Canyon Rd.	e/o Temescal Canyon Rd.	85.02%	5.37%	9.61%	100.00%

[1] Temescal Valley Business Park (PAR190052) Traffic Analysis.
[2] Total of vehicle mix percentage values rounded to the nearest one-hundredth.

TABLE 6-6: EA W/O EXT. 2022 WITH PROJECT VEHICLE MIX

ID	Roadway	Segment	With Project[1]			
			Autos	Medium Trucks	Heavy Trucks	Total[2]
1	Temescal Canyon Rd.	s/o I-15	83.30%	5.99%	10.71%	100.00%
2	Temescal Canyon Rd.	s/o Trilogy Pkwy.	82.38%	6.32%	11.30%	100.00%
3	Temescal Canyon Rd.	s/o Dos Lagos Rd.	82.08%	6.46%	11.46%	100.00%
4	Temescal Canyon Rd.	s/o Dawson Canyon Rd.	82.94%	6.15%	10.91%	100.00%
5	Campbell Ranch Rd.	s/o Temescal Canyon Rd.	81.98%	6.46%	11.56%	100.00%
6	Dawson Canyon Rd.	e/o Temescal Canyon Rd.	84.91%	5.41%	9.68%	100.00%

[1] Temescal Valley Business Park (PAR190052) Traffic Analysis.
[2] Total of vehicle mix percentage values rounded to the nearest one-hundredth.

TABLE 6-7: EA W/ EXT. 2022 WITH PROJECT VEHICLE MIX

ID	Roadway	Segment	With Project[1]			
			Autos	Medium Trucks	Heavy Trucks	Total[2]
1	Temescal Canyon Rd.	s/o I-15	82.05%	6.44%	11.51%	100.00%
2	Temescal Canyon Rd.	s/o Trilogy Pkwy.	81.57%	6.61%	11.82%	100.00%
3	Temescal Canyon Rd.	s/o Dos Lagos Rd.	82.08%	6.46%	11.46%	100.00%
4	Temescal Canyon Rd.	s/o Dawson Canyon Rd.	82.94%	6.15%	10.91%	100.00%
5	Campbell Ranch Rd.	s/o Temescal Canyon Rd.	81.98%	6.46%	11.56%	100.00%
6	Dawson Canyon Rd.	e/o Temescal Canyon Rd.	84.91%	5.41%	9.68%	100.00%

[1] Temescal Valley Business Park (PAR190052) Traffic Analysis.
[2] Total of vehicle mix percentage values rounded to the nearest one-hundredth.

TABLE 6-8: EAC W/O EXT. 2022 WITH PROJECT VEHICLE MIX

ID	Roadway	Segment	With Project[1]			
			Autos	Medium Trucks	Heavy Trucks	Total[2]
1	Temescal Canyon Rd.	s/o I-15	82.76%	6.18%	11.06%	100.00%
2	Temescal Canyon Rd.	s/o Trilogy Pkwy.	81.80%	6.52%	11.67%	100.00%
3	Temescal Canyon Rd.	s/o Dos Lagos Rd.	82.00%	6.48%	11.51%	100.00%
4	Temescal Canyon Rd.	s/o Dawson Canyon Rd.	82.34%	6.35%	11.31%	100.00%
5	Campbell Ranch Rd.	s/o Temescal Canyon Rd.	81.81%	6.52%	11.67%	100.00%
6	Dawson Canyon Rd.	e/o Temescal Canyon Rd.	84.48%	5.57%	9.96%	100.00%

[1] Temescal Valley Business Park (PAR190052) Traffic Analysis.
[2] Total of vehicle mix percentage values rounded to the nearest one-hundredth.

TABLE 6-9: EAC W/ EXT. 2022 WITH PROJECT VEHICLE MIX

ID	Roadway	Segment	With Project[1]			
			Autos	Medium Trucks	Heavy Trucks	Total[2]
1	Temescal Canyon Rd.	s/o I-15	81.85%	6.51%	11.64%	100.00%
2	Temescal Canyon Rd.	s/o Trilogy Pkwy.	81.50%	6.63%	11.87%	100.00%
3	Temescal Canyon Rd.	s/o Dos Lagos Rd.	82.00%	6.48%	11.51%	100.00%
4	Temescal Canyon Rd.	s/o Dawson Canyon Rd.	82.33%	6.36%	11.31%	100.00%
5	Campbell Ranch Rd.	s/o Temescal Canyon Rd.	81.81%	6.52%	11.67%	100.00%
6	Dawson Canyon Rd.	e/o Temescal Canyon Rd.	84.48%	5.57%	9.96%	100.00%

[1] Temescal Valley Business Park (PAR190052) Traffic Analysis.
[2] Total of vehicle mix percentage values rounded to the nearest one-hundredth.

TABLE 6-10: HY 2040 WITH PROJECT VEHICLE MIX

ID	Roadway	Segment	With Project[1]			
			Autos	Medium Trucks	Heavy Trucks	Total[2]
1	Temescal Canyon Rd.	s/o I-15	81.86%	6.50%	11.64%	100.00%
2	Temescal Canyon Rd.	s/o Trilogy Pkwy.	81.51%	6.63%	11.86%	100.00%
3	Temescal Canyon Rd.	s/o Dos Lagos Rd.	81.89%	6.52%	11.59%	100.00%
4	Temescal Canyon Rd.	s/o Dawson Canyon Rd.	82.43%	6.32%	11.25%	100.00%
5	Campbell Ranch Rd.	s/o Temescal Canyon Rd.	81.81%	6.52%	11.67%	100.00%
6	Dawson Canyon Rd.	e/o Temescal Canyon Rd.	84.06%	5.71%	10.22%	100.00%

[1] Temescal Valley Business Park (PAR190052) Traffic Analysis.
[2] Total of vehicle mix percentage values rounded to the nearest one-hundredth.

7 OFF-SITE TRANSPORTATION NOISE IMPACTS

To assess the off-site transportation CNEL noise level impacts associated with the proposed Project, noise contours were developed based on the *Temescal Valley Business Park Traffic Analysis*. (2) Noise contour boundaries represent the equal levels of noise exposure and are measured in CNEL from the center of the roadway.

7.1 TRAFFIC NOISE CONTOURS

Noise contours were used to assess the Project's incremental 24-hour dBA CNEL traffic-related noise impacts at land uses adjacent to roadways conveying Project traffic. The noise contours represent the distance to noise levels of a constant value and are measured from the center of the roadway for the 70, 65, and 60 dBA CNEL noise levels. The noise contours do not consider the effect of any existing noise barriers or topography that may attenuate ambient noise levels. In addition, because the noise contours reflect modeling of vehicular noise on area roadways, they appropriately do not reflect noise contributions from the surrounding stationary noise sources within the Project study area.

Tables 7-1 through 7-12 present a summary of the exterior dBA CNEL traffic noise levels without barrier attenuation. Roadway segments are analyzed from the without Project to the with Project conditions in each of the following timeframes: Existing 2020, Existing plus Ambient Growth (EA) 2022 Without Temescal Canyon Road Extension, EA 2022 With Temescal Canyon Road Extension, EA plus Cumulative Projects without Temescal Canyon Road Extension (EAC w/o ext.) 2022, EA plus Cumulative Projects with Temescal Canyon Road Extension (EAC w/ ext.) 2022, and Horizon Year (HY) 2040. Appendix 7.1 includes a summary of the dBA CNEL traffic noise level contours for each of the traffic scenarios.

TABLE 7-1: EXISTING 2020 WITHOUT PROJECT NOISE CONTOURS

ID	Road	Segment	Receiving Land Use[1]	CNEL at Receiving Land Use (dBA)[2]	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Temescal Canyon Rd.	s/o I-15	Non-Sensitive	72.3	52	113	244
2	Temescal Canyon Rd.	s/o Trilogy Pkwy.	Sensitive	72.0	80	172	371
3	Temescal Canyon Rd.	s/o Dos Lagos Rd.	Sensitive	73.5	109	235	506
4	Temescal Canyon Rd.	s/o Dawson Canyon Rd.	Non-Sensitive	72.6	95	204	440
5	Campbell Ranch Rd.	s/o Temescal Canyon Rd.	Sensitive	71.1	70	151	325
6	Dawson Canyon Rd.	e/o Temescal Canyon Rd.	Non-Sensitive	72.4	54	116	250

[1] Noise sensitive uses limited to noise sensitive residential land uses.
[2] The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.

TABLE 7-2: EXISTING 2020 WITH PROJECT NOISE CONTOURS

ID	Road	Segment	Receiving Land Use[1]	CNEL at Receiving Land Use (dBA)[2]	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Temescal Canyon Rd.	s/o I-15	Non-Sensitive	72.4	53	114	247
2	Temescal Canyon Rd.	s/o Trilogy Pkwy.	Sensitive	72.0	80	173	373
3	Temescal Canyon Rd.	s/o Dos Lagos Rd.	Sensitive	73.5	110	237	510
4	Temescal Canyon Rd.	s/o Dawson Canyon Rd.	Non-Sensitive	72.6	96	207	446
5	Campbell Ranch Rd.	s/o Temescal Canyon Rd.	Sensitive	71.2	70	152	327
6	Dawson Canyon Rd.	e/o Temescal Canyon Rd.	Non-Sensitive	72.6	55	119	256

[1] Noise sensitive uses limited to noise sensitive residential land uses.
[2] The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.

TABLE 7-3: EA W/O EXT. 2022 WITHOUT PROJECT NOISE CONTOURS

ID	Road	Segment	Receiving Land Use[1]	CNEL at Receiving Land Use (dBA)[2]	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Temescal Canyon Rd.	s/o I-15	Non-Sensitive	72.5	54	116	250
2	Temescal Canyon Rd.	s/o Trilogy Pkwy.	Sensitive	72.1	82	177	381
3	Temescal Canyon Rd.	s/o Dos Lagos Rd.	Sensitive	73.6	112	241	519
4	Temescal Canyon Rd.	s/o Dawson Canyon Rd.	Non-Sensitive	72.7	97	210	452
5	Campbell Ranch Rd.	s/o Temescal Canyon Rd.	Sensitive	71.3	72	155	334
6	Dawson Canyon Rd.	e/o Temescal Canyon Rd.	Non-Sensitive	72.6	55	119	257

[1] Noise sensitive uses limited to noise sensitive residential land uses.
[2] The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.

TABLE 7-4: EA W/O EXT. 2022 WITH PROJECT NOISE CONTOURS

ID	Road	Segment	Receiving Land Use[1]	CNEL at Receiving Land Use (dBA)[2]	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Temescal Canyon Rd.	s/o I-15	Non-Sensitive	72.5	55	117	253
2	Temescal Canyon Rd.	s/o Trilogy Pkwy.	Sensitive	72.2	82	178	383
3	Temescal Canyon Rd.	s/o Dos Lagos Rd.	Sensitive	73.7	113	243	523
4	Temescal Canyon Rd.	s/o Dawson Canyon Rd.	Non-Sensitive	72.8	99	212	458
5	Campbell Ranch Rd.	s/o Temescal Canyon Rd.	Sensitive	71.3	72	156	335
6	Dawson Canyon Rd.	e/o Temescal Canyon Rd.	Non-Sensitive	72.8	57	122	262

[1] Noise sensitive uses limited to noise sensitive residential land uses.
[2] The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.

TABLE 7-5: EA W/ EXT. 2022 WITHOUT PROJECT NOISE CONTOURS

ID	Road	Segment	Receiving Land Use[1]	CNEL at Receiving Land Use (dBA)[2]	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Temescal Canyon Rd.	s/o I-15	Non-Sensitive	72.5	54	116	250
2	Temescal Canyon Rd.	s/o Trilogy Pkwy.	Sensitive	72.1	82	177	381
3	Temescal Canyon Rd.	s/o Dos Lagos Rd.	Sensitive	73.6	112	241	519
4	Temescal Canyon Rd.	s/o Dawson Canyon Rd.	Non-Sensitive	72.7	97	210	452
5	Campbell Ranch Rd.	s/o Temescal Canyon Rd.	Sensitive	71.3	72	155	334
6	Dawson Canyon Rd.	e/o Temescal Canyon Rd.	Non-Sensitive	72.6	55	119	257

[1] Noise sensitive uses limited to noise sensitive residential land uses.
[2] The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.

TABLE 7-6: EA W/ EXT. 2022 WITH PROJECT NOISE CONTOURS

ID	Road	Segment	Receiving Land Use[1]	CNEL at Receiving Land Use (dBA)[2]	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Temescal Canyon Rd.	s/o I-15	Non-Sensitive	72.5	54	117	251
2	Temescal Canyon Rd.	s/o Trilogy Pkwy.	Sensitive	72.2	82	177	381
3	Temescal Canyon Rd.	s/o Dos Lagos Rd.	Sensitive	73.7	113	243	523
4	Temescal Canyon Rd.	s/o Dawson Canyon Rd.	Non-Sensitive	72.8	99	212	458
5	Campbell Ranch Rd.	s/o Temescal Canyon Rd.	Sensitive	71.3	72	156	335
6	Dawson Canyon Rd.	e/o Temescal Canyon Rd.	Non-Sensitive	72.8	57	122	262

[1] Noise sensitive uses limited to noise sensitive residential land uses.
[2] The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.

TABLE 7-7: EAC W/O EXT. 2022 WITHOUT PROJECT NOISE CONTOURS

ID	Road	Segment	Receiving Land Use[1]	CNEL at Receiving Land Use (dBA)[2]	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Temescal Canyon Rd.	s/o I-15	Non-Sensitive	74.0	68	147	317
2	Temescal Canyon Rd.	s/o Trilogy Pkwy.	Sensitive	75.8	145	312	672
3	Temescal Canyon Rd.	s/o Dos Lagos Rd.	Sensitive	74.2	121	261	562
4	Temescal Canyon Rd.	s/o Dawson Canyon Rd.	Non-Sensitive	75.0	137	295	635
5	Campbell Ranch Rd.	s/o Temescal Canyon Rd.	Sensitive	72.7	89	192	413
6	Dawson Canyon Rd.	e/o Temescal Canyon Rd.	Non-Sensitive	73.3	61	132	285

[1] Noise sensitive uses limited to noise sensitive residential land uses.
[2] The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.

TABLE 7-8: EAC W/O EXT. 2022 WITH PROJECT CONDITIONS NOISE CONTOURS

ID	Road	Segment	Receiving Land Use[1]	CNEL at Receiving Land Use (dBA)[2]	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Temescal Canyon Rd.	s/o I-15	Non-Sensitive	74.1	69	149	320
2	Temescal Canyon Rd.	s/o Trilogy Pkwy.	Sensitive	75.9	145	313	673
3	Temescal Canyon Rd.	s/o Dos Lagos Rd.	Sensitive	74.2	122	263	566
4	Temescal Canyon Rd.	s/o Dawson Canyon Rd.	Non-Sensitive	75.0	138	297	640
5	Campbell Ranch Rd.	s/o Temescal Canyon Rd.	Sensitive	72.7	89	192	414
6	Dawson Canyon Rd.	e/o Temescal Canyon Rd.	Non-Sensitive	73.4	63	135	291

[1] Noise sensitive uses limited to noise sensitive residential land uses.
[2] The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.

TABLE 7-9: EAC W/ EXT. 2022 WITHOUT PROJECT CONDITIONS NOISE CONTOURS

ID	Road	Segment	Receiving Land Use[1]	CNEL at Receiving Land Use (dBA)[2]	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Temescal Canyon Rd.	s/o I-15	Non-Sensitive	74.0	68	147	317
2	Temescal Canyon Rd.	s/o Trilogy Pkwy.	Sensitive	73.8	106	229	493
3	Temescal Canyon Rd.	s/o Dos Lagos Rd.	Sensitive	74.2	121	261	562
4	Temescal Canyon Rd.	s/o Dawson Canyon Rd.	Non-Sensitive	75.0	138	297	639
5	Campbell Ranch Rd.	s/o Temescal Canyon Rd.	Sensitive	72.7	89	192	413
6	Dawson Canyon Rd.	e/o Temescal Canyon Rd.	Non-Sensitive	73.3	61	132	285

[1] Noise sensitive uses limited to noise sensitive residential land uses.
[2] The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.

TABLE 7-10: EAC W/ EXT. 2022 WITH PROJECT CONDITIONS NOISE CONTOURS

ID	Road	Segment	Receiving Land Use[1]	CNEL at Receiving Land Use (dBA)[2]	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Temescal Canyon Rd.	s/o I-15	Non-Sensitive	74.0	69	148	318
2	Temescal Canyon Rd.	s/o Trilogy Pkwy.	Sensitive	73.8	106	229	493
3	Temescal Canyon Rd.	s/o Dos Lagos Rd.	Sensitive	74.2	122	263	566
4	Temescal Canyon Rd.	s/o Dawson Canyon Rd.	Non-Sensitive	75.0	139	299	644
5	Campbell Ranch Rd.	s/o Temescal Canyon Rd.	Sensitive	72.7	89	192	414
6	Dawson Canyon Rd.	e/o Temescal Canyon Rd.	Non-Sensitive	73.4	63	135	291

[1] Noise sensitive uses limited to noise sensitive residential land uses.
[2] The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.

TABLE 7-11: HY 2040 WITHOUT PROJECT CONDITIONS NOISE CONTOURS

ID	Road	Segment	Receiving Land Use[1]	CNEL at Receiving Land Use (dBA)[2]	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Temescal Canyon Rd.	s/o I-15	Non-Sensitive	73.9	67	144	311
2	Temescal Canyon Rd.	s/o Trilogy Pkwy.	Sensitive	73.6	102	220	473
3	Temescal Canyon Rd.	s/o Dos Lagos Rd.	Sensitive	75.1	139	299	645
4	Temescal Canyon Rd.	s/o Dawson Canyon Rd.	Non-Sensitive	74.5	128	277	596
5	Campbell Ranch Rd.	s/o Temescal Canyon Rd.	Sensitive	72.7	89	193	415
6	Dawson Canyon Rd.	e/o Temescal Canyon Rd.	Non-Sensitive	74.0	69	148	319

[1] Noise sensitive uses limited to noise sensitive residential land uses.
[2] The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.

TABLE 7-12: HY 2040 WITH PROJECT CONDITIONS NOISE CONTOURS

ID	Road	Segment	Receiving Land Use[1]	CNEL at Receiving Land Use (dBA)[2]	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Temescal Canyon Rd.	s/o I-15	Non-Sensitive	73.9	67	145	312
2	Temescal Canyon Rd.	s/o Trilogy Pkwy.	Sensitive	73.6	102	220	473
3	Temescal Canyon Rd.	s/o Dos Lagos Rd.	Sensitive	75.1	140	301	649
4	Temescal Canyon Rd.	s/o Dawson Canyon Rd.	Non-Sensitive	74.6	129	279	601
5	Campbell Ranch Rd.	s/o Temescal Canyon Rd.	Sensitive	72.7	90	193	416
6	Dawson Canyon Rd.	e/o Temescal Canyon Rd.	Non-Sensitive	74.1	70	150	324

[1] Noise sensitive uses limited to noise sensitive residential land uses.
[2] The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.

7.2 EXISTING 2020 PROJECT TRAFFIC NOISE LEVEL INCREASES

An analysis of existing traffic noise levels plus traffic noise generated by the proposed Project has been included in this report to fully analyze all the existing traffic scenarios identified in the *Temescal Valley Business Park Traffic Analysis* prepared by Urban Crossroads, Inc. This condition is provided solely for informational purposes and will not occur, since the Project will not be fully developed and occupied under Existing conditions. Therefore, no mitigation measures are considered to reduce the Existing Plus Project traffic noise level increases. The future EAC and HY traffic noise conditions that include all cumulative projects are used to determine the significance of the Project off-site traffic noise level increases on the study area roadway segments. Table 7-1 shows the Existing without Project conditions CNEL noise levels. The Existing without Project exterior noise levels are expected to range from 71.1 to 73.5 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 7-2 shows the Existing with Project conditions will range from 71.2 to 73.5 dBA CNEL. Table 7-13 shows that the Project off-site traffic noise level impacts will range from 0.0 to 0.2 dBA CNEL.

7.3 EA W/O EXT. 2022 PROJECT TRAFFIC NOISE LEVEL INCREASES

Table 7-3 presents the Existing plus Ambient Growth (EA) without Temescal Canyon Road Extension (EA w/o ext.) without Project conditions CNEL noise levels. The EA w/o ext. without Project exterior noise levels are expected to range from 71.3 to 73.6 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 7-4 shows the EA without Temescal Canyon Road Extension (EA w/o ext.) with Project conditions will range from 71.3 to 73.7 dBA CNEL. Table 7-14 shows that the Project off-site traffic noise level increases will range from 0.0 to 0.1 dBA CNEL.

7.4 EA W/ EXT. 2022 PROJECT TRAFFIC NOISE LEVEL INCREASES

Table 7-5 presents the Existing plus Ambient Growth (EA) with Temescal Canyon Road Extension (EA w/ ext.) without Project conditions CNEL noise levels. The EA w/ ext. without Project exterior

noise levels are expected to range from 71.3 to 73.6 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 7-6 shows the EA with Temescal Canyon Road Extension (EA w/ ext.) with Project conditions will range from 71.3 to 73.7 dBA CNEL. Table 7-15 shows that the Project off-site traffic noise level increases will range from 0.0 to 0.1 dBA CNEL.

7.5 EAC W/O EXT. 2022 PROJECT TRAFFIC NOISE LEVEL INCREASES

Table 7-7 presents the Existing plus Ambient Growth plus Cumulative without Temescal Canyon Road Extension (EAC w/o ext.) without Project conditions CNEL noise levels. The EAC w/o ext. without Project exterior noise levels are expected to range from 72.7 to 75.8 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 7-8 shows that the EAC w/o ext. with Project conditions will range from 72.7 to 75.9 dBA CNEL. Table 7-16 shows that the Project off-site traffic noise level increases will range from 0.0 to 0.1 dBA CNEL. Based on the significance criteria for off-site traffic noise presented in Table 4-2, land uses adjacent to the study area roadway segments would experience *less than significant* noise level increases due to unmitigated Project-related traffic noise levels.

7.6 EAC W/ EXT. 2022 PROJECT TRAFFIC NOISE LEVEL INCREASES

Table 7-9 presents the Existing plus Ambient Growth plus Cumulative with Temescal Canyon Road Extension (EAC w/ ext.) without Project conditions CNEL noise levels. The EAC w/ ext. without Project exterior noise levels are expected to range from 72.7 to 75.0 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 7-10 shows that the EAC w/ ext. with Project conditions will range from 72.7 to 75.0 dBA CNEL. Table 7-17 shows that the Project off-site traffic noise level increases will range from 0.0 to 0.1 dBA CNEL. Based on the significance criteria for off-site traffic noise presented in Table 4-2, land uses adjacent to the study area roadway segments would experience *less than significant* noise level increases due to unmitigated Project-related traffic noise levels.

7.7 HY 2040 PROJECT TRAFFIC NOISE LEVEL INCREASES

Table 7-11 presents the Horizon Year (HY) without Project conditions CNEL noise levels. The HY without Project exterior noise levels are expected to range from 72.7 to 75.1 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 7-12 shows that the HY with Project conditions will also range from 72.7 to 75.1 dBA CNEL. Table 7-18 shows that the Project off-site traffic noise level increases will range from 0.0 to 0.1 dBA CNEL. Based on the significance criteria for off-site traffic noise presented in Table 4-2, land uses adjacent to the study area roadway segments would experience *less than significant* noise level increases due to unmitigated Project-related traffic noise levels.

TABLE 7-13: EXISTING 2020 WITH PROJECT TRAFFIC NOISE LEVEL INCREASES

ID	Road	Segment	CNEL at Receiving Land Use (dBA)[2]			Noise Sensitive Land Use?	Incremental Noise Level Increase Threshold[3]	
			No Project	With Project	Project Addition		Limit	Exceeded?
1	Temescal Canyon Rd.	s/o I-15	72.3	72.4	0.1	No	3.0	No
2	Temescal Canyon Rd.	s/o Trilogy Pkwy.	72.0	72.0	0.0	Yes	1.5	No
3	Temescal Canyon Rd.	s/o Dos Lagos Rd.	73.5	73.5	0.1	Yes	1.5	No
4	Temescal Canyon Rd.	s/o Dawson Canyon Rd.	72.6	72.6	0.1	No	3.0	No
5	Campbell Ranch Rd.	s/o Temescal Canyon Rd.	71.1	71.2	0.0	Yes	1.5	No
6	Dawson Canyon Rd.	e/o Temescal Canyon Rd.	72.4	72.6	0.2	No	3.0	No

[1] Noise sensitive uses limited to noise sensitive residential land uses.
[2] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.
[3] Does the Project create an incremental noise level increase exceeding the significance criteria (Table 4-2)?

TABLE 7-14: EA W/O EXT. 2022 WITH PROJECT TRAFFIC NOISE INCREASES

ID	Road	Segment	CNEL at Receiving Land Use (dBA)[2]			Noise Sensitive Land Use?	Incremental Noise Level Increase Threshold[3]	
			No Project	With Project	Project Addition		Limit	Exceeded?
1	Temescal Canyon Rd.	s/o I-15	72.5	72.5	0.1	No	3.0	No
2	Temescal Canyon Rd.	s/o Trilogy Pkwy.	72.1	72.2	0.0	Yes	1.5	No
3	Temescal Canyon Rd.	s/o Dos Lagos Rd.	73.6	73.7	0.1	Yes	1.5	No
4	Temescal Canyon Rd.	s/o Dawson Canyon Rd.	72.7	72.8	0.1	No	3.0	No
5	Campbell Ranch Rd.	s/o Temescal Canyon Rd.	71.3	71.3	0.0	Yes	1.5	No
6	Dawson Canyon Rd.	e/o Temescal Canyon Rd.	72.6	72.8	0.1	No	3.0	No

[1] Noise sensitive uses limited to noise sensitive residential land uses.
[2] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.
[3] Does the Project create an incremental noise level increase exceeding the significance criteria (Table 4-2)?

TABLE 7-15: EA W/ EXT. 2022 WITH PROJECT TRAFFIC NOISE INCREASES

ID	Road	Segment	CNEL at Receiving Land Use (dBA)[2]			Noise Sensitive Land Use?	Incremental Noise Level Increase Threshold[3]	
			No Project	With Project	Project Addition		Limit	Exceeded?
1	Temescal Canyon Rd.	s/o I-15	72.5	72.5	0.0	No	3.0	No
2	Temescal Canyon Rd.	s/o Trilogy Pkwy.	72.1	72.2	0.0	Yes	1.5	No
3	Temescal Canyon Rd.	s/o Dos Lagos Rd.	73.6	73.7	0.1	Yes	1.5	No
4	Temescal Canyon Rd.	s/o Dawson Canyon Rd.	72.7	72.8	0.1	No	3.0	No
5	Campbell Ranch Rd.	s/o Temescal Canyon Rd.	71.3	71.3	0.0	Yes	1.5	No
6	Dawson Canyon Rd.	e/o Temescal Canyon Rd.	72.6	72.8	0.1	No	3.0	No

[1] Noise sensitive uses limited to noise sensitive residential land uses.
[2] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.
[3] Does the Project create an incremental noise level increase exceeding the significance criteria (Table 4-2)?

TABLE 7-16: EAC W/O EXT. 2022 WITH PROJECT TRAFFIC NOISE LEVEL INCREASES

ID	Road	Segment	CNEL at Receiving Land Use (dBA)[2]			Noise Sensitive Land Use?	Incremental Noise Level Increase Threshold[3]	
			No Project	With Project	Project Addition		Limit	Exceeded?
1	Temescal Canyon Rd.	s/o I-15	74.0	74.1	0.1	No	3.0	No
2	Temescal Canyon Rd.	s/o Trilogy Pkwy.	75.8	75.9	0.0	Yes	1.5	No
3	Temescal Canyon Rd.	s/o Dos Lagos Rd.	74.2	74.2	0.0	Yes	1.5	No
4	Temescal Canyon Rd.	s/o Dawson Canyon Rd.	75.0	75.0	0.0	No	3.0	No
5	Campbell Ranch Rd.	s/o Temescal Canyon Rd.	72.7	72.7	0.0	Yes	1.5	No
6	Dawson Canyon Rd.	e/o Temescal Canyon Rd.	73.3	73.4	0.1	No	3.0	No

[1] Noise sensitive uses limited to noise sensitive residential land uses.
[2] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.
[3] Does the Project create an incremental noise level increase exceeding the significance criteria (Table 4-2)?

TABLE 7-17: EAC W/ EXT. 2022 WITH PROJECT TRAFFIC NOISE LEVEL INCREASES

ID	Road	Segment	CNEL at Receiving Land Use (dBA)[2]			Noise Sensitive Land Use?	Incremental Noise Level Increase Threshold[3]	
			No Project	With Project	Project Addition		Limit	Exceeded?
1	Temescal Canyon Rd.	s/o I-15	74.0	74.0	0.0	No	3.0	No
2	Temescal Canyon Rd.	s/o Trilogy Pkwy.	73.8	73.8	0.0	Yes	1.5	No
3	Temescal Canyon Rd.	s/o Dos Lagos Rd.	74.2	74.2	0.0	Yes	1.5	No
4	Temescal Canyon Rd.	s/o Dawson Canyon Rd.	75.0	75.0	0.0	No	3.0	No
5	Campbell Ranch Rd.	s/o Temescal Canyon Rd.	72.7	72.7	0.0	Yes	1.5	No
6	Dawson Canyon Rd.	e/o Temescal Canyon Rd.	73.3	73.4	0.1	No	3.0	No

[1] Noise sensitive uses limited to noise sensitive residential land uses.
[2] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.
[3] Does the Project create an incremental noise level increase exceeding the significance criteria (Table 4-2)?

TABLE 7-18: HY 2040 WITH PROJECT TRAFFIC NOISE LEVEL INCREASES

ID	Road	Segment	CNEL at Receiving Land Use (dBA)[2]			Noise Sensitive Land Use?	Incremental Noise Level Increase Threshold[3]	
			No Project	With Project	Project Addition		Limit	Exceeded?
1	Temescal Canyon Rd.	s/o I-15	73.9	73.9	0.0	No	3.0	No
2	Temescal Canyon Rd.	s/o Trilogy Pkwy.	73.6	73.6	0.0	Yes	1.5	No
3	Temescal Canyon Rd.	s/o Dos Lagos Rd.	75.1	75.1	0.0	Yes	1.5	No
4	Temescal Canyon Rd.	s/o Dawson Canyon Rd.	74.5	74.6	0.1	No	3.0	No
5	Campbell Ranch Rd.	s/o Temescal Canyon Rd.	72.7	72.7	0.0	Yes	1.5	No
6	Dawson Canyon Rd.	e/o Temescal Canyon Rd.	74.0	74.1	0.1	No	3.0	No

[1] Noise sensitive uses limited to noise sensitive residential land uses.
[2] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.
[3] Does the Project create an incremental noise level increase exceeding the significance criteria (Table 4-2)?

8 RECEIVER LOCATIONS

To assess the potential for long-term operational and short-term construction noise impacts, the following sensitive receiver locations, as shown on Exhibit 8-A, were identified as representative locations for analysis. Sensitive receivers are generally defined as locations where people reside or where the presence of unwanted sound could otherwise adversely affect the use of the land. Noise-sensitive land uses are generally considered to include schools, hospitals, single-family dwellings, mobile home parks, churches, libraries, and recreation areas. Moderately noise-sensitive land uses typically include multi-family dwellings, hotels, motels, dormitories, out-patient clinics, cemeteries, golf courses, country clubs, athletic/tennis clubs, and equestrian clubs. Land uses that are considered relatively insensitive to noise include business, commercial, and professional developments. Land uses that are typically not affected by noise include: industrial, manufacturing, utilities, agriculture, undeveloped land, parking lots, warehousing, liquid and solid waste facilities, salvage yards, and transit terminals.

To describe the potential off-site Project noise levels, five receiver locations in the vicinity of the Project site were identified. All distances are measured from the Project site boundary to the outdoor living areas (e.g., private backyards) or at the building façade, whichever is closer to the Project site. The selection of receiver locations is based on FHWA guidelines and is consistent with additional guidance provided by Caltrans and the FTA, as previously described in Section 5.2. Other sensitive land uses in the Project study area that are located at greater distances than those identified in this noise study will experience lower noise levels than those presented in this report due to the additional attenuation from distance and the shielding of intervening structures. Distance is measured in a straight line from the project boundary to each receiver location.

R1: Location R1 represents the existing noise sensitive residence at 9575 Stone Canyon Road, approximately 1,545 feet northwest of the Project site. R1 is placed at the private outdoor living areas (backyards) facing the Project site. A 24-hour noise measurement was taken near this location, L1, to describe the existing ambient noise environment.

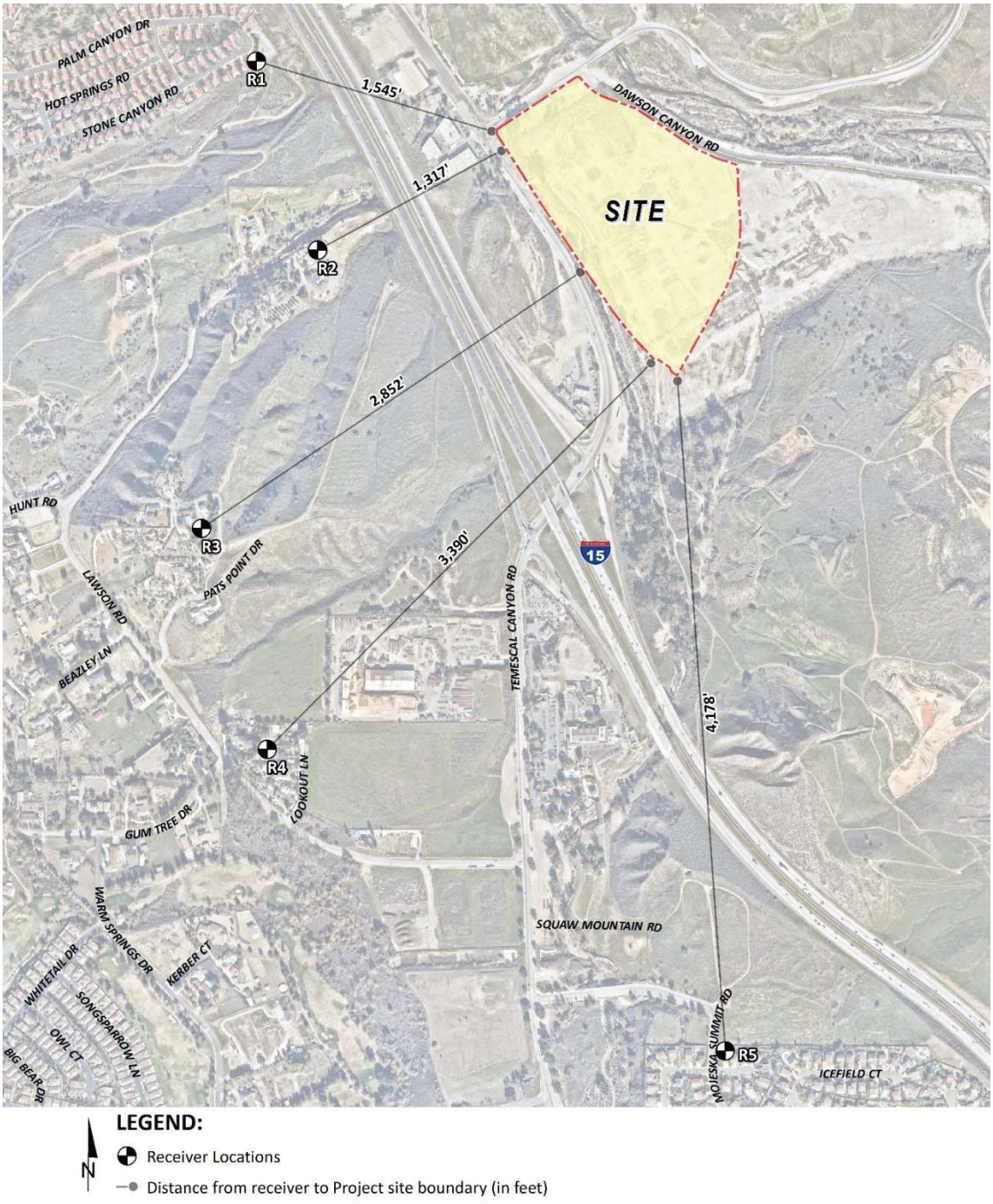
R2: Location R2 represents the existing noise sensitive residence on Lawson Road, approximately 1,317 feet west of the Project site. R2 is placed at the private outdoor living areas (backyards) facing the Project site. A 24-hour noise measurement was taken near this location, L2, to describe the existing ambient noise environment.

R3: Location R3 represents the existing noise sensitive residence at 9490 Pats Point Drive, approximately 2,852 feet southwest of the Project site. Since there are no private outdoor living areas (backyards) facing the Project site, receiver R3 is placed at the residential building façade. A 24-hour noise measurement near this location, L3, is used to describe the existing ambient noise environment.

R4: Location R4 represents the existing noise sensitive residence at 23905 Lookout Lane, approximately 3,390 feet southwest of the Project site. Since there are no private outdoor living areas (backyards) facing the Project site, receiver R4 is placed at the residential building façade. A 24-hour noise measurement near this location, L4, is used to describe the existing ambient noise environment.

R5: Location R5 represents the existing noise sensitive residence at 10088 Greenhorn Court, approximately 4,178 feet south of the Project site. R5 is placed at the private outdoor living areas (backyards) facing the Project site. A 24-hour noise measurement near this location, L5, is used to describe the existing ambient noise environment.

EXHIBIT 8-A: RECEIVER LOCATIONS



9 OPERATIONAL NOISE IMPACTS

This section analyzes the potential stationary-source operational noise impacts at the nearest receiver locations, identified in Section 8, resulting from the operation of the proposed Temescal Valley Business Park Project. Exhibit 9-A identifies the noise source locations used to assess the hourly average L_{eq} operational noise levels consistent with the County of Riverside General Plan Noise Element Policy N 4.1.

9.1 OPERATIONAL NOISE SOURCES

This operational noise analysis is intended to describe noise level impacts associated with the expected typical of daytime and nighttime activities at the Project site. To present the potential worst-case noise conditions, this analysis assumes the Project would be operational 24 hours per day, seven days per week. Consistent with similar warehouse uses, the Project business operations would primarily be conducted within the enclosed buildings, except for traffic movements, parking activities, as well as loading and unloading of trucks and vans at designated loading bays. The on-site Project-related noise sources are expected to include: loading dock activity, delivery van activity, entry gate & truck movements, roof-top air conditioning units, and trash enclosure activity.

9.2 REFERENCE NOISE LEVELS

To estimate the Project operational noise impacts, reference noise level measurements were collected from similar types of activities to represent the noise levels expected with the development of the proposed Project. This section provides a detailed description of the reference noise level measurements shown on Table 9-1 used to estimate the Project operational noise impacts. It is important to note that the following projected noise levels assume the worst-case noise environment with the loading dock activity, delivery van activity, entry gate & truck movements, roof-top air conditioning units, and trash enclosure activity all operating continuously. These sources of noise activity will likely vary throughout the day.

EXHIBIT 9-A: OPERATIONAL NOISE SOURCE LOCATIONS

TABLE 9-1: REFERENCE NOISE LEVEL MEASUREMENTS

Noise Source[1]	Noise Source Height (Feet)	Min./Hour[2]		Reference Noise Level (dBA L_{eq}) @ 50 feet	Sound Power Level (dBA)[3]
		Day	Night		
Loading Dock Activity	8'	60	60	62.8	103.4
Delivery Van Activity	5'	60	60	61.4	101.2
Entry Gate & Truck Movements	8'	-[4]	-[4]	58.0	89.7
Roof-Top Air Conditioning	5'	39	28	57.2	88.9
Trash Enclosure Activity	5'	5	5	57.3	89.0

[1] As measured by Urban Crossroads, Inc.
[2] Anticipated duration (minutes within the hour) of noise activity during typical hourly conditions expected at the Project site. "Day" = 7:00 a.m. to 10:00 p.m.; "Night" = 10:00 p.m. to 7:00 a.m.
[3] Sound power level represents the total amount of acoustical energy (noise level) produced by a sound source independent of distance or surroundings. Sound power levels calculated using the CadnaA noise model at the reference distance to the noise source. Numbers may vary due to size differences between point and area noise sources.
[4] Entry Gate & Truck Movements are calculate based on the number of events by time of day (See Table 9-2).

9.2.1 MEASUREMENT PROCEDURES

The reference noise level measurements presented in this section were collected using a Larson Davis LxT Type 1 precision sound level meter (serial number 01146). The LxT sound level meter was calibrated using a Larson-Davis calibrator, Model CAL 200, was programmed in "slow" mode to record noise levels in "A" weighted form and was located at approximately five feet above the ground elevation for each measurement. The sound level meters and microphones were equipped with a windscreen during all measurements. All noise level measurement equipment satisfies the American National Standards Institute (ANSI) standard specifications for sound level meters ANSI S1.4-2014/IEC 61672-1:2013. (17)

9.2.2 LOADING DOCK ACTIVITY

The Project includes a single large loading dock area on the eastern building façade providing 19 dock doors. The reference loading dock activities are intended to describe the typical operational noise source levels associated with the Project. This includes truck idling, deliveries, backup alarms, unloading/loading, docking including a combination of tractor trailer semi-trucks, two-axle delivery trucks, and background forklift operations. At a uniform reference distance of 50 feet, Urban Crossroads collected a reference noise level of 62.8 dBA L_{eq}.

The loading dock activity noise level measurement was taken over a fifteen-minute period and represents multiple noise sources taken from the center of activity. The reference noise level measurement includes employees unloading a docked truck container included the squeaking of the truck's shocks when weight was removed from the truck, employees playing music over a radio, as well as a forklift horn and backup alarm. In addition, during the noise level measurement a truck entered the loading dock area and proceeded to reverse and dock in a nearby loading bay, adding truck engine, idling, air brakes noise, in addition to on-going idling of an already docked truck.

The noise level measurements represent the typical weekday dry goods logistics warehouse operation in a single building with a loading dock area on the eastern side of the building façade. In addition, since this reference noise level describes the peak noise source activity, it is also used in the noise prediction model as area source to conservatively describe the entire loading dock area even though during normal operations, the loading dock noise source activity will occur at different locations throughout the loading dock area.

9.2.3 DELIVERY VAN ACTIVITY

To describe the delivery van activity, Urban Crossroads, collected reference noise level measurements at an existing delivery service partner. The delivery service partner maintains over 50 delivery vans and supporting operations. The reference noise level measurements suggest that at the center of activity the delivery vans generate a noise level of 61.4 dBA L_{eq} at a reference distance of 50 feet.

9.2.4 ENTRY GATE & TRUCK MOVEMENTS

An entry gate and truck movements reference noise level measurement was taken at a Fulfillment & Logistics Services distribution over a 15-minute period and represents multiple noise sources producing a reference noise level of 58.0 dBA L_{eq} at 50 feet. The noise sources included at this measurement location account for the rattling and squeaking during normal opening and closing operations, the gate closure equipment, truck engines idling outside the entry gate, truck movements through the entry gate, and background truck court activities and forklift backup alarm noise.

Consistent with the *Temescal Valley Business Park Traffic Analysis* prepared by Urban Crossroads, Inc., the Project is expected to generate a total of approximately 82 two-way truck trips per day (41 inbound and 41 outbound). Truck movements will be limited to Driveway 2, (2) Using the estimated number of truck trips in combination with time-of-day vehicle splits, the number of entry gate and truck movements were calculated. As shown on Table 9-2, this information is then used to calculate the entry gate and truck movements operational noise source activity based on the number of events by time of day.

TABLE 9-2: ENTRY GATE & TRUCK MOVEMENTS BY LOCATION

Entry Gate & Truck Movement Location[1]	Total Project Truck Trips[2]	Trip Dist.[3]	Truck Trips by Location[4]	Time of Day Vehicle Splits[5]			Truck Movements[6]		
				Day	Evening	Night	Day	Evening	Night
Driveway 2	82	100%	82	86.50%	2.70%	10.80%	71	2	9

[1] Driveway location as shown on the Site Plan Exhibit 9-A.
[2] Total Project truck trips according to Table 4-2 of the Temescal Valley Business Park Traffic Analysis.
[3] Project truck trip distribution according to Exhibit 4-1 of the Temescal Valley Business Park Traffic Analysis.
[4] Calculated trip trucks per location represents the product of the total project truck trips and the trip distribution.
[5] Heavy truck time of day vehicle splits as shown on Table 6-3.
[6] Calculated time of day entry gate and truck movements by location.

9.2.5 ROOF-TOP AIR CONDITIONING

To assess the noise levels created by the roof-top air conditioning units, reference noise level measurements were collected from a Lennox SCA120 series 10-ton model packaged air conditioning unit. At the uniform reference distance of 50 feet, the reference noise levels are 57.2 dBA L_{eq}. Based on the typical operating conditions observed over a four-day measurement period, the roof-top air conditioning units are estimated to operate for an average of 39 minutes per hour during the daytime hours, and 28 minutes per hour during the nighttime hours. For this noise analysis, the air conditioning units are expected to be located on the roof of the proposed building. This reference noise level describes the expected roof-top air conditioning units located 5 feet above the roof for the planned air conditioning units at the Project Site.

9.2.6 TRASH ENCLOSURE ACTIVITY

To describe the noise levels associated with a trash enclosure activity, Urban Crossroads collected a reference noise level measurement at an existing trash enclosure containing two dumpster bins. The trash enclosure noise levels describe metal gates opening and closing, metal scraping against concrete floor sounds, dumpster movement on metal wheels, and trash dropping into the metal dumpster. The reference noise levels describe trash enclosure noise activities when trash is dropped into an empty metal dumpster, as would occur at the Project site. The measured reference noise level at the uniform 50-foot reference distance is 56.8 dBA L_{eq} for the trash enclosure activity. The reference noise level describes the expected noise source activities associated with the trash enclosures for the Project's proposed building. Typical trash enclosure activities are estimated to occur for 5 minutes per hour.

9.3 CADNAA NOISE PREDICTION MODEL

To fully describe the exterior operational noise levels from the Project, Urban Crossroads, Inc. developed a noise prediction model using the CadnaA (Computer Aided Noise Abatement) computer program. CadnaA can analyze multiple types of noise sources using the spatially accurate Project site plan, georeferenced Nearmap aerial imagery, topography, buildings, and barriers in its calculations to predict outdoor noise levels.

Using the ISO 9613 protocol, CadnaA will calculate the distance from each noise source to the noise receiver locations, using the ground absorption, distance, and barrier/building attenuation inputs to provide a summary of noise level at each receiver and the partial noise level contributions by noise source. Consistent with the ISO 9613 protocol, the CadnaA noise prediction model relies on the reference sound power level (L_w) to describe individual noise sources. While sound pressure levels (e.g. L_{eq}) quantify in decibels the intensity of given sound sources at a reference distance, sound power levels (L_w) are connected to the sound source and are independent of distance. Sound pressure levels vary substantially with distance from the source and diminish from intervening obstacles and barriers, air absorption, wind, and other factors. Sound power is the acoustical energy emitted by the sound source and is an absolute value that is not affected by the environment. The operational noise level calculations provided in this noise study account for the distance attenuation provided due to geometric spreading, when sound from a localized stationary source (i.e., a point source) propagates uniformly

outward in a spherical pattern A default ground attenuation factor of 0.5 was used in the noise analysis to account for mixed ground representing a combination of hard and soft surfaces consistent with study area conditions. Appendix 9.1 includes the detailed noise model inputs.

9.4 PROJECT OPERATIONAL NOISE LEVELS

Using the reference noise levels to represent the proposed Project operations that include loading dock activity, delivery van activity, entry gate & truck movements, roof-top air conditioning units, and trash enclosure activity, Urban Crossroads, Inc. calculated the operational source noise levels that are expected to be generated at the Project site and the Project-related noise level increases that would be experienced at each of the sensitive receiver locations. Table 9-3 shows the Project operational noise levels during the daytime hours of 7:00 a.m. to 10:00 p.m. he daytime hourly noise levels at the off-site receiver locations are expected to range from 27.6 to 36.4 dBA L_{eq}.

TABLE 9-3: DAYTIME PROJECT OPERATIONAL NOISE LEVELS

Noise Source[1]	Operational Noise Levels by Receiver Location (dBA Leq)				
	R1	R2	R3	R4	R5
Loading Dock Activity	25.3	32.3	30.3	28.4	25.8
Delivery Van Activity	31.4	33.7	27.7	25.4	22.3
Entry Gate & Truck Movements	17.6	20.8	16.0	14.0	10.9
Roof-Top Air Conditioning	21.4	22.8	16.1	13.7	9.3
Trash Enclosure Activity	0.0	0.0	3.9	2.1	0.0
Total (All Noise Sources)	**32.8**	**36.4**	**32.4**	**30.4**	**27.6**

[1] See Exhibit 9-A for the noise source locations. CadnaA noise model calculations are included in Appendix 9.1.

Tables 9-4 shows the Project operational noise levels during the nighttime hours of 10:00 p.m. to 7:00 a.m. The nighttime hourly noise levels at the off-site receiver locations are expected to range from 27.2 to 35.7 dBA L_{eq}. The differences between the daytime and nighttime noise levels is largely related to the duration of noise activity (Table 9-1). Appendix 9.1 includes the detailed noise model inputs.

TABLE 9-4: NIGHTTIME PROJECT OPERATIONAL NOISE LEVELS

Noise Source[1]	Operational Noise Levels by Receiver Location (dBA Leq)				
	R1	R2	R3	R4	R5
Loading Dock Activity	25.3	32.3	30.3	28.4	25.8
Delivery Van Activity	30.4	32.7	26.7	24.4	21.3
Entry Gate & Truck Movements	8.7	11.9	7.1	5.0	1.9
Roof-Top Air Conditioning	19.0	20.4	13.7	11.3	6.9
Trash Enclosure Activity	0.0	0.0	3.0	1.1	0.0
Total (All Noise Sources)	**31.8**	**35.7**	**32.0**	**29.9**	**27.2**

[1] See Exhibit 9-A for the noise source locations. CadnaA noise model calculations are included in Appendix 9.1.

9.5 PROJECT OPERATIONAL NOISE LEVEL COMPLIANCE

To demonstrate compliance with local noise regulations, the Project-only operational noise levels are evaluated against exterior noise level thresholds based on the County of Riverside exterior noise level standards at nearest noise-sensitive receiver locations. Table 9-5 shows the operational noise levels associated with Temescal Valley Business Park Project will satisfy the County of Riverside 55 dBA L_{eq} daytime and 45 dBA L_{eq} nighttime exterior noise level standards at the nearest receiver locations. Therefore, the operational noise impacts are considered *less than significant* at the nearest noise-sensitive receiver locations.

TABLE 9-5: OPERATIONAL NOISE LEVEL COMPLIANCE

Receiver Location[1]	Project Operational Noise Levels (dBA Leq)[2]		Noise Level Standards (dBA Leq)[3]		Noise Level Standards Exceeded?[4]	
	Daytime	Nighttime	Daytime	Nighttime	Daytime	Nighttime
R1	32.8	31.8	55	45	No	No
R2	36.4	35.7	55	45	No	No
R3	32.4	32.0	55	45	No	No
R4	30.4	29.9	55	45	No	No
R5	27.6	27.2	55	45	No	No

[1] See Exhibit 8-A for the receiver locations.
[2] Proposed Project operational noise levels as shown on Tables 9-3 and 9-4.
[3] Exterior noise level standards for residential land use, as shown on Table 4-2.
[4] Do the estimated Project operational noise source activities exceed the noise level standards? "Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

9.6 PROJECT OPERATIONAL NOISE LEVEL INCREASES

To describe the Project operational noise level increases, the Project operational noise levels are combined with the existing ambient noise levels measurements for the nearest receiver locations potentially impacted by Project operational noise sources. Since the units used to measure noise, decibels (dB), are logarithmic units, the Project-operational and existing ambient noise levels cannot be combined using standard arithmetic equations. (3) Instead, they must be logarithmically added using the following base equation:

$$SPL_{Total} = 10\log_{10}[10^{SPL1/10} + 10^{SPL2/10} + \ldots 10^{SPLn/10}]$$

Where "SPL1," "SPL2," etc. are equal to the sound pressure levels being combined, or in this case, the Project-operational and existing ambient noise levels. The difference between the combined Project and ambient noise levels describes the Project noise level increases to the existing ambient noise environment. Noise levels that would be experienced at receiver locations when Project-source noise is added to the daytime and nighttime ambient conditions are presented on Tables 9-6 and 9-7, respectively. As indicated on Tables 9-6 and 9-7, the Project will generate an unmitigated daytime and nighttime operational noise level increases ranging from 0.0 to 0.1 dBA L_{eq} at the nearest receiver locations. Project-related operational noise level increases will satisfy the operational noise level increase significance criteria presented in Table 4-2, the increases at the sensitive receiver locations will be *less than significant.*

TABLE 9-6: DAYTIME PROJECT OPERATIONAL NOISE LEVEL INCREASES

Receiver Location[1]	Total Project Operational Noise Level[2]	Measurement Location[3]	Reference Ambient Noise Levels[4]	Combined Project and Ambient[5]	Project Increase[6]	Noise Sensitive Land Use?	Increase Criteria[7]	Increase Criteria Exceeded?[7]
R1	32.8	L1	51.3	51.4	0.1	Yes	5.0	No
R2	36.4	L2	60.4	60.4	0.0	Yes	3.0	No
R3	32.4	L3	61.6	61.6	0.0	Yes	3.0	No
R4	30.4	L4	67.3	67.3	0.0	Yes	1.5	No
R5	27.6	L5	64.2	64.2	0.0	Yes	3.0	No

[1] See Exhibit 8-A for the receiver locations.
[2] Total Project daytime operational noise levels as shown on Table 9-3.
[3] Reference noise level measurement locations as shown on Exhibit 5-A.
[4] Observed daytime ambient noise levels as shown on Table 5-1.
[5] Represents the combined ambient conditions plus the Project activities.
[6] The noise level increase expected with the addition of the proposed Project activities.
[7] Significance increase criteria as shown on Table 4-2.

TABLE 9-7: NIGHTTIME OPERATIONAL NOISE LEVEL INCREASES

Receiver Location[1]	Total Project Operational Noise Level[2]	Measurement Location[3]	Reference Ambient Noise Levels[4]	Combined Project and Ambient[5]	Project Increase[6]	Noise Sensitive Land Use?	Increase Criteria[7]	Increase Criteria Exceeded?[7]
R1	31.8	L1	51.1	51.2	0.1	Yes	5.0	No
R2	35.7	L2	57.1	57.1	0.0	Yes	5.0	No
R3	32.0	L3	58.9	58.9	0.0	Yes	5.0	No
R4	29.9	L4	63.8	63.8	0.0	Yes	3.0	No
R5	27.2	L5	62.0	62.0	0.0	Yes	3.0	No

[1] See Exhibit 8-A for the receiver locations.
[2] Total Project nighttime operational noise levels as shown on Table 9-4.
[3] Reference noise level measurement locations as shown on Exhibit 5-A.
[4] Observed nighttime ambient noise levels as shown on Table 5-1.
[5] Represents the combined ambient conditions plus the Project activities.
[6] The noise level increase expected with the addition of the proposed Project activities.
[7] Significance increase criteria as shown on Table 4-2.

10 CONSTRUCTION IMPACTS

This section analyzes potential average dBA L_{eq} impacts resulting from the short-term construction activities associated with the development of the Project. Exhibit 10-A shows the construction noise source locations in relation to the nearest sensitive receiver locations previously described in Section 8.

10.1 CONSTRUCTION NOISE LEVELS

Noise generated by the Project construction equipment will include a combination of trucks, power tools, concrete mixers, and portable generators that when combined can reach high levels. The number and mix of construction equipment is expected to occur in the following stages, based on the *Temescal Valley Business Park Air Quality Impact Analysis* (21) for the Project:

- Site Preparation
- Grading
- Building Construction
- Paving
- Architectural Coating

This construction noise analysis was prepared using reference noise level measurements taken by Urban Crossroads, Inc. to describe the typical construction activity noise levels for each stage of Project construction. The construction reference noise level measurements represent a list of typical construction activity noise levels.

10.2 TYPICAL CONSTRUCTION REFERENCE NOISE LEVELS

To describe the Project construction noise levels, measurements were collected for similar activities at several construction sites. Table 10-1 provides a summary of the construction reference noise level measurements. Since the reference noise levels were collected at varying distances of 30 feet and 50 feet, all construction noise level measurements presented on Table 10-1 have been adjusted for consistency to describe a uniform reference distance of 50 feet.

EXHIBIT 10-A: CONSTRUCTION NOISE SOURCE LOCATIONS

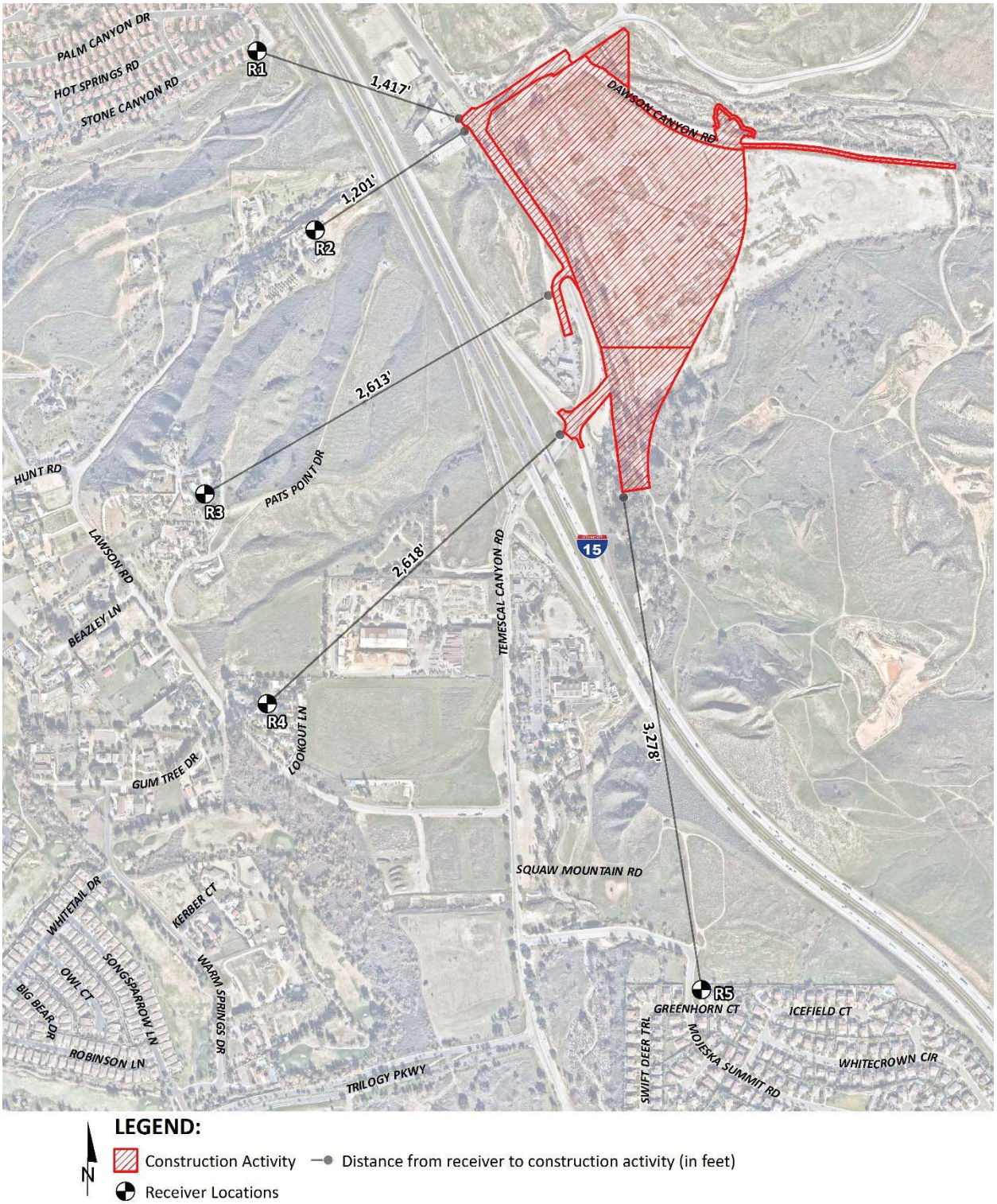


TABLE 10-1: CONSTRUCTION REFERENCE NOISE LEVELS

Construction Stage	Reference Construction Activity[1]	Reference Noise Level @ 50 Feet (dBA L_{eq})	Highest Reference Noise Level (dBA L_{eq})
Site Preparation	Scraper, Water Truck, & Dozer Activity	75.3	75.3
	Backhoe	64.2	
	Water Truck Pass-By & Backup Alarm	71.9	
Grading	Rough Grading Activities	73.5	73.5
	Water Truck Pass-By & Backup Alarm	71.9	
	Construction Vehicle Maintenance Activities	67.5	
Building Construction	Foundation Trenching	68.2	71.6
	Framing	62.3	
	Concrete Mixer Backup Alarms & Air Brakes	71.6	
Paving	Concrete Mixer Truck Movements	71.2	71.2
	Concrete Paver Activities	65.6	
	Concrete Mixer Pour & Paving Activities	65.9	
Architectural Coating	Air Compressors	65.2	65.2
	Generator	64.9	
	Crane	62.3	

[1] Reference construction noise level measurements taken by Urban Crossroads, Inc.

10.3 TYPICAL CONSTRUCTION NOISE ANALYSIS

Using the reference construction equipment noise levels and the CadnaA noise prediction model, calculations of the Project construction noise level impacts at the nearest sensitive receiver locations were completed. To assess the worst-case construction noise levels, the Project construction noise analysis relies on the highest noise level impacts when the equipment with the highest reference noise level is operating at the closest point from the edge of primary construction activity (Project site boundary) to each receiver location. As shown on Table 10-2, the construction noise levels are expected to range from 41.8 to 61.2 dBA L_{eq}, and the highest construction levels are expected to range from 51.9 to 61.2 dBA L_{eq} at the nearest receiver locations. Appendix 10.1 includes the detailed CadnaA construction noise model inputs.

TABLE 10-2: CONSTRUCTION EQUIPMENT NOISE LEVEL SUMMARY

Receiver Location[1]	Construction Noise Levels (dBA L_{eq})					
	Site Preparation	Grading	Building Construction	Paving	Architectural Coating	Highest Levels[2]
R1	58.9	57.1	55.2	54.8	48.8	58.9
R2	61.2	59.4	57.5	57.1	51.1	61.2
R3	56.3	54.5	52.6	52.2	46.2	56.3
R4	54.5	52.7	50.8	50.4	44.4	54.5
R5	51.9	50.1	48.2	47.8	41.8	51.9

[1] Noise receiver locations are shown on Exhibit 10-A.
[2] Construction noise level calculations based on distance from the project site boundaries (construction activity area) to nearby receiver locations. CadnaA construction noise model inputs are included in Appendix 10.1.

10.4 TYPICAL CONSTRUCTION NOISE LEVEL COMPLIANCE

To evaluate whether the Project will generate potentially significant short-term noise levels at nearby receiver locations, a construction-related the FTA noise level threshold of 80 dBA L_{eq} is used as acceptable thresholds to assess construction noise level impacts. The construction noise analysis shows that the nearby receiver locations will satisfy the 80 dBA L_{eq} significance threshold during Project construction activities as shown on Table 10-3. Therefore, the noise impacts due to Project construction noise is considered *less than significant* at all receiver locations

TABLE 10-3: CONSTRUCTION NOISE LEVEL COMPLIANCE

Receiver Location[1]	Construction Noise Levels (dBA L_{eq})		
	Highest Construction Noise Levels[2]	Threshold[3]	Threshold Exceeded?[4]
R1	58.9	80	No
R2	61.2	80	No
R3	56.3	80	No
R4	54.5	80	No
R5	51.9	80	No

[1] Noise receiver locations are shown on Exhibit 10-A.
[2] Highest construction noise level calculations based on distance from the construction noise source activity to nearby receiver locations as shown on Table 10-2.
[3] Construction noise level thresholds as shown on Table 4-2.
[4] Do the estimated Project construction noise levels exceed the construction noise level threshold?

10.5 TYPICAL CONSTRUCTION VIBRATION IMPACTS

Construction activity can result in varying degrees of ground vibration, depending on the equipment and methods used, distance to the affected structures and soil type. It is expected that ground-borne vibration from Project construction activities would cause only intermittent, localized intrusion. Ground-borne vibration levels resulting from typical construction activities occurring within the Project site were estimated by data published by the Federal Transit

Administration (FTA). (9) However, while vehicular traffic is rarely perceptible, construction has the potential to result in varying degrees of temporary ground vibration, depending on the specific construction activities and equipment used. Ground vibration levels associated with various types of construction equipment are summarized on Table 10-4. Based on the representative vibration levels presented for various construction equipment types, it is possible to estimate the potential Project construction vibration levels using the following vibration assessment methods defined by the FTA. To describe the human response (annoyance) associated with vibration impacts the FTA provides the following equation: $PPV_{equip} = PPV_{ref} \times (25/D)^{1.5}$

TABLE 10-4: VIBRATION SOURCE LEVELS FOR CONSTRUCTION EQUIPMENT

Equipment	PPV (in/sec) at 25 feet
Small bulldozer	0.003
Jackhammer	0.035
Loaded Trucks	0.076
Large bulldozer	0.089

Source: Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual

Using the vibration source level of construction equipment provided on Table 10-4 and the construction vibration assessment methodology published by the FTA, it is possible to estimate the Project vibration impacts. Table 10-5 presents the expected Project related vibration levels at the nearby receiver locations. At distances ranging from 1,201 to 3,278 feet from Project construction activities, construction vibration velocity levels are estimated at 0.000 in/sec RMS and will remain below the County of Riverside threshold of 0.01 in/sec RMS at all receiver locations, as shown on Table 10-4. Therefore, the Project-related vibration impacts are considered *less than significant* during the construction activities at the Project site.

Moreover, the impacts at the site of the nearest sensitive receiver locations are unlikely to be sustained during the entire construction period but will occur rather only during the times that heavy construction equipment is operating adjacent to the Project site perimeter.

TABLE 10-5: PROJECT CONSTRUCTION VIBRATION LEVELS

Receiver[1]	Distance to Const. Activity (Feet)	Receiver Levels (in/sec) PPV[2]					Velocity Levels (in/sec) RMS[3]	Threshold (in/sec) RMS[4]	Threshold Exceeded?[5]
		Small Bulldozer	Jack-hammer	Loaded Trucks	Large Bulldozer	Peak Vibration			
R1	1,417'	0.000	0.000	0.000	0.000	0.000	0.000	0.01	No
R2	1,201'	0.000	0.000	0.000	0.000	0.000	0.000	0.01	No
R3	2,613'	0.000	0.000	0.000	0.000	0.000	0.000	0.01	No
R4	2,618'	0.000	0.000	0.000	0.000	0.000	0.000	0.01	No
R5	3,278'	0.000	0.000	0.000	0.000	0.000	0.000	0.01	No

[1] Receiver locations are shown on Exhibit 10-A.
[2] Based on the Vibration Source Levels of Construction Equipment included on Table 6-8.
[3] Vibration levels in PPV are converted to RMS velocity using a 0.71 conversion factor identified in the Caltrans Transportation and Construction Vibration Guidance Manual, September 2013.
[4] Source: County of Riverside General Plan Noise Element, Policy N 16.3.
[5] Does the vibration level exceed the maximum acceptable vibration threshold?

11 REFERENCES

1. **State of California.** *California Environmental Quality Act, Appendix G.* 2018.
2. **Urban Crossroads, Inc.** *Temescal Valley Business Park (PAR190052) Traffic Analysis.* October 2020.
3. **California Department of Transportation Environmental Program.** *Technical Noise Supplement - A Technical Supplement to the Traffic Noise Analysis Protocol.* Sacramento, CA : s.n., September 2013.
4. **Environmental Protection Agency Office of Noise Abatement and Control.** *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety.* March 1974. EPA/ONAC 550/9/74-004.
5. **U.S. Department of Transportation, Federal Highway Administration, Office of Environment and Planning, Noise and Air Quality Branch.** *Highway Traffic Noise Analysis and Abatement Policy and Guidance.* December 2011.
6. **U.S. Department of Transportation, Federal Highway Administration.** *Highway Traffic Noise in the United States, Problem and Response.* April 2000. p. 3.
7. **U.S. Environmental Protection Agency Office of Noise Abatement and Control.** *Noise Effects Handbook-A Desk Reference to Health and Welfare Effects of Noise.* October 1979 (revised July 1981). EPA 550/9/82/106.
8. **Occupational Safety and Health Administration.** *Standard 29 CRF, Part 1910.*
9. **U.S. Department of Transportation, Federal Transit Administration.** *Transit Noise and Vibration Impact Assessment Manual .* September 2018.
10. **Office of Planning and Research.** *State of California General Plan Guidelines.* October 2017.
11. **State of California.** *2016 California Green Building Standards Code.* January 2017.
12. **County of Riverside.** *General Plan Noise Element.* December 2015.
13. —. *Municipal Code, Chapter 9.52 Noise Regulation.*
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15. **Federal Interagency Committee on Noise.** *Federal Agency Review of Selected Airport Noise Analysis Issues.* August 1992.
16. **California Department of Transportation.** *Technical Noise Supplement.* November 2009.
17. **American National Standards Institute (ANSI).** *Specification for Sound Level Meters ANSI S1.4-2014/IEC 61672-1:2013.*
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19. **California Department of Transportation Environmental Program, Office of Environmental Engineering.** *Use of California Vehicle Noise Reference Energy Mean Emission Levels (Calveno REMELs) in FHWA Highway Traffic Noise Prediction.* September 1995. TAN 95-03.
20. **California Department of Transportation.** *Traffic Noise Attenuation as a Function of Ground and Vegetation Final Report.* June 1995. FHWA/CA/TL-95/23.
21. **Urban Crossroads, Inc.** *Temescal Valley Business Park Air Quality Impact Analysis.* March 2020.

12 CERTIFICATION

The contents of this noise study report represent an accurate depiction of the noise environment and impacts associated with the proposed Temescal Valley Business Park Project. The information contained in this noise study report is based on the best available data at the time of preparation. If you have any questions, please contact me directly at (949) 336-5979.

Bill Lawson, P.E., INCE
Principal
URBAN CROSSROADS, INC.
260 E. Baker Street, Suite 200
Costa Mesa, CA 92626
(949) 336-5979
blawson@urbanxroads.com

EDUCATION

Master of Science in Civil and Environmental Engineering
California Polytechnic State University, San Luis Obispo • December, 1993

Bachelor of Science in City and Regional Planning
California Polytechnic State University, San Luis Obispo • June, 1992

PROFESSIONAL REGISTRATIONS

PE – Registered Professional Traffic Engineer – TR 2537 • January, 2009
AICP – American Institute of Certified Planners – 013011 • June, 1997–January 1, 2012
PTP – Professional Transportation Planner • May, 2007 – May, 2013
INCE – Institute of Noise Control Engineering • March, 2004

PROFESSIONAL AFFILIATIONS

ASA – Acoustical Society of America
ITE – Institute of Transportation Engineers

PROFESSIONAL CERTIFICATIONS

Certified Acoustical Consultant – County of Orange • February, 2011
FHWA-NHI-142051 Highway Traffic Noise Certificate of Training • February, 2013

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APPENDIX 3.1:

COUNTY OF RIVERSIDE MUNICIPAL CODE

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Chapter 9.52 - NOISE REGULATION

Sections:

9.52.010 - Intent.

At certain levels, sound becomes noise and may jeopardize the health, safety or general welfare of Riverside County residents and degrade their quality of life. Pursuant to its police power, the board of supervisors declares that noise shall be regulated in the manner described in this chapter. This chapter is intended to establish county-wide standards regulating noise. This chapter is not intended to establish thresholds of significance for the purpose of any analysis required by the California Environmental Quality Act and no such thresholds are established.

(Ord. 847 § 1, 2006)

9.52.020 - Exemptions.

Sound emanating from the following sources is exempt from the provisions of this chapter:

A. Facilities owned or operated by or for a governmental agency;

B. Capital improvement projects of a governmental agency;

C. The maintenance or repair of public properties;

D. Public safety personnel in the course of executing their official duties, including, but not limited to, sworn peace officers, emergency personnel and public utility personnel. This exemption includes, without limitation, sound emanating from all equipment used by such personnel, whether stationary or mobile;

E. Public or private schools and school-sponsored activities;

F. Agricultural operations on land designated "Agriculture" in the Riverside County general plan, or land zoned A-l (light agriculture), A-P (light agriculture with poultry), A-2 (heavy agriculture), A-D (agriculture-dairy) or C/V (citrus/vineyard), provided such operations are carried out in a manner consistent with accepted industry standards. This exemption includes, without limitation, sound emanating from all equipment used during such operations, whether stationary or mobile;

G. Wind energy conversion systems (WECS), provided such systems comply with the WECS noise provisions of Riverside County Ordinance No. 348;

H. Private construction projects located one-quarter of a mile or more from an inhabited dwelling;

I. Private construction projects located within one-quarter of a mile from an inhabited dwelling, provided that:

1. Construction does not occur between the hours of six p.m. and six a.m. during the months of June through September, and
2. Construction does not occur between the hours of six p.m. and seven a.m. during the months of October through May;

J. Property maintenance, including, but not limited to, the operation of lawnmowers, leaf blowers, etc., provided such maintenance occurs between the hours of seven a.m. and eight p.m.;

K. Motor vehicles, other than off-highway vehicles. This exemption does not include sound emanating from motor vehicle sound systems;

L. Heating and air conditioning equipment;

M. Safety, warning and alarm devices, including, but not limited to, house and car alarms, and other warning devices that are designed to protect the public health, safety, and welfare;

N. The discharge of firearms consistent with all state laws.

(Ord. 847 § 2, 2006)

9.52.030 - Definitions.

As used in this chapter, the following terms shall have the following meanings:

"Audio equipment" means a television, stereo, radio, tape player, compact disc player, mp3 player, I-POD or other similar device.

"Decibel (dB)" means a unit for measuring the relative amplitude of a sound equal approximately to the smallest difference normally detectable by the human ear, the range of which includes approximately one hundred thirty (130) decibels on a scale beginning with zero decibels for the faintest detectable sound. Decibels are measured with a sound level meter using different methodologies as defined below:

1. "A-weighting (dBA)" means the standard A-weighted frequency response of a sound level meter, which de-emphasizes low and high frequencies of sound in a manner similar to the human ear for moderate sounds.
2. "Maximum sound level (L_{max})" means the maximum sound level measured on a sound level meter.

"Governmental agency" means the United States, the state of California, Riverside County, any city within Riverside County, any special district within Riverside County or any combination of these agencies.

"Land use permit" means a discretionary permit issued by Riverside County pursuant to Riverside County Ordinance No. 348.

"Motor vehicle" means a vehicle that is self-propelled.

"Motor vehicle sound system" means a stereo, radio, tape player, compact disc player, mp3 player, I-POD or other similar device.

"Noise" means any loud, discordant or disagreeable sound.

"Occupied property" means property upon which is located a residence, business or industrial or manufacturing use.

"Off-highway vehicle" means a motor vehicle designed to travel over any terrain.

"Public or private school" means an institution conducting academic instruction at the preschool, elementary school, junior high school, high school, or college level.

"Public property" means property owned by a governmental agency or held open to the public, including, but not limited to, parks, streets, sidewalks, and alleys.

"Sensitive receptor" means a land use that is identified as sensitive to noise in the noise element of the Riverside County general plan, including, but not limited to, residences, schools, hospitals, churches, rest homes, cemeteries or public libraries.

"Sound-amplifying equipment" means a loudspeaker, microphone, megaphone or other similar device.

"Sound level meter" means an instrument meeting the standards of the American National Standards Institute for Type 1 or Type 2 sound level meters or an instrument that provides equivalent data.

(Ord. 847 § 3, 2006)

9.52.040 - General sound level standards.

No person shall create any sound, or allow the creation of any sound, on any property that causes the exterior sound level on any other occupied property to exceed the sound level standards set forth in Table 1.

TABLE 1

Sound Level Standards (Db L_{max})

GENERAL PLAN FOUNDATION COMPONENT	GENERAL PLAN LAND USE DESIGNATION	GENERAL PLAN LAND USE DESIGNATION NAME	DENSITY	MAXIMUM DECIBEL LEVEL

				7 am—10 pm	10 pm—7 am
Community Development	EDR	Estate Density Residential	2 AC	55	45
	VLDR	Very Low Density Residential	1 AC	55	45
	LDR	Low Density Residential	1/2 AC	55	45
	MDR	Medium Density Residential	2—5	55	45
	MHDR	Medium High Density Residential	5—8	55	45
	HDR	High Density Residential	8—14	55	45
	VHDR	Very High Density Residential	14—20	55	45
	H'TDR	Highest Density Residential	20+	55	45
	CR	Retail Commercial		65	55

	CO	Office Commercial		65	55
	CT	Tourist Commercial		65	55
	CC	Community Center		65	55
	LI	Light Industrial		75	55
	HI	Heavy Industrial		75	75
	BP	Business Park		65	45
	PF	Public Facility		65	45
	SP	Specific Plan-Residential		55	45
		Specific Plan-Commercial		65	55
		Specific Plan-Light Industrial		75	55
		Specific Plan-Heavy Industrial		75	75
Rural Community	EDR	Estate Density Residential	2 AC	55	45

	VLDR	Very Low Density Residential	1 AC	55	45
	LDR	Low Density Residential	1/2 AC	55	45
Rural	RR	Rural Residential	5 AC	45	45
	RM	Rural Mountainous	10 AC	45	45
	RD	Rural Desert	10 AC	45	45
Agriculture	AG	Agriculture	10 AC	45	45
Open Space	C	Conservation		45	45
	CH	Conservation Habitat		45	45
	REC	Recreation		45	45
	RUR	Rural	20 AC	45	45
	W	Watershed		45	45
	MR	Mineral Resources		75	45

(Ord. 847 § 4, 2006)

9.52.050 - Sound level measurement methodology.

Sound level measurements may be made anywhere within the boundaries of an occupied property. The actual location of a sound level measurement shall be at the discretion of the enforcement officials identified in Section 9.52.080 of this chapter. Sound level measurements shall be made with a sound level meter. Immediately before a measurement is made, the sound level meter shall be calibrated utilizing an acoustical calibrator meeting the standards of the American National Standards Institute. Following a sound level measurement, the calibration of the sound level meter shall be re-verified. Sound level meters and calibration equipment shall be certified annually.

(Ord. 847 § 5, 2006)

9.52.060 - Special sound sources standards.

The general sound level standards set forth in Section 9.52.040 of this chapter apply to sound emanating from all sources, including the following special sound sources, and the person creating, or allowing the creation of, the sound is subject to the requirements of that section. The following special sound sources are also subject to the following additional standards, the failure to comply with which constitutes separate violations of this chapter:

A. Motor Vehicles.
    1. Off-Highway Vehicles.
        a. No person shall operate an off-highway vehicle unless it is equipped with a USDA-qualified spark arrester and a constantly operating and properly maintained muffler. A muffler is not considered constantly operating and properly maintained if it is equipped with a cutout, bypass or similar device.
        b. No person shall operate an off-highway vehicle unless the noise emitted by the vehicle is not more than ninety-six (96) dBA if the vehicle was manufactured on or after January 1, 1986 or is not more than one hundred one (101) dBA if the vehicle was manufactured before January 1, 1986. For purposes of this subsection, emitted noise shall be measured a distance of twenty (20) inches from the vehicle tailpipe using test procedures established by the Society of Automotive Engineers under Standard J-1287.
    2. Sound Systems. No person shall operate a motor vehicle sound system, whether affixed to the vehicle or not, between the hours of ten p.m. and eight a.m., such that the sound system is audible to the human ear inside any inhabited dwelling. No person shall operate a motor vehicle sound system, whether affixed to the vehicle or not, at any other time such that the sound system is audible to the human ear at a distance greater than one hundred (100) feet from the vehicle.

B. Power Tools and Equipment. No person shall operate any power tools or equipment between the hours of ten p.m. and eight a.m. such that the power tools or equipment

are audible to the human ear inside an inhabited dwelling other than a dwelling in which the power tools or equipment may be located. No person shall operate any power tools or equipment at any other time such that the power tools or equipment are audible to the human ear at a distance greater than one hundred (100) feet from the power tools or equipment.

C. Audio Equipment. No person shall operate any audio equipment, whether portable or not, between the hours of ten p.m. and eight a.m. such that the equipment is audible to the human ear inside an inhabited dwelling other than a dwelling in which the equipment may be located. No person shall operate any audio equipment, whether portable or not, at any other time such that the equipment is audible to the human ear at a distance greater than one hundred (100) feet from the equipment.

D. Sound-Amplifying Equipment and Live Music. No person shall install, use or operate sound-amplifying equipment, or perform, or allow to be performed, live music unless such activities comply with the following requirements. To the extent that these requirements conflict with any conditions of approval attached to an underlying land use permit, these requirements shall control:

1. Sound-amplifying equipment or live music is prohibited between the hours of ten p.m. and eight a.m.
2. Sound emanating from sound-amplifying equipment or live music at any other time shall not be audible to the human ear at a distance greater than two hundred (200) feet from the equipment or music.

(Ord. 847 § 6, 2006)

9.52.070 - Exceptions.

Exceptions may be requested from the standards set forth in Section 9.52.040 or 9.52.060 of this chapter and may be characterized as construction-related, single-event or continuous-events exceptions.

A. Application and Processing.

1. Construction-Related Exceptions. An application for a construction-related exception shall be made to and considered by the director of building and safety on forms provided by the building and safety department and shall be accompanied by the appropriate filing fee. No public hearing is required.
2. Single-Event Exceptions. An application for a single-event exception shall be made to and considered by the planning director on forms provided by the planning department and shall be accompanied by the appropriate filing fee. No public hearing is required.
3. Continuous-Events Exceptions. An application for a continuous-events exception

shall be made to the planning director on forms provided by the planning department and shall be accompanied by the appropriate filing fee. Upon receipt of an application for a continuous-events exception, the planning director shall set the matter for public hearing before the planning commission, notice of which shall be given as provided in Section 18.26c of Riverside County Ordinance No. 348. Notwithstanding the above, an application for a continuous-events exception that is associated with an application for a land use permit shall be processed concurrently with the land use permit in the same manner that the land use permit is required to be processed.

B. Requirements for Approval. The appropriate decisionmaking body or officer shall not approve an exception application unless the applicant demonstrates that the activities described in the application would not be detrimental to the health, safety or general welfare of the community. In determining whether activities are detrimental to the health, safety or general welfare of the community, the appropriate decisionmaking body or officer shall consider such factors as the proposed duration of the activities and their location in relation to sensitive receptors. If an exception application is approved, reasonable conditions may be imposed to minimize the public detriment, including, but not limited to, restrictions on sound level, sound duration and operating hours.

C. Appeals. The director of building and safety's decision on an application for a construction-related exception is considered final. The planning director's decision on an application for a single-event exception is considered final. After making a decision on an application for a continuous-events exception, the appropriate decisionmaking body or officer shall mail notice of the decision to the applicant. Within ten (10) calendar days after the mailing of such notice, the applicant or an interested person may appeal the decision to the board of supervisors. Upon receipt of an appeal and payment of the appropriate appeal fee, the clerk of the board shall set the matter for hearing not less than five days nor more than thirty (30) days thereafter and shall give written notice of the hearing in the same manner as notice of the hearing was given by the appropriate hearing officer or body. The board of supervisors shall render its decision within thirty (30) days after the appeal hearing is closed.

D. Effect of a Pending Continuous-Events Exception Application. For a period of one hundred eighty (180) days from the effective date of this chapter, no person creating any sound prohibited by this chapter shall be considered in violation of this chapter if the sound is related to a use that is operating pursuant to an approved land use permit, if an application for a continuous-events exception has been filed to sanction the sound and if a decision on the application is pending.

(Ord. 847 § 7, 2006)

9.52.080 - Enforcement.

The Riverside County sheriff and code enforcement shall have the primary responsibility for enforcing this chapter; provided, however, the sheriff and code enforcement may be assisted by the public health department. Violations shall be prosecuted as described in Section 9.52.100 of this chapter, but nothing in this chapter shall prevent the sheriff, code enforcement or the department of public health from engaging in efforts to obtain voluntary compliance by means of warnings, notices, or educational programs.

(Ord. 847.1 § 1, 2007: Ord. 847 § 8, 2006)

9.52.090 - Duty to cooperate.

No person shall refuse to cooperate with, or obstruct, the enforcement officials identified in Section 9.52.080 of this chapter when they are engaged in the process of enforcing the provisions of this chapter. This duty to cooperate may require a person to extinguish a sound source so that it can be determined whether sound emanating from the source violates the provisions of this chapter.

(Ord. 847 § 9, 2006)

9.52.100 - Violations and penalties.

Any person who violates any provision of this chapter once or twice within a one hundred eighty (180) day period shall be guilty of an infraction. Any person who violates any provision of this chapter more than twice within a one hundred eighty (180) day period shall be guilty of a misdemeanor. Each day a violation is committed or permitted to continue shall constitute a separate offense and shall be punishable as such. Penalties shall not exceed the following amounts:

A. For the first violation within a one hundred eighty (180) day period, the minimum mandatory fine shall be five hundred dollars ($500.00).

B. For the second violation within a one hundred eighty (180) day period, the minimum mandatory fine shall be seven hundred fifty dollars ($750.00).

C. For any further violations within a one hundred eighty (180) day period, the minimum mandatory fine shall be one thousand dollars ($1,000.00) or imprisonment in the county jail for a period not exceeding six months, or both.

(Ord. 847 § 10, 2006)

APPENDIX 5.1:

STUDY AREA PHOTOS

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L1_E
33, 47' 4.680000", 117, 29' 37.070000"

L1_N
33, 47' 4.050000", 117, 29' 34.260000"

L1_S
33, 47' 4.680000", 117, 29' 37.070000"

L1_W
33, 47' 4.680000", 117, 29' 37.070000"

L2_E
33, 46' 48.520000", 117, 29' 39.680000"

L2_N
33, 46' 48.520000", 117, 29' 39.680000"

L2_S
33, 46' 48.520000", 117, 29' 39.680000"

L2_W
33, 46' 48.500000", 117, 29' 39.650000"

L3_E
33, 46' 31.230000", 117, 29' 38.520000"

L3_N
33, 46' 31.230000", 117, 29' 38.470000"

L3_S
33, 46' 31.200000", 117, 29' 38.490000"

L3_W
33, 46' 31.200000", 117, 29' 38.490000"

L4_E
33, 46' 21.790000", 117, 29' 32.480000"

L4_N
33, 46' 21.850000", 117, 29' 32.480000"

L4_S
33, 46' 21.780000", 117, 29' 32.450000"

L4_W
33, 46' 21.780000", 117, 29' 32.450000"

L5_E
33, 46' 3.010000", 117, 29' 1.960000"

L5_N
33, 46' 3.010000", 117, 29' 1.960000"

JN: 13627 Study Area Photos

L5_S
33, 46' 3.060000", 117, 29' 2.100000"

L5_W
33, 46' 3.060000", 117, 29' 2.100000"

APPENDIX 5.2:

NOISE LEVEL MEASUREMENT WORKSHEETS

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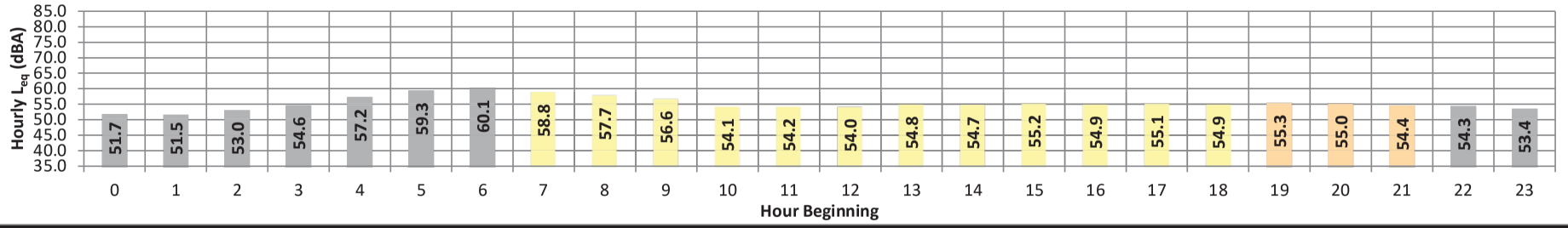
24-Hour Noise Level Measurement Summary

Date: Wednesday, September 23, 2020 *Location:* L1 - Located northwest of the Project site on Palm Canyon Drive near existing single-family residential home at 9575 Stone Canyon Road. *Meter:* Piccolo II *JN:* 13627

Project: DCW3 *Analyst:* P. Mara

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq}	Adj.	Adj. L_{eq}
Night	0	51.7	56.9	45.4	56.6	56.4	55.7	55.0	52.7	50.8	47.1	46.2	45.5	51.7	10.0	61.7
	1	51.5	56.4	44.0	56.2	56.0	55.4	55.0	53.0	50.5	45.9	45.1	44.2	51.5	10.0	61.5
	2	53.0	57.8	46.7	57.5	57.2	56.6	56.1	54.3	52.1	48.3	47.5	46.8	53.0	10.0	63.0
	3	54.6	58.7	50.2	58.5	58.2	57.7	57.2	55.6	54.1	51.4	50.9	50.3	54.6	10.0	64.6
	4	57.2	60.5	54.2	60.3	60.1	59.5	59.0	57.9	56.8	55.1	54.7	54.3	57.2	10.0	67.2
	5	59.3	62.4	56.7	62.2	61.9	61.3	60.9	59.8	59.1	57.6	57.2	56.8	59.3	10.0	69.3
	6	60.1	63.3	57.9	63.0	62.8	62.1	61.7	60.6	59.8	58.6	58.3	58.0	60.1	10.0	70.1
Day	7	58.8	61.7	56.5	61.4	61.2	60.6	60.2	59.2	58.6	57.3	57.0	56.6	58.8	0.0	58.8
	8	57.7	62.9	54.2	62.8	62.6	61.8	60.4	57.9	56.8	55.1	54.7	54.3	57.7	0.0	57.7
	9	56.6	60.8	53.4	60.4	59.9	59.1	58.6	57.2	56.2	54.3	53.9	53.5	56.6	0.0	56.6
	10	54.1	58.1	50.8	57.7	57.3	56.6	56.2	54.8	53.8	51.8	51.4	50.9	54.1	0.0	54.1
	11	54.2	61.7	49.9	60.7	60.0	58.1	56.6	54.5	53.2	51.0	50.5	50.0	54.2	0.0	54.2
	12	54.0	60.9	50.0	59.8	58.9	57.3	56.3	54.4	53.2	51.3	50.8	50.1	54.0	0.0	54.0
	13	54.8	61.6	50.5	60.8	60.2	58.8	57.8	55.1	53.8	51.6	51.1	50.6	54.8	0.0	54.8
	14	54.7	62.9	50.6	62.1	61.3	58.7	56.9	54.8	53.6	51.8	51.3	50.8	54.7	0.0	54.7
	15	55.2	63.9	51.4	62.7	61.5	59.0	57.8	55.2	54.1	52.4	51.9	51.5	55.2	0.0	55.2
	16	54.9	61.8	51.3	60.9	60.0	58.3	57.4	55.2	54.1	52.3	51.8	51.4	54.9	0.0	54.9
	17	55.1	62.0	51.7	61.1	60.1	58.3	57.4	55.5	54.3	52.6	52.2	51.8	55.1	0.0	55.1
	18	54.9	58.9	51.9	58.5	58.2	57.3	56.8	55.4	54.5	52.8	52.3	52.0	54.9	0.0	54.9
Evening	19	55.3	59.5	51.7	59.3	59.0	58.4	57.9	56.0	54.7	52.8	52.3	51.8	55.3	5.0	60.3
	20	55.0	59.1	51.3	58.9	58.7	58.2	57.6	55.7	54.6	52.4	51.9	51.5	55.0	5.0	60.0
	21	54.4	59.0	49.8	58.7	58.4	57.8	57.2	55.1	53.7	51.1	50.5	50.0	54.4	5.0	59.4
Night	22	54.3	59.3	49.5	59.0	58.8	58.1	57.3	54.9	53.6	50.9	50.2	49.6	54.3	10.0	64.3
	23	53.4	59.7	47.8	59.2	58.7	57.6	56.8	54.0	52.5	49.3	48.6	48.0	53.4	10.0	63.4

Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%
Day	Min	54.0	58.1	49.9	57.7	57.3	56.6	56.2	54.4	53.2	51.0	50.5	50.0
	Max	58.8	63.9	56.5	62.8	62.6	61.8	60.4	59.2	58.6	57.3	57.0	56.6
Energy Average		55.7	Average:		60.7	60.1	58.7	57.7	55.8	54.7	52.8	52.4	52.0
Evening	Min	54.4	59.0	49.8	58.7	58.4	57.8	57.2	55.1	53.7	51.1	50.5	50.0
	Max	55.3	59.5	51.7	59.3	59.0	58.4	57.9	56.0	54.7	52.8	52.3	51.8
Energy Average		54.9	Average:		59.0	58.7	58.1	57.5	55.6	54.3	52.1	51.6	51.1
Night	Min	51.5	56.4	44.0	56.2	56.0	55.4	55.0	52.7	50.5	45.9	45.1	44.2
	Max	60.1	63.3	57.9	63.0	62.8	62.1	61.7	60.6	59.8	58.6	58.3	58.0
Energy Average		56.1	Average:		59.2	58.9	58.2	57.6	55.9	54.4	51.6	51.0	50.4

L_{eq} (dBA)

24-Hour	Daytime	Nighttime
55.7	55.5	56.1

24-Hour CNEL (dBA)

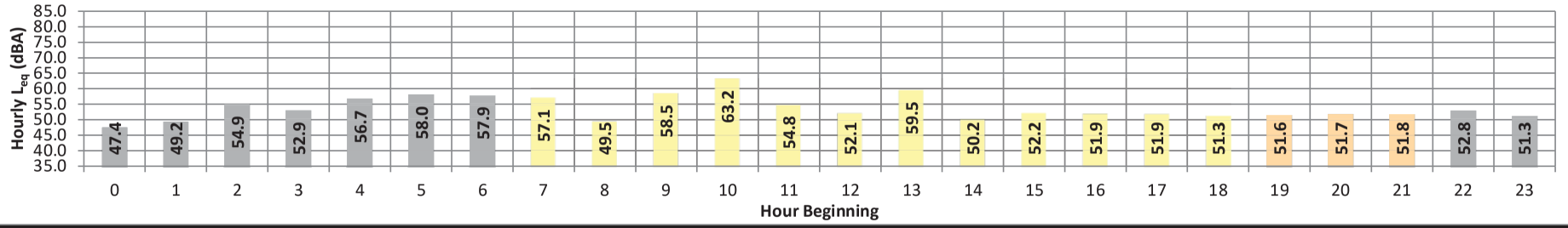
62.6

24-Hour Noise Level Measurement Summary

Date: Wednesday, September 23, 2020 *Location:* L2 - Located west of the Project site on Lawson Road near existing single-family residential home at 23270 Lawson Road. *Meter:* Piccolo II *JN:* 13627

Project: DCW3 *Analyst:* P. Mara

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq}	Adj.	Adj. L_{eq}
Night	0	47.4	56.5	36.9	56.0	55.3	53.3	51.7	48.1	44.5	38.7	37.7	37.0	47.4	10.0	57.4
	1	49.2	58.8	36.9	58.2	57.2	55.2	54.1	49.8	45.7	39.2	38.1	37.1	49.2	10.0	59.2
	2	54.9	65.1	40.6	64.7	63.9	62.2	61.2	53.7	51.0	42.9	41.7	40.9	54.9	10.0	64.9
	3	52.9	60.8	43.7	60.3	59.6	58.1	57.0	53.7	50.8	46.0	44.9	43.9	52.9	10.0	62.9
	4	56.7	63.4	50.4	62.9	62.1	60.7	59.8	57.6	55.6	52.2	51.4	50.6	56.7	10.0	66.7
	5	58.0	64.7	52.2	64.2	63.4	61.7	60.9	58.8	57.0	54.0	53.3	52.4	58.0	10.0	68.0
	6	57.9	64.0	53.1	63.6	62.9	61.3	60.4	58.5	57.1	54.6	54.0	53.4	57.9	10.0	67.9
Day	7	57.1	62.9	51.1	62.4	61.9	60.9	60.2	58.0	56.3	52.7	52.1	51.3	57.1	0.0	57.1
	8	49.5	59.3	41.6	58.8	58.2	56.3	54.1	48.7	45.7	42.7	42.3	41.8	49.5	0.0	49.5
	9	58.5	69.9	44.9	69.4	69.0	66.7	63.1	56.0	52.2	46.3	45.6	45.0	58.5	0.0	58.5
	10	63.2	81.7	63.6	81.5	81.2	80.0	79.8	78.6	77.5	64.5	63.9	63.7	63.2	0.0	63.2
	11	54.8	62.9	46.3	62.4	61.9	60.8	59.7	55.6	51.7	47.3	46.9	46.5	54.8	0.0	54.8
	12	52.1	63.2	44.5	62.5	61.8	58.0	55.6	50.9	48.2	45.4	45.0	44.6	52.1	0.0	52.1
	13	59.5	66.6	58.6	66.3	65.9	65.1	64.5	61.7	60.2	59.0	58.9	58.7	59.5	0.0	59.5
	14	50.2	58.5	46.0	57.8	57.2	55.1	53.5	49.8	48.5	47.0	46.6	46.2	50.2	0.0	50.2
	15	52.2	59.8	47.6	59.5	59.0	57.3	55.7	52.2	50.5	48.6	48.2	47.8	52.2	0.0	52.2
	16	51.9	57.8	48.4	57.4	56.8	55.4	54.5	52.4	51.1	49.3	49.0	48.5	51.9	0.0	51.9
	17	51.9	58.6	47.8	58.1	57.5	55.9	54.7	52.2	50.8	48.8	48.4	47.9	51.9	0.0	51.9
	18	51.3	56.0	48.5	55.7	55.3	54.1	53.2	51.8	50.8	49.4	49.0	48.6	51.3	0.0	51.3
Evening	19	51.6	57.6	46.3	57.1	56.6	55.3	54.5	52.4	50.7	48.0	47.3	46.5	51.6	5.0	56.6
	20	51.7	58.9	45.0	58.3	57.5	55.7	54.6	52.4	50.6	47.3	46.4	45.3	51.7	5.0	56.7
	21	51.8	61.1	43.4	60.3	59.2	56.9	55.4	52.2	49.9	45.7	44.8	43.7	51.8	5.0	56.8
Night	22	52.8	61.0	43.4	60.4	59.7	57.9	56.6	53.5	51.0	46.2	45.0	43.7	52.8	10.0	62.8
	23	51.3	59.7	40.9	59.1	58.2	56.6	55.5	52.3	49.1	43.4	42.3	41.2	51.3	10.0	61.3

Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%
Day	Min	49.5	56.0	41.6	55.7	55.3	54.1	53.2	48.7	45.7	42.7	42.3	41.8
	Max	63.2	81.7	63.6	81.5	81.2	80.0	79.8	78.6	77.5	64.5	63.9	63.7
Energy Average		56.6	Average:		62.7	62.1	60.5	59.1	55.7	53.6	50.1	49.7	49.2
Evening	Min	51.6	57.6	43.4	57.1	56.6	55.3	54.5	52.2	49.9	45.7	44.8	43.7
	Max	51.8	61.1	46.3	60.3	59.2	56.9	55.4	52.4	50.7	48.0	47.3	46.5
Energy Average		51.7	Average:		58.6	57.7	56.0	54.8	52.4	50.4	47.0	46.1	45.2
Night	Min	47.4	56.5	36.9	56.0	55.3	53.3	51.7	48.1	44.5	38.7	37.7	37.0
	Max	58.0	65.1	53.1	64.7	63.9	62.2	61.2	58.8	57.1	54.6	54.0	53.4
Energy Average		54.7	Average:		61.0	60.3	58.6	57.5	54.0	51.3	46.4	45.4	44.5

L_{eq} (dBA)		
24-Hour	Daytime	Nighttime
55.5	56.0	54.7

24-Hour CNEL (dBA)

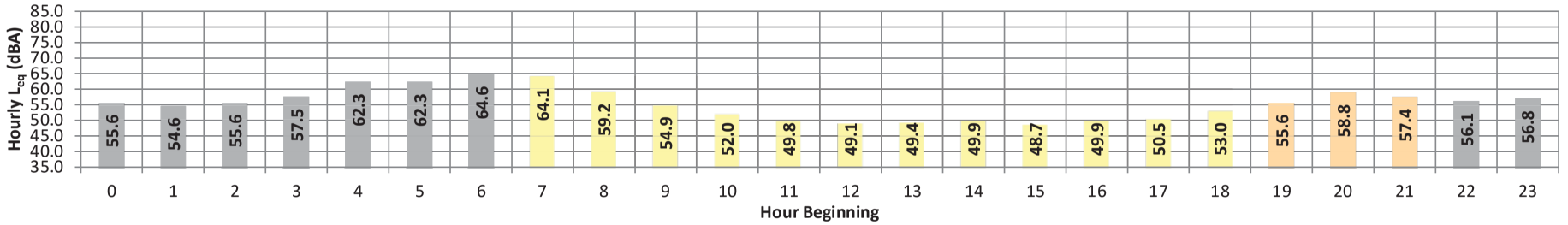
61.5

24-Hour Noise Level Measurement Summary

Date: Wednesday, September 23, 2020 *Location:* L3 - Located southwest of the Project site on Pats Point Drive near existing single-family residential home at 9455 Pats Point Drive. *Meter:* Piccolo II *JN:* 13627

Project: DCW3 *Analyst:* P. Mara

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq}	Adj.	Adj. L_{eq}
Night	0	55.6	59.3	52.0	59.0	58.7	58.1	57.8	56.4	55.2	53.2	52.7	52.2	55.6	10.0	65.6
	1	54.6	59.6	47.8	59.3	59.0	58.2	57.7	56.0	53.8	49.5	48.7	48.0	54.6	10.0	64.6
	2	55.6	60.1	50.7	59.8	59.5	58.7	58.3	56.7	55.1	52.0	51.5	50.9	55.6	10.0	65.6
	3	57.5	61.8	53.5	61.5	61.2	60.5	60.0	58.4	57.0	54.7	54.2	53.6	57.5	10.0	67.5
	4	62.3	65.9	59.4	65.6	65.2	64.6	64.2	63.0	62.0	60.3	59.9	59.5	62.3	10.0	72.3
	5	62.3	65.1	60.0	64.9	64.6	64.2	63.8	62.9	62.0	60.7	60.4	60.1	62.3	10.0	72.3
	6	64.6	67.5	62.6	67.3	67.0	66.4	66.2	65.1	64.4	63.3	63.0	62.7	64.6	10.0	74.6
Day	7	64.1	66.5	62.0	66.2	66.0	65.7	65.4	64.6	63.9	62.7	62.5	62.1	64.1	0.0	64.1
	8	59.2	62.2	57.3	61.9	61.7	61.2	60.8	59.6	58.9	57.9	57.7	57.4	59.2	0.0	59.2
	9	54.9	57.8	52.4	57.5	57.2	56.8	56.5	55.5	54.6	53.2	52.9	52.5	54.9	0.0	54.9
	10	52.0	54.7	49.8	54.5	54.3	53.9	53.5	52.6	51.8	50.5	50.2	49.9	52.0	0.0	52.0
	11	49.8	53.5	47.1	53.2	53.0	52.2	51.8	50.4	49.5	47.7	47.5	47.2	49.8	0.0	49.8
	12	49.1	53.7	45.6	53.3	53.0	52.3	51.8	50.1	48.3	46.4	46.0	45.7	49.1	0.0	49.1
	13	49.4	53.5	46.7	53.2	52.8	51.9	51.4	50.0	49.0	47.4	47.1	46.8	49.4	0.0	49.4
	14	49.9	54.1	47.2	53.7	53.3	52.5	51.9	50.7	49.4	48.0	47.8	47.3	49.9	0.0	49.9
	15	48.7	52.9	45.9	52.5	52.2	51.3	50.9	49.5	48.2	46.6	46.3	46.0	48.7	0.0	48.7
	16	49.9	54.3	46.8	54.0	53.5	52.6	52.2	50.7	49.3	47.6	47.3	46.9	49.9	0.0	49.9
	17	50.5	55.0	47.4	54.6	54.2	53.3	52.8	51.2	49.8	48.2	47.9	47.5	50.5	0.0	50.5
	18	53.0	56.0	50.4	55.8	55.6	55.2	54.8	53.6	52.7	51.2	50.9	50.6	53.0	0.0	53.0
Evening	19	55.6	58.8	52.9	58.5	58.2	57.8	57.5	56.3	55.3	53.7	53.4	53.0	55.6	5.0	60.6
	20	58.8	63.2	55.6	62.9	62.4	61.4	60.8	59.4	58.4	56.7	56.3	55.8	58.8	5.0	63.8
	21	57.4	61.6	53.8	61.2	60.7	60.1	59.5	58.2	57.1	55.0	54.5	54.0	57.4	5.0	62.4
Night	22	56.1	60.6	52.0	60.3	60.0	59.2	58.6	56.9	55.4	53.1	52.6	52.1	56.1	10.0	66.1
	23	56.8	61.0	52.7	60.7	60.4	59.8	59.3	57.8	56.2	53.8	53.3	52.8	56.8	10.0	66.8

Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%
Day	Min	48.7	52.9	45.6	52.5	52.2	51.3	50.9	49.5	48.2	46.4	46.0	45.7
	Max	64.1	66.5	62.0	66.2	66.0	65.7	65.4	64.6	63.9	62.7	62.5	62.1
Energy Average		55.9	Average:		55.9	55.6	54.9	54.5	53.2	52.1	50.6	50.3	50.0
Evening	Min	55.6	58.8	52.9	58.5	58.2	57.8	57.5	56.3	55.3	53.7	53.4	53.0
	Max	58.8	63.2	55.6	62.9	62.4	61.4	60.8	59.4	58.4	56.7	56.3	55.8
Energy Average		57.5	Average:		60.8	60.4	59.7	59.3	58.0	56.9	55.1	54.7	54.3
Night	Min	54.6	59.3	47.8	59.0	58.7	58.1	57.7	56.0	53.8	49.5	48.7	48.0
	Max	64.6	67.5	62.6	67.3	67.0	66.4	66.2	65.1	64.4	63.3	63.0	62.7
Energy Average		59.9	Average:		62.0	61.7	61.1	60.6	59.2	57.9	55.6	55.1	54.7

L_{eq} (dBA)		
24-Hour	Daytime	Nighttime
58.0	56.3	59.9

24-Hour CNEL (dBA)

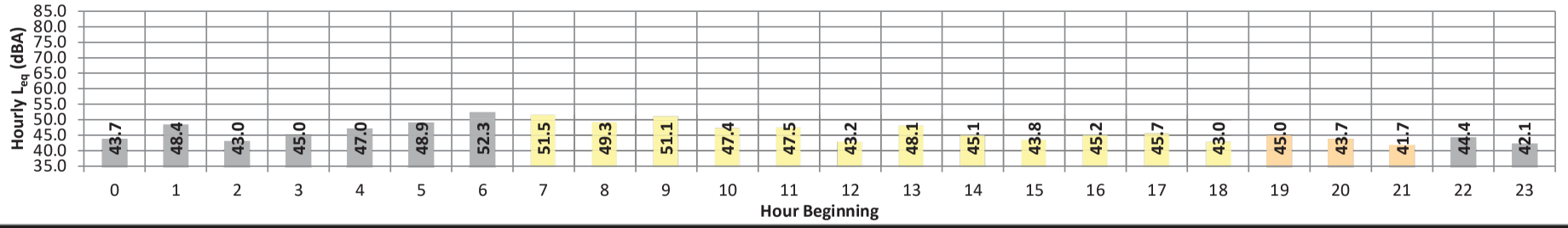
66.1

24-Hour Noise Level Measurement Summary

Date: Wednesday, September 23, 2020 *Location* L4 - Located southwest of the Project site on Lookout Lane near existing single-family residential home at 23905 Lookout Lane. *Meter:* Piccolo II *JN:* 13627

Project: DCW3 *Analyst:* P. Mara

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq}	Adj.	Adj. L_{eq}
Night	0	43.7	48.8	39.8	48.1	47.7	46.9	46.3	44.5	43.0	40.6	40.2	39.9	43.7	10.0	53.7
	1	48.4	61.4	36.4	60.4	59.3	56.3	52.9	44.6	41.1	37.5	36.9	36.5	48.4	10.0	58.4
	2	43.0	72.2	39.0	70.4	69.6	68.6	68.0	64.8	57.4	40.9	39.8	39.2	43.0	10.0	53.0
	3	45.0	48.8	42.0	48.5	48.2	47.6	47.2	45.6	44.6	42.9	42.5	42.1	45.0	10.0	55.0
	4	47.0	50.0	44.9	49.8	49.5	48.9	48.6	47.4	46.7	45.5	45.2	45.0	47.0	10.0	57.0
	5	48.9	52.6	46.8	52.3	52.0	51.2	50.7	49.4	48.5	47.4	47.1	46.9	48.9	10.0	58.9
	6	52.3	56.4	50.0	56.0	55.6	54.7	54.2	52.8	51.8	50.6	50.4	50.1	52.3	10.0	62.3
Day	7	51.5	54.9	49.6	54.6	54.2	53.5	53.1	51.9	51.1	50.1	49.9	49.7	51.5	0.0	51.5
	8	49.3	54.4	46.6	54.1	53.7	53.0	52.1	49.6	48.2	47.1	46.9	46.7	49.3	0.0	49.3
	9	51.1	61.2	40.9	61.2	60.5	59.4	57.0	48.8	44.0	41.6	41.3	41.0	51.1	0.0	51.1
	10	47.4	51.5	44.9	51.0	50.5	49.7	49.4	48.0	46.9	45.4	45.2	45.0	47.4	0.0	47.4
	11	47.5	52.3	44.9	51.7	51.2	50.3	49.7	48.1	46.9	45.5	45.3	45.0	47.5	0.0	47.5
	12	43.2	48.4	38.8	48.0	47.6	46.6	46.1	44.2	42.2	39.7	39.3	38.9	43.2	0.0	43.2
	13	48.1	51.2	46.1	51.0	50.7	50.1	49.8	48.6	47.8	46.7	46.5	46.2	48.1	0.0	48.1
	14	45.1	52.0	41.8	51.5	50.8	48.9	48.1	45.7	43.8	42.3	42.1	41.9	45.1	0.0	45.1
	15	43.8	50.2	40.0	49.6	49.0	48.0	47.0	44.1	42.6	40.7	40.4	40.1	43.8	0.0	43.8
	16	45.2	50.9	40.8	50.6	50.2	49.0	48.2	46.1	44.2	41.8	41.2	40.9	45.2	0.0	45.2
	17	45.7	54.8	39.6	54.0	53.3	51.8	50.3	45.5	42.4	40.2	40.0	39.7	45.7	0.0	45.7
	18	43.0	48.6	40.6	48.0	47.6	46.5	45.4	43.2	42.2	41.1	40.9	40.7	43.0	0.0	43.0
Evening	19	45.0	53.0	40.4	52.0	50.9	48.9	48.1	45.5	43.6	41.4	40.9	40.6	45.0	5.0	50.0
	20	43.7	47.5	41.2	46.9	46.5	45.8	45.3	44.3	43.3	41.9	41.6	41.3	43.7	5.0	48.7
	21	41.7	47.3	38.2	46.9	46.5	45.6	44.9	42.4	40.4	38.8	38.6	38.3	41.7	5.0	46.7
Night	22	44.4	71.1	39.4	70.0	69.2	67.8	66.9	63.2	47.0	40.4	40.0	39.6	44.4	10.0	54.4
	23	42.1	45.8	39.7	45.5	45.2	44.8	44.3	42.7	41.6	40.4	40.1	39.8	42.1	10.0	52.1

Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%
Day	Min	43.0	48.4	38.8	48.0	47.6	46.5	45.4	43.2	42.2	39.7	39.3	38.9
	Max	51.5	61.2	49.6	61.2	60.5	59.4	57.0	51.9	51.1	50.1	49.9	49.7
Energy Average		47.6	Average:		52.1	51.6	50.6	49.7	47.0	45.2	43.5	43.3	43.0
Evening	Min	41.7	47.3	38.2	46.9	46.5	45.6	44.9	42.4	40.4	38.8	38.6	38.3
	Max	45.0	53.0	41.2	52.0	50.9	48.9	48.1	45.5	43.6	41.9	41.6	41.3
Energy Average		43.7	Average:		48.6	48.0	46.8	46.1	44.1	42.4	40.7	40.4	40.0
Night	Min	42.1	45.8	36.4	45.5	45.2	44.8	44.3	42.7	41.1	37.5	36.9	36.5
	Max	52.3	72.2	50.0	70.4	69.6	68.6	68.0	64.8	57.4	50.6	50.4	50.1
Energy Average		47.3	Average:		55.7	55.1	54.1	53.2	50.6	46.9	42.9	42.5	42.1

L_{eq} (dBA)		
24-Hour	Daytime	Nighttime
47.2	47.1	47.3

24-Hour CNEL (dBA)

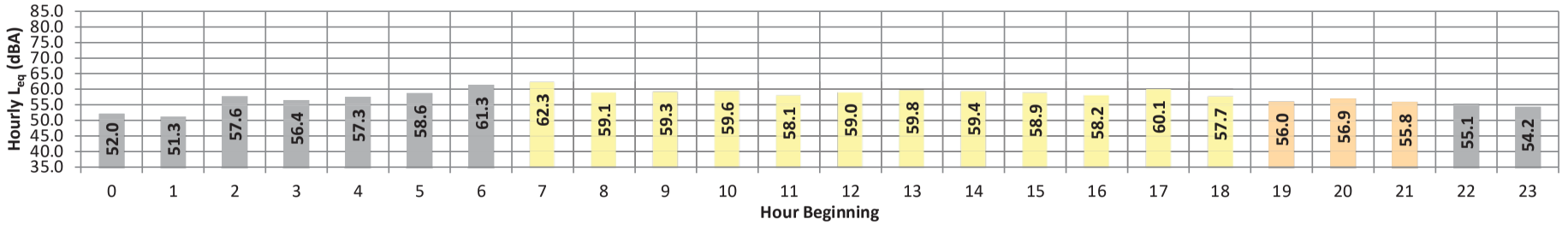
53.8

24-Hour Noise Level Measurement Summary

Date: Wednesday, September 23, 2020 *Location* L5 - Located south of the Project site on Mojeska Summit Road near existing single-family residential home at 10088 Greenhorn Court. *Meter:* Piccolo II *JN:* 13627

Project: DCW3 *Analyst:* P. Mara

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq}	Adj.	Adj. L_{eq}
Night	0	52.0	62.0	46.5	61.7	61.0	58.4	56.0	50.4	49.1	47.2	46.9	46.6	52.0	10.0	62.0
	1	51.3	61.6	44.3	61.3	60.7	58.8	56.6	48.8	46.6	44.9	44.6	44.3	51.3	10.0	61.3
	2	57.6	66.5	54.5	66.1	65.4	62.7	60.5	56.4	56.0	54.7	54.6	54.5	57.6	10.0	67.6
	3	56.4	66.5	50.4	66.2	65.5	63.0	60.8	54.5	52.7	51.2	50.9	50.5	56.4	10.0	66.4
	4	57.3	69.1	51.4	68.5	67.2	63.5	61.0	55.0	53.4	52.0	51.8	51.5	57.3	10.0	67.3
	5	58.6	69.8	53.2	69.4	68.4	64.9	62.2	56.3	55.1	53.8	53.6	53.3	58.6	10.0	68.6
	6	61.3	71.6	55.6	71.2	70.5	67.6	65.3	59.6	57.7	56.2	55.9	55.6	61.3	10.0	71.3
Day	7	62.3	72.0	54.0	71.5	70.8	68.8	67.3	62.1	57.9	54.8	54.4	54.1	62.3	0.0	62.3
	8	59.1	70.3	48.3	70.0	69.3	66.6	64.5	56.7	51.7	49.0	48.7	48.4	59.1	0.0	59.1
	9	59.3	71.3	44.8	70.8	70.1	67.5	64.8	55.3	49.5	45.9	45.5	45.0	59.3	0.0	59.3
	10	59.6	71.2	47.0	70.6	69.7	67.3	65.4	56.7	51.3	47.8	47.5	47.1	59.6	0.0	59.6
	11	58.1	69.5	49.5	69.0	68.2	65.5	63.3	55.2	52.2	50.3	50.0	49.6	58.1	0.0	58.1
	12	59.0	70.5	49.8	70.0	69.2	66.4	64.2	56.5	52.7	50.6	50.3	50.0	59.0	0.0	59.0
	13	59.8	71.6	50.2	71.2	70.5	67.3	64.6	56.3	53.1	51.0	50.6	50.3	59.8	0.0	59.8
	14	59.4	71.0	50.0	70.7	70.2	67.2	64.2	55.9	52.7	50.8	50.5	50.1	59.4	0.0	59.4
	15	58.9	69.4	50.1	69.0	68.3	65.9	64.0	57.4	53.8	51.0	50.6	50.2	58.9	0.0	58.9
	16	58.2	69.3	50.9	68.8	67.9	64.7	62.5	56.5	53.6	51.7	51.4	51.0	58.2	0.0	58.2
	17	60.1	70.8	51.3	70.4	69.7	67.1	65.1	58.6	54.8	52.2	51.9	51.5	60.1	0.0	60.1
	18	57.7	68.3	50.1	67.8	66.9	64.5	62.7	56.4	52.9	50.8	50.5	50.2	57.7	0.0	57.7
Evening	19	56.0	66.8	46.1	66.4	65.7	63.2	61.4	54.3	49.7	46.9	46.5	46.2	56.0	5.0	61.0
	20	56.9	68.4	47.9	68.0	67.2	64.3	61.9	54.1	50.1	48.5	48.2	48.0	56.9	5.0	61.9
	21	55.8	66.4	48.7	66.0	65.3	62.5	60.2	54.3	51.4	49.5	49.2	48.8	55.8	5.0	60.8
Night	22	55.1	66.2	47.0	65.9	65.3	62.5	60.0	51.9	49.5	47.8	47.4	47.1	55.1	10.0	65.1
	23	54.2	65.6	46.1	65.3	64.8	62.3	59.4	49.8	48.2	46.6	46.4	46.1	54.2	10.0	64.2

Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%
Day	Min	57.7	68.3	44.8	67.8	66.9	64.5	62.5	55.2	49.5	45.9	45.5	45.0
	Max	62.3	72.0	54.0	71.5	70.8	68.8	67.3	62.1	57.9	54.8	54.4	54.1
Energy Average		59.5	Average:		70.0	69.2	66.6	64.4	57.0	53.0	50.5	50.1	49.8
Evening	Min	55.8	66.4	46.1	66.0	65.3	62.5	60.2	54.1	49.7	46.9	46.5	46.2
	Max	56.9	68.4	48.7	68.0	67.2	64.3	61.9	54.3	51.4	49.5	49.2	48.8
Energy Average		56.2	Average:		66.8	66.1	63.3	61.2	54.2	50.4	48.3	48.0	47.7
Night	Min	51.3	61.6	44.3	61.3	60.7	58.4	56.0	48.8	46.6	44.9	44.6	44.3
	Max	61.3	71.6	55.6	71.2	70.5	67.6	65.3	59.6	57.7	56.2	55.9	55.6
Energy Average		57.0	Average:		66.2	65.4	62.6	60.2	53.6	52.0	50.5	50.2	50.0

L_{eq} (dBA)		
24-Hour	*Daytime*	*Nighttime*
58.3	**59.0**	**57.0**

24-Hour CNEL (dBA)

63.9

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APPENDIX 7.1:

OFF-SITE TRAFFIC NOISE CONTOURS

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Without Project (2020) | Project Name: DCW3
Road Name: Temescal Canyon Rd. | Job Number: 13627
Road Segment: s/o I-15

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,262 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	458 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	37.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	81.35%
Medium Trucks:	84.8%	4.9%	10.3%	6.69%
Heavy Trucks:	86.5%	2.7%	10.8%	11.96%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	36.851
Medium Trucks:	36.610
Heavy Trucks:	36.634

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-5.61	1.88	-1.20	-4.56	0.000	0.000
Medium Trucks:	77.72	-16.46	1.93	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-13.94	1.92	-1.20	-5.61	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.6	61.7	59.9	53.9	62.5	63.1
Medium Trucks:	62.0	62.5	56.1	54.6	63.0	63.3
Heavy Trucks:	69.8	70.4	61.3	62.6	70.9	71.1
Vehicle Noise:	71.0	71.5	64.4	63.7	72.1	72.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	51	110	236	509
CNEL:	52	113	244	525

Monday, October 12, 2020

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Without Project (2020) | Project Name: DCW3
Road Name: Temescal Canyon Rd. | Job Number: 13627
Road Segment: s/o Dos Lagos Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,106 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	953 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	81.35%
Medium Trucks:	84.8%	4.9%	10.3%	6.69%
Heavy Trucks:	86.5%	2.7%	10.8%	11.96%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	57.271
Medium Trucks:	57.117
Heavy Trucks:	57.132

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-2.94	-0.99	-1.20	-4.70	0.000	0.000
Medium Trucks:	79.45	-13.79	-0.97	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-11.27	-0.97	-1.20	-5.31	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.3	63.4	61.7	55.6	64.2	64.8
Medium Trucks:	63.5	64.0	57.6	56.1	64.5	64.8
Heavy Trucks:	70.8	71.4	62.4	63.6	72.0	72.1
Vehicle Noise:	72.2	72.7	65.8	64.9	73.3	73.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	106	227	490	1,056
CNEL:	109	235	506	1,089

Monday, October 12, 2020

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Without Project (2020) | Project Name: DCW3
Road Name: Temescal Canyon Rd. | Job Number: 13627
Road Segment: s/o Trilogy Pkwy.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,101 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	764 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	81.35%
Medium Trucks:	84.8%	4.9%	10.3%	6.69%
Heavy Trucks:	86.5%	2.7%	10.8%	11.96%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-3.39	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	77.72	-14.25	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-11.72	-0.60	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.3	61.4	59.6	53.6	62.2	62.8
Medium Trucks:	61.7	62.2	55.8	54.3	62.7	62.9
Heavy Trucks:	69.5	70.1	61.0	62.3	70.6	70.7
Vehicle Noise:	70.7	71.2	64.1	63.4	71.8	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	78	167	360	775
CNEL:	80	172	371	799

Monday, October 12, 2020

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Without Project (2020) | Project Name: DCW3
Road Name: Temescal Canyon Rd. | Job Number: 13627
Road Segment: s/o Dos Lagos Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,106 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	953 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	81.35%
Medium Trucks:	84.8%	4.9%	10.3%	6.69%
Heavy Trucks:	86.5%	2.7%	10.8%	11.96%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	57.271
Medium Trucks:	57.117
Heavy Trucks:	57.132

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-2.94	-0.99	-1.20	-4.70	0.000	0.000
Medium Trucks:	79.45	-13.79	-0.97	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-11.27	-0.97	-1.20	-5.31	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.3	63.4	61.7	55.6	64.2	64.8
Medium Trucks:	63.5	64.0	57.6	56.1	64.5	64.8
Heavy Trucks:	70.8	71.4	62.4	63.6	72.0	72.1
Vehicle Noise:	72.2	72.7	65.8	64.9	73.3	73.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	106	227	490	1,056
CNEL:	109	235	506	1,089

Monday, October 12, 2020

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Without Project (2020) | Project Name: DCW3
Road Name: Temescal Canyon Rd. | Job Number: 13627
Road Segment: s/o Dawson Canyon Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,092 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	952 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	81.35%
Medium Trucks:	84.8%	4.9%	10.3%	6.69%
Heavy Trucks:	86.5%	2.7%	10.8%	11.96%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	57.271
Medium Trucks:	57.117
Heavy Trucks:	57.132

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-2.43	-0.99	-1.20	-4.70	0.000	0.000
Medium Trucks:	77.72	-13.29	-0.97	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-10.76	-0.97	-1.20	-5.31	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.9	62.0	60.2	54.2	62.8	63.4
Medium Trucks:	62.3	62.8	56.4	54.8	63.3	63.5
Heavy Trucks:	70.1	70.6	61.6	62.9	71.2	71.3
Vehicle Noise:	71.3	71.8	64.7	64.0	72.4	72.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	92	198	427	921
CNEL:	95	204	440	949

Monday, October 12, 2020

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Without Project (2020) | Project Name: DCW3
Road Name: Campbell Ranch Rd. | Job Number: 13627
Road Segment: s/o Temescal Canyon Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,094 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	511 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	81.35%
Medium Trucks:	84.8%	4.9%	10.3%	6.69%
Heavy Trucks:	86.5%	2.7%	10.8%	11.96%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-5.65	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-16.50	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-13.98	-0.60	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.0	61.1	59.3	53.3	61.9	62.5
Medium Trucks:	61.1	61.6	55.3	53.7	62.2	62.4
Heavy Trucks:	68.5	69.1	60.0	61.3	69.6	69.7
Vehicle Noise:	69.8	70.3	63.4	62.5	70.9	71.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	68	146	315	680
CNEL:	70	151	325	701

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Without Project (2020) | Project Name: DCW3
Road Name: Temescal Canyon Rd. | Job Number: 13627
Road Segment: s/o Dawson Canyon Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,092 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	952 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	81.35%
Medium Trucks:	84.8%	4.9%	10.3%	6.69%
Heavy Trucks:	86.5%	2.7%	10.8%	11.96%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	57.271
Medium Trucks:	57.117
Heavy Trucks:	57.132

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-2.43	-0.99	-1.20	-4.70	0.000	0.000
Medium Trucks:	77.72	-13.29	-0.97	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-10.76	-0.97	-1.20	-5.31	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.9	62.0	60.2	54.2	62.8	63.4
Medium Trucks:	62.3	62.8	56.4	54.8	63.3	63.5
Heavy Trucks:	70.1	70.6	61.6	62.9	71.2	71.3
Vehicle Noise:	71.3	71.8	64.7	64.0	72.4	72.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	92	198	427	921
CNEL:	95	204	440	949

Monday, October 12, 2020

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Without Project (2020) | Project Name: DCW3
Road Name: Dawson Canyon Rd. | Job Number: 13627
Road Segment: e/o Temescal Canyon Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,540 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	476 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	37.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	81.35%
Medium Trucks:	84.8%	4.9%	10.3%	6.69%
Heavy Trucks:	86.5%	2.7%	10.8%	11.96%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	36.851
Medium Trucks:	36.610
Heavy Trucks:	36.634

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-5.45	1.88	-1.20	-4.56	0.000	0.000
Medium Trucks:	77.72	-16.30	1.93	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-13.77	1.92	-1.20	-5.61	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.7	61.8	60.1	54.0	62.6	63.3
Medium Trucks:	62.1	62.6	56.3	54.7	63.2	63.4
Heavy Trucks:	69.9	70.5	61.5	62.7	71.1	71.2
Vehicle Noise:	71.1	71.7	64.5	63.9	72.2	72.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	52	113	242	522
CNEL:	54	116	250	538

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project
Road Name: Temescal Canyon Rd.
Road Segment: s/o I-15
Project Name: DCW3
Job Number: 13627

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,142 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	514 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	37.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	83.37%
Medium Trucks:	84.8%	4.9%	10.3%	5.96%
Heavy Trucks:	86.5%	2.7%	10.8%	10.67%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	36.851
Medium Trucks:	36.610
Heavy Trucks:	36.634

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-5.01	1.88	-1.20	-4.56	0.000	0.000
Medium Trucks:	77.72	-16.46	1.93	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-13.94	1.92	-1.20	-5.61	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.2	62.3	60.5	54.5	63.1	63.7
Medium Trucks:	62.0	62.5	56.1	54.6	63.0	63.3
Heavy Trucks:	69.8	70.4	61.3	62.6	70.9	71.1
Vehicle Noise:	71.1	71.6	64.6	63.8	72.2	72.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	52	111	239	515
CNEL:	53	114	247	531

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project
Road Name: Temescal Canyon Rd.
Road Segment: s/o Dos Lagos Rd.
Project Name: DCW3
Job Number: 13627

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,860 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	1,001 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	82.11%
Medium Trucks:	84.8%	4.9%	10.3%	6.45%
Heavy Trucks:	86.5%	2.7%	10.8%	11.44%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	57.271
Medium Trucks:	57.117
Heavy Trucks:	57.132

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-2.69	-0.99	-1.20	-4.70	0.000	0.000
Medium Trucks:	79.45	-13.74	-0.97	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-11.25	-0.97	-1.20	-5.31	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.6	63.7	61.9	55.9	64.5	65.1
Medium Trucks:	63.5	64.0	57.7	56.1	64.6	64.8
Heavy Trucks:	70.8	71.4	62.4	63.6	72.0	72.1
Vehicle Noise:	72.2	72.7	65.9	64.9	73.3	73.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	106	229	494	1,064
CNEL:	110	237	510	1,099

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project
Road Name: Temescal Canyon Rd.
Road Segment: s/o Trilogy Pkwy.
Project Name: DCW3
Job Number: 13627

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,835 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	810 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	82.42%
Medium Trucks:	84.8%	4.9%	10.3%	6.30%
Heavy Trucks:	86.5%	2.7%	10.8%	11.28%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-3.08	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	77.72	-14.25	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-11.72	-0.60	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.6	61.7	59.9	53.9	62.5	63.1
Medium Trucks:	61.7	62.2	55.8	54.3	62.7	62.9
Heavy Trucks:	69.5	70.1	61.0	62.3	70.6	70.7
Vehicle Noise:	70.7	71.2	64.2	63.4	71.8	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	78	168	362	779
CNEL:	80	173	373	804

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project
Road Name: Temescal Canyon Rd.
Road Segment: s/o Dos Lagos Rd.
Project Name: DCW3
Job Number: 13627

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,860 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	1,001 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	82.11%
Medium Trucks:	84.8%	4.9%	10.3%	6.45%
Heavy Trucks:	86.5%	2.7%	10.8%	11.44%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	57.271
Medium Trucks:	57.117
Heavy Trucks:	57.132

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-2.69	-0.99	-1.20	-4.70	0.000	0.000
Medium Trucks:	79.45	-13.74	-0.97	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-11.25	-0.97	-1.20	-5.31	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.6	63.7	61.9	55.9	64.5	65.1
Medium Trucks:	63.5	64.0	57.7	56.1	64.6	64.8
Heavy Trucks:	70.8	71.4	62.4	63.6	72.0	72.1
Vehicle Noise:	72.2	72.7	65.9	64.9	73.3	73.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	106	229	494	1,064
CNEL:	110	237	510	1,099

Monday, October 12, 2020

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project
Road Name: Temescal Canyon Rd.
Road Segment: s/o Dawson Canyon Rd.
Project Name: DCW3
Job Number: 13627

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,667 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	1,052 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	82.99%
Medium Trucks:	84.8%	4.9%	10.3%	6.13%
Heavy Trucks:	86.5%	2.7%	10.8%	10.87%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	57.271
Medium Trucks:	57.117
Heavy Trucks:	57.132

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-1.92	-0.99	-1.20	-4.70	0.000	0.000
Medium Trucks:	77.72	-13.23	-0.97	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-10.74	-0.97	-1.20	-5.31	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.4	62.5	60.7	54.7	63.3	63.9
Medium Trucks:	62.3	62.8	56.4	54.9	63.4	63.6
Heavy Trucks:	70.1	70.7	61.6	62.9	71.2	71.4
Vehicle Noise:	71.3	71.9	64.9	64.0	72.4	72.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	93	201	433	932
CNEL:	96	207	446	961

Monday, October 12, 2020

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project
Road Name: Campbell Ranch Rd.
Road Segment: s/o Temescal Canyon Rd.
Project Name: DCW3
Job Number: 13627

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,388 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	529 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	82.00%
Medium Trucks:	84.8%	4.9%	10.3%	6.45%
Heavy Trucks:	86.5%	2.7%	10.8%	11.54%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-5.46	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-16.50	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-13.98	-0.60	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.2	61.3	59.5	53.5	62.1	62.7
Medium Trucks:	61.1	61.6	55.3	53.7	62.2	62.4
Heavy Trucks:	68.5	69.1	60.0	61.3	69.6	69.7
Vehicle Noise:	69.8	70.3	63.5	62.5	70.9	71.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	68	147	317	682
CNEL:	70	152	327	704

Monday, October 12, 2020

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project
Road Name: Temescal Canyon Rd.
Road Segment: s/o Dawson Canyon Rd.
Project Name: DCW3
Job Number: 13627

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,667 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	1,052 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	82.99%
Medium Trucks:	84.8%	4.9%	10.3%	6.13%
Heavy Trucks:	86.5%	2.7%	10.8%	10.87%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	57.271
Medium Trucks:	57.117
Heavy Trucks:	57.132

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-1.92	-0.99	-1.20	-4.70	0.000	0.000
Medium Trucks:	77.72	-13.23	-0.97	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-10.74	-0.97	-1.20	-5.31	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.4	62.5	60.7	54.7	63.3	63.9
Medium Trucks:	62.3	62.8	56.4	54.9	63.4	63.6
Heavy Trucks:	70.1	70.7	61.6	62.9	71.2	71.4
Vehicle Noise:	71.3	71.9	64.9	64.0	72.4	72.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	93	201	433	932
CNEL:	96	207	446	961

Monday, October 12, 2020

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project
Road Name: Dawson Canyon Rd.
Road Segment: e/o Temescal Canyon Rd.
Project Name: DCW3
Job Number: 13627

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,388 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	592 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	37.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	85.02%
Medium Trucks:	84.8%	4.9%	10.3%	5.37%
Heavy Trucks:	86.5%	2.7%	10.8%	9.61%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	36.851
Medium Trucks:	36.610
Heavy Trucks:	36.634

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-4.30	1.88	-1.20	-4.56	0.000	0.000
Medium Trucks:	77.72	-16.30	1.93	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-13.77	1.92	-1.20	-5.61	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.9	63.0	61.2	55.2	63.8	64.4
Medium Trucks:	62.1	62.6	56.3	54.7	63.2	63.4
Heavy Trucks:	69.9	70.5	61.5	62.7	71.1	71.2
Vehicle Noise:	71.3	71.8	65.0	64.0	72.4	72.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	53	115	248	534
CNEL:	55	119	256	551

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EA (2022) Without Ext. | Project Name: DCW3
Road Name: Temescal Canyon Rd. | Job Number: 13627
Road Segment: s/o I-15

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,556 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	477 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	37.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	81.35%
Medium Trucks:	84.8%	4.9%	10.3%	6.69%
Heavy Trucks:	86.5%	2.7%	10.8%	11.96%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	36.851
Medium Trucks:	36.610
Heavy Trucks:	36.634

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-5.44	1.88	-1.20	-4.56	0.000	0.000
Medium Trucks:	77.72	-16.29	1.93	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-13.77	1.92	-1.20	-5.61	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.8	61.9	60.1	54.0	62.7	63.3
Medium Trucks:	62.2	62.6	56.3	54.7	63.2	63.4
Heavy Trucks:	70.0	70.5	61.5	62.7	71.1	71.2
Vehicle Noise:	71.1	71.7	64.6	63.9	72.3	72.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	52	113	243	523
CNEL:	54	116	250	539

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EA (2022) Without Ext. | Project Name: DCW3
Road Name: Temescal Canyon Rd. | Job Number: 13627
Road Segment: s/o Dos Lagos Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,716 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	992 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	81.35%
Medium Trucks:	84.8%	4.9%	10.3%	6.69%
Heavy Trucks:	86.5%	2.7%	10.8%	11.96%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	57.271
Medium Trucks:	57.117
Heavy Trucks:	57.132

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-2.77	-0.99	-1.20	-4.70	0.000	0.000
Medium Trucks:	79.45	-13.62	-0.97	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-11.10	-0.97	-1.20	-5.31	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.5	63.6	61.8	55.8	64.4	65.0
Medium Trucks:	63.7	64.1	57.8	56.2	64.7	64.9
Heavy Trucks:	71.0	71.6	62.5	63.8	72.1	72.3
Vehicle Noise:	72.3	72.8	65.9	65.0	73.4	73.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	108	234	503	1,084
CNEL:	112	241	519	1,119

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EA (2022) Without Ext. | Project Name: DCW3
Road Name: Temescal Canyon Rd. | Job Number: 13627
Road Segment: s/o Trilogy Pkwy.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,590 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	794 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	81.35%
Medium Trucks:	84.8%	4.9%	10.3%	6.69%
Heavy Trucks:	86.5%	2.7%	10.8%	11.96%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-3.22	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	77.72	-14.07	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-11.55	-0.60	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.5	61.6	59.8	53.7	62.4	63.0
Medium Trucks:	61.8	62.3	56.0	54.4	62.9	63.1
Heavy Trucks:	69.6	70.2	61.2	62.4	70.8	70.9
Vehicle Noise:	70.8	71.4	64.3	63.6	72.0	72.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	80	171	369	796
CNEL:	82	177	381	820

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EA (2022) Without Ext. | Project Name: DCW3
Road Name: Temescal Canyon Rd. | Job Number: 13627
Road Segment: s/o Dos Lagos Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,716 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	992 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	81.35%
Medium Trucks:	84.8%	4.9%	10.3%	6.69%
Heavy Trucks:	86.5%	2.7%	10.8%	11.96%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	57.271
Medium Trucks:	57.117
Heavy Trucks:	57.132

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-2.77	-0.99	-1.20	-4.70	0.000	0.000
Medium Trucks:	79.45	-13.62	-0.97	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-11.10	-0.97	-1.20	-5.31	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.5	63.6	61.8	55.8	64.4	65.0
Medium Trucks:	63.7	64.1	57.8	56.2	64.7	64.9
Heavy Trucks:	71.0	71.6	62.5	63.8	72.1	72.3
Vehicle Noise:	72.3	72.8	65.9	65.0	73.4	73.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	108	234	503	1,084
CNEL:	112	241	519	1,119

Monday, October 12, 2020

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EA (2022) Without Ext. | Project Name: DCW3
Road Name: Temescal Canyon Rd. | Job Number: 13627
Road Segment: s/o Dawson Canyon Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,702 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	991 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	81.35%
Medium Trucks:	84.8%	4.9%	10.3%	6.69%
Heavy Trucks:	86.5%	2.7%	10.8%	11.96%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	57.271
Medium Trucks:	57.117
Heavy Trucks:	57.132

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-2.26	-0.99	-1.20	-4.70	0.000	0.000
Medium Trucks:	77.72	-13.11	-0.97	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-10.59	-0.97	-1.20	-5.31	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.1	62.2	60.4	54.3	63.0	63.6
Medium Trucks:	62.4	62.9	56.6	55.0	63.5	63.7
Heavy Trucks:	70.2	70.8	61.8	63.0	71.4	71.5
Vehicle Noise:	71.4	71.9	64.8	64.1	72.5	72.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	95	204	439	945
CNEL:	97	210	452	974

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EA (2022) Without Ext. | Project Name: DCW3
Road Name: Campbell Ranch Rd. | Job Number: 13627
Road Segment: s/o Temescal Canyon Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,421 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	531 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	81.35%
Medium Trucks:	84.8%	4.9%	10.3%	6.69%
Heavy Trucks:	86.5%	2.7%	10.8%	11.96%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-5.48	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-16.33	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-13.81	-0.60	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.2	61.3	59.5	53.4	62.1	62.7
Medium Trucks:	61.3	61.8	55.4	53.9	62.4	62.6
Heavy Trucks:	68.6	69.2	60.2	61.4	69.8	69.9
Vehicle Noise:	70.0	70.5	63.6	62.7	71.1	71.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	70	150	324	698
CNEL:	72	155	334	720

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EA (2022) Without Ext. | Project Name: DCW3
Road Name: Temescal Canyon Rd. | Job Number: 13627
Road Segment: s/o Dawson Canyon Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,702 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	991 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	81.35%
Medium Trucks:	84.8%	4.9%	10.3%	6.69%
Heavy Trucks:	86.5%	2.7%	10.8%	11.96%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	57.271
Medium Trucks:	57.117
Heavy Trucks:	57.132

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-2.26	-0.99	-1.20	-4.70	0.000	0.000
Medium Trucks:	77.72	-13.11	-0.97	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-10.59	-0.97	-1.20	-5.31	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.1	62.2	60.4	54.3	63.0	63.6
Medium Trucks:	62.4	62.9	56.6	55.0	63.5	63.7
Heavy Trucks:	70.2	70.8	61.8	63.0	71.4	71.5
Vehicle Noise:	71.4	71.9	64.8	64.1	72.5	72.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	95	204	439	945
CNEL:	97	210	452	974

Monday, October 12, 2020

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EA (2022) Without Ext. | Project Name: DCW3
Road Name: Dawson Canyon Rd. | Job Number: 13627
Road Segment: e/o Temescal Canyon Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,844 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	495 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	37.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	81.35%
Medium Trucks:	84.8%	4.9%	10.3%	6.69%
Heavy Trucks:	86.5%	2.7%	10.8%	11.96%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	36.851
Medium Trucks:	36.610
Heavy Trucks:	36.634

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-5.28	1.88	-1.20	-4.56	0.000	0.000
Medium Trucks:	77.72	-16.13	1.93	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-13.60	1.92	-1.20	-5.61	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.9	62.0	60.3	54.2	62.8	63.4
Medium Trucks:	62.3	62.8	56.4	54.9	63.4	63.6
Heavy Trucks:	70.1	70.7	61.7	62.9	71.3	71.4
Vehicle Noise:	71.3	71.8	64.7	64.0	72.4	72.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	54	116	249	536
CNEL:	55	119	257	553

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAP (2022) Without Ext. | Project Name: DCW3
Road Name: Temescal Canyon Rd. | Job Number: 13627
Road Segment: s/o I-15

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,436 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	532 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	37.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	83.30%
Medium Trucks:	84.8%	4.9%	10.3%	5.99%
Heavy Trucks:	86.5%	2.7%	10.8%	10.71%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	36.851
Medium Trucks:	36.610
Heavy Trucks:	36.634

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-4.86	1.88	-1.20	-4.56	0.000	0.000
Medium Trucks:	77.72	-16.29	1.93	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-13.77	1.92	-1.20	-5.61	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.3	62.4	60.7	54.6	63.2	63.8
Medium Trucks:	62.2	62.6	56.3	54.7	63.2	63.4
Heavy Trucks:	70.0	70.5	61.5	62.7	71.1	71.2
Vehicle Noise:	71.2	71.7	64.8	63.9	72.3	72.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	53	114	245	529
CNEL:	55	117	253	545

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAP (2022) Without Ext. | Project Name: DCW3
Road Name: Temescal Canyon Rd. | Job Number: 13627
Road Segment: s/o Dos Lagos Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,470 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	1,039 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	82.08%
Medium Trucks:	84.8%	4.9%	10.3%	6.46%
Heavy Trucks:	86.5%	2.7%	10.8%	11.46%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	57.271
Medium Trucks:	57.117
Heavy Trucks:	57.132

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-2.53	-0.99	-1.20	-4.70	0.000	0.000
Medium Trucks:	79.45	-13.57	-0.97	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-11.08	-0.97	-1.20	-5.31	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.7	63.8	62.1	56.0	64.6	65.3
Medium Trucks:	63.7	64.2	57.8	56.3	64.8	65.0
Heavy Trucks:	71.0	71.6	62.5	63.8	72.1	72.3
Vehicle Noise:	72.4	72.9	66.0	65.1	73.5	73.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	109	235	507	1,092
CNEL:	113	243	523	1,128

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAP (2022) Without Ext. | Project Name: DCW3
Road Name: Temescal Canyon Rd. | Job Number: 13627
Road Segment: s/o Trilogy Pkwy.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,324 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	841 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	82.38%
Medium Trucks:	84.8%	4.9%	10.3%	6.32%
Heavy Trucks:	86.5%	2.7%	10.8%	11.30%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-2.92	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	77.72	-14.07	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-11.55	-0.60	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.8	61.9	60.1	54.1	62.7	63.3
Medium Trucks:	61.8	62.3	56.0	54.4	62.9	63.1
Heavy Trucks:	69.6	70.2	61.2	62.4	70.8	70.9
Vehicle Noise:	70.9	71.4	64.4	63.6	72.0	72.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	80	172	371	800
CNEL:	82	178	383	825

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAP (2022) Without Ext. | Project Name: DCW3
Road Name: Temescal Canyon Rd. | Job Number: 13627
Road Segment: s/o Dos Lagos Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,470 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	1,039 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	82.08%
Medium Trucks:	84.8%	4.9%	10.3%	6.46%
Heavy Trucks:	86.5%	2.7%	10.8%	11.46%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	57.271
Medium Trucks:	57.117
Heavy Trucks:	57.132

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-2.53	-0.99	-1.20	-4.70	0.000	0.000
Medium Trucks:	79.45	-13.57	-0.97	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-11.08	-0.97	-1.20	-5.31	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.7	63.8	62.1	56.0	64.6	65.3
Medium Trucks:	63.7	64.2	57.8	56.3	64.8	65.0
Heavy Trucks:	71.0	71.6	62.5	63.8	72.1	72.3
Vehicle Noise:	72.4	72.9	66.0	65.1	73.5	73.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	109	235	507	1,092
CNEL:	113	243	523	1,128

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAP (2022) Without Ext. | Project Name: DCW3
Road Name: Temescal Canyon Rd. | Job Number: 13627
Road Segment: s/o Dawson Canyon Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,277 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	1,090 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	82.94%
Medium Trucks:	84.8%	4.9%	10.3%	6.15%
Heavy Trucks:	86.5%	2.7%	10.8%	10.91%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	57.271
Medium Trucks:	57.117
Heavy Trucks:	57.132

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-1.76	-0.99	-1.20	-4.70	0.000	0.000
Medium Trucks:	77.72	-13.06	-0.97	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-10.57	-0.97	-1.20	-5.31	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.6	62.7	60.9	54.8	63.5	64.1
Medium Trucks:	62.5	63.0	56.6	55.1	63.5	63.8
Heavy Trucks:	70.2	70.8	61.8	63.0	71.4	71.5
Vehicle Noise:	71.5	72.0	65.0	64.2	72.6	72.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	96	206	444	956
CNEL:	99	212	458	986

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAP (2022) Without Ext. | Project Name: DCW3
Road Name: Campbell Ranch Rd. | Job Number: 13627
Road Segment: s/o Temescal Canyon Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,715 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	550 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	81.98%
Medium Trucks:	84.8%	4.9%	10.3%	6.46%
Heavy Trucks:	86.5%	2.7%	10.8%	11.56%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-5.30	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-16.33	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-13.81	-0.60	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.3	61.4	59.7	53.6	62.2	62.9
Medium Trucks:	61.3	61.8	55.4	53.9	62.4	62.6
Heavy Trucks:	68.6	69.2	60.2	61.4	69.8	69.9
Vehicle Noise:	70.0	70.5	63.7	62.7	71.1	71.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	70	151	325	700
CNEL:	72	156	335	723

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAP (2022) Without Ext. | Project Name: DCW3
Road Name: Temescal Canyon Rd. | Job Number: 13627
Road Segment: s/o Dawson Canyon Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,277 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	1,090 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	82.94%
Medium Trucks:	84.8%	4.9%	10.3%	6.15%
Heavy Trucks:	86.5%	2.7%	10.8%	10.91%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	57.271
Medium Trucks:	57.117
Heavy Trucks:	57.132

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-1.76	-0.99	-1.20	-4.70	0.000	0.000
Medium Trucks:	77.72	-13.06	-0.97	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-10.57	-0.97	-1.20	-5.31	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.6	62.7	60.9	54.8	63.5	64.1
Medium Trucks:	62.5	63.0	56.6	55.1	63.5	63.8
Heavy Trucks:	70.2	70.8	61.8	63.0	71.4	71.5
Vehicle Noise:	71.5	72.0	65.0	64.2	72.6	72.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	96	206	444	956
CNEL:	99	212	458	986

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAP (2022) Without Ext. | Project Name: DCW3
Road Name: Dawson Canyon Rd. | Job Number: 13627
Road Segment: e/o Temescal Canyon Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,693 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	612 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	37.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	84.91%
Medium Trucks:	84.8%	4.9%	10.3%	5.41%
Heavy Trucks:	86.5%	2.7%	10.8%	9.68%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	36.851
Medium Trucks:	36.610
Heavy Trucks:	36.634

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-4.17	1.88	-1.20	-4.56	0.000	0.000
Medium Trucks:	77.72	-16.13	1.93	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-13.60	1.92	-1.20	-5.61	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.0	63.1	61.4	55.3	63.9	64.5
Medium Trucks:	62.3	62.8	56.4	54.9	63.4	63.6
Heavy Trucks:	70.1	70.7	61.7	62.9	71.3	71.4
Vehicle Noise:	71.5	72.0	65.1	64.2	72.6	72.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	55	118	254	548
CNEL:	57	122	262	565

Monday, October 12, 2020

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EA (2022) With Ext. | Project Name: DCW3
Road Name: Temescal Canyon Rd. | Job Number: 13627
Road Segment: s/o I-15

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,556 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	477 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	37.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	81.35%
Medium Trucks:	84.8%	4.9%	10.3%	6.69%
Heavy Trucks:	86.5%	2.7%	10.8%	11.96%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	36.851
Medium Trucks:	36.610
Heavy Trucks:	36.634

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-5.44	1.88	-1.20	-4.56	0.000	0.000
Medium Trucks:	77.72	-16.29	1.93	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-13.77	1.92	-1.20	-5.61	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.8	61.9	60.1	54.0	62.7	63.3
Medium Trucks:	62.2	62.6	56.3	54.7	63.2	63.4
Heavy Trucks:	70.0	70.5	61.5	62.7	71.1	71.2
Vehicle Noise:	71.1	71.7	64.6	63.9	72.3	72.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	52	113	243	523
CNEL:	54	116	250	539

Monday, October 12, 2020

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EA (2022) With Ext. | Project Name: DCW3
Road Name: Temescal Canyon Rd. | Job Number: 13627
Road Segment: s/o Dos Lagos Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,716 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	992 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	81.35%
Medium Trucks:	84.8%	4.9%	10.3%	6.69%
Heavy Trucks:	86.5%	2.7%	10.8%	11.96%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	57.271
Medium Trucks:	57.117
Heavy Trucks:	57.132

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-2.77	-0.99	-1.20	-4.70	0.000	0.000
Medium Trucks:	79.45	-13.62	-0.97	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-11.10	-0.97	-1.20	-5.31	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.5	63.6	61.8	55.8	64.4	65.0
Medium Trucks:	63.7	64.1	57.8	56.2	64.7	64.9
Heavy Trucks:	71.0	71.6	62.5	63.8	72.1	72.3
Vehicle Noise:	72.3	72.8	65.9	65.0	73.4	73.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	108	234	503	1,084
CNEL:	112	241	519	1,119

Monday, October 12, 2020

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EA (2022) With Ext. | Project Name: DCW3
Road Name: Temescal Canyon Rd. | Job Number: 13627
Road Segment: s/o Trilogy Pkwy.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,590 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	794 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	81.35%
Medium Trucks:	84.8%	4.9%	10.3%	6.69%
Heavy Trucks:	86.5%	2.7%	10.8%	11.96%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-3.22	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	77.72	-14.07	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-11.55	-0.60	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.5	61.6	59.8	53.7	62.4	63.0
Medium Trucks:	61.8	62.3	56.0	54.4	62.9	63.1
Heavy Trucks:	69.6	70.2	61.2	62.4	70.8	70.9
Vehicle Noise:	70.8	71.4	64.3	63.6	72.0	72.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	80	171	369	796
CNEL:	82	177	381	820

Monday, October 12, 2020

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EA (2022) With Ext. | Project Name: DCW3
Road Name: Temescal Canyon Rd. | Job Number: 13627
Road Segment: s/o Dos Lagos Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,716 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	992 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	81.35%
Medium Trucks:	84.8%	4.9%	10.3%	6.69%
Heavy Trucks:	86.5%	2.7%	10.8%	11.96%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	57.271
Medium Trucks:	57.117
Heavy Trucks:	57.132

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-2.77	-0.99	-1.20	-4.70	0.000	0.000
Medium Trucks:	79.45	-13.62	-0.97	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-11.10	-0.97	-1.20	-5.31	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.5	63.6	61.8	55.8	64.4	65.0
Medium Trucks:	63.7	64.1	57.8	56.2	64.7	64.9
Heavy Trucks:	71.0	71.6	62.5	63.8	72.1	72.3
Vehicle Noise:	72.3	72.8	65.9	65.0	73.4	73.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	108	234	503	1,084
CNEL:	112	241	519	1,119

Monday, October 12, 2020

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EA (2022) With Ext. | Project Name: DCW3
Road Name: Temescal Canyon Rd. | Job Number: 13627
Road Segment: s/o Dawson Canyon Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,702 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	991 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	81.35%
Medium Trucks:	84.8%	4.9%	10.3%	6.69%
Heavy Trucks:	86.5%	2.7%	10.8%	11.96%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	57.271
Medium Trucks:	57.117
Heavy Trucks:	57.132

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-2.26	-0.99	-1.20	-4.70	0.000	0.000
Medium Trucks:	77.72	-13.11	-0.97	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-10.59	-0.97	-1.20	-5.31	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.1	62.2	60.4	54.3	63.0	63.6
Medium Trucks:	62.4	62.9	56.6	55.0	63.5	63.7
Heavy Trucks:	70.2	70.8	61.8	63.0	71.4	71.5
Vehicle Noise:	71.4	71.9	64.8	64.1	72.5	72.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	95	204	439	945
CNEL:	97	210	452	974

Monday, October 12, 2020

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EA (2022) With Ext. | Project Name: DCW3
Road Name: Campbell Ranch Rd. | Job Number: 13627
Road Segment: s/o Temescal Canyon Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,421 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	531 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	81.35%
Medium Trucks:	84.8%	4.9%	10.3%	6.69%
Heavy Trucks:	86.5%	2.7%	10.8%	11.96%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-5.48	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-16.33	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-13.81	-0.60	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.2	61.3	59.5	53.4	62.1	62.7
Medium Trucks:	61.3	61.8	55.4	53.9	62.4	62.6
Heavy Trucks:	68.6	69.2	60.2	61.4	69.8	69.9
Vehicle Noise:	70.0	70.5	63.6	62.7	71.1	71.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	70	150	324	698
CNEL:	72	155	334	720

Monday, October 12, 2020

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EA (2022) With Ext. | Project Name: DCW3
Road Name: Temescal Canyon Rd. | Job Number: 13627
Road Segment: s/o Dawson Canyon Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,702 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	991 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	81.35%
Medium Trucks:	84.8%	4.9%	10.3%	6.69%
Heavy Trucks:	86.5%	2.7%	10.8%	11.96%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	57.271
Medium Trucks:	57.117
Heavy Trucks:	57.132

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-2.26	-0.99	-1.20	-4.70	0.000	0.000
Medium Trucks:	77.72	-13.11	-0.97	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-10.59	-0.97	-1.20	-5.31	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.1	62.2	60.4	54.3	63.0	63.6
Medium Trucks:	62.4	62.9	56.6	55.0	63.5	63.7
Heavy Trucks:	70.2	70.8	61.8	63.0	71.4	71.5
Vehicle Noise:	71.4	71.9	64.8	64.1	72.5	72.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	95	204	439	945
CNEL:	97	210	452	974

Monday, October 12, 2020

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EA (2022) With Ext. | Project Name: DCW3
Road Name: Dawson Canyon Rd. | Job Number: 13627
Road Segment: e/o Temescal Canyon Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,844 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	495 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	37.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	81.35%
Medium Trucks:	84.8%	4.9%	10.3%	6.69%
Heavy Trucks:	86.5%	2.7%	10.8%	11.96%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	36.851
Medium Trucks:	36.610
Heavy Trucks:	36.634

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-5.28	1.88	-1.20	-4.56	0.000	0.000
Medium Trucks:	77.72	-16.13	1.93	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-13.60	1.92	-1.20	-5.61	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.9	62.0	60.3	54.2	62.8	63.4
Medium Trucks:	62.3	62.8	56.4	54.9	63.4	63.6
Heavy Trucks:	70.1	70.7	61.7	62.9	71.3	71.4
Vehicle Noise:	71.3	71.8	64.7	64.0	72.4	72.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	54	116	249	536
CNEL:	55	119	257	553

Monday, October 12, 2020

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAP (2022) With Ext. | Project Name: DCW3
Road Name: Temescal Canyon Rd. | Job Number: 13627
Road Segment: s/o I-15

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,849 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	495 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	37.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	82.05%
Medium Trucks:	84.8%	4.9%	10.3%	6.44%
Heavy Trucks:	86.5%	2.7%	10.8%	11.51%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	36.851
Medium Trucks:	36.610
Heavy Trucks:	36.634

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-5.24	1.88	-1.20	-4.56	0.000	0.000
Medium Trucks:	77.72	-16.29	1.93	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-13.77	1.92	-1.20	-5.61	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.0	62.1	60.3	54.2	62.9	63.5
Medium Trucks:	62.2	62.6	56.3	54.7	63.2	63.4
Heavy Trucks:	70.0	70.5	61.5	62.7	71.1	71.2
Vehicle Noise:	71.2	71.7	64.6	63.9	72.3	72.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	52	113	244	525
CNEL:	54	117	251	541

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAP (2022) With Ext. | Project Name: DCW3
Road Name: Temescal Canyon Rd. | Job Number: 13627
Road Segment: s/o Dos Lagos Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,470 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	1,039 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	82.08%
Medium Trucks:	84.8%	4.9%	10.3%	6.46%
Heavy Trucks:	86.5%	2.7%	10.8%	11.46%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	57.271
Medium Trucks:	57.117
Heavy Trucks:	57.132

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-2.53	-0.99	-1.20	-4.70	0.000	0.000
Medium Trucks:	79.45	-13.57	-0.97	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-11.08	-0.97	-1.20	-5.31	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.7	63.8	62.1	56.0	64.6	65.3
Medium Trucks:	63.7	64.2	57.8	56.3	64.8	65.0
Heavy Trucks:	71.0	71.6	62.5	63.8	72.1	72.3
Vehicle Noise:	72.4	72.9	66.0	65.1	73.5	73.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	109	235	507	1,092
CNEL:	113	243	523	1,128

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAP (2022) With Ext. | Project Name: DCW3
Road Name: Temescal Canyon Rd. | Job Number: 13627
Road Segment: s/o Trilogy Pkwy.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,737 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	804 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	81.57%
Medium Trucks:	84.8%	4.9%	10.3%	6.61%
Heavy Trucks:	86.5%	2.7%	10.8%	11.82%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-3.16	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	77.72	-14.07	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-11.55	-0.60	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.5	61.6	59.9	53.8	62.4	63.0
Medium Trucks:	61.8	62.3	56.0	54.4	62.9	63.1
Heavy Trucks:	69.6	70.2	61.2	62.4	70.8	70.9
Vehicle Noise:	70.9	71.4	64.3	63.6	72.0	72.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	80	172	370	797
CNEL:	82	177	381	821

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAP (2022) With Ext. | Project Name: DCW3
Road Name: Temescal Canyon Rd. | Job Number: 13627
Road Segment: s/o Dos Lagos Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,470 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	1,039 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	82.08%
Medium Trucks:	84.8%	4.9%	10.3%	6.46%
Heavy Trucks:	86.5%	2.7%	10.8%	11.46%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	57.271
Medium Trucks:	57.117
Heavy Trucks:	57.132

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-2.53	-0.99	-1.20	-4.70	0.000	0.000
Medium Trucks:	79.45	-13.57	-0.97	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-11.08	-0.97	-1.20	-5.31	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.7	63.8	62.1	56.0	64.6	65.3
Medium Trucks:	63.7	64.2	57.8	56.3	64.8	65.0
Heavy Trucks:	71.0	71.6	62.5	63.8	72.1	72.3
Vehicle Noise:	72.4	72.9	66.0	65.1	73.5	73.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	109	235	507	1,092
CNEL:	113	243	523	1,128

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAP (2022) With Ext. | Project Name: DCW3
Road Name: Temescal Canyon Rd. | Job Number: 13627
Road Segment: s/o Dawson Canyon Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,277 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	1,090 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	82.94%
Medium Trucks:	84.8%	4.9%	10.3%	6.15%
Heavy Trucks:	86.5%	2.7%	10.8%	10.91%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	57.271
Medium Trucks:	57.117
Heavy Trucks:	57.132

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-1.76	-0.99	-1.20	-4.70	0.000	0.000
Medium Trucks:	77.72	-13.06	-0.97	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-10.57	-0.97	-1.20	-5.31	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.6	62.7	60.9	54.8	63.5	64.1
Medium Trucks:	62.5	63.0	56.6	55.1	63.5	63.8
Heavy Trucks:	70.2	70.8	61.8	63.0	71.4	71.5
Vehicle Noise:	71.5	72.0	65.0	64.2	72.6	72.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	96	206	444	956
CNEL:	99	212	458	986

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAP (2022) With Ext. | Project Name: DCW3
Road Name: Campbell Ranch Rd. | Job Number: 13627
Road Segment: s/o Temescal Canyon Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,715 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	550 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	81.98%
Medium Trucks:	84.8%	4.9%	10.3%	6.46%
Heavy Trucks:	86.5%	2.7%	10.8%	11.56%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-5.30	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-16.33	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-13.81	-0.60	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.3	61.4	59.7	53.6	62.2	62.9
Medium Trucks:	61.3	61.8	55.4	53.9	62.4	62.6
Heavy Trucks:	68.6	69.2	60.2	61.4	69.8	69.9
Vehicle Noise:	70.0	70.5	63.7	62.7	71.1	71.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	70	151	325	700
CNEL:	72	156	335	723

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAP (2022) With Ext. | Project Name: DCW3
Road Name: Temescal Canyon Rd. | Job Number: 13627
Road Segment: s/o Dawson Canyon Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,277 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	1,090 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	82.94%
Medium Trucks:	84.8%	4.9%	10.3%	6.15%
Heavy Trucks:	86.5%	2.7%	10.8%	10.91%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	57.271
Medium Trucks:	57.117
Heavy Trucks:	57.132

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-1.76	-0.99	-1.20	-4.70	0.000	0.000
Medium Trucks:	77.72	-13.06	-0.97	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-10.57	-0.97	-1.20	-5.31	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.6	62.7	60.9	54.8	63.5	64.1
Medium Trucks:	62.5	63.0	56.6	55.1	63.5	63.8
Heavy Trucks:	70.2	70.8	61.8	63.0	71.4	71.5
Vehicle Noise:	71.5	72.0	65.0	64.2	72.6	72.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	96	206	444	956
CNEL:	99	212	458	986

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAP (2022) With Ext. | Project Name: DCW3
Road Name: Dawson Canyon Rd. | Job Number: 13627
Road Segment: e/o Temescal Canyon Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,693 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	612 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	37.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	84.91%
Medium Trucks:	84.8%	4.9%	10.3%	5.41%
Heavy Trucks:	86.5%	2.7%	10.8%	9.68%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	36.851
Medium Trucks:	36.610
Heavy Trucks:	36.634

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-4.17	1.88	-1.20	-4.56	0.000	0.000
Medium Trucks:	77.72	-16.13	1.93	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-13.60	1.92	-1.20	-5.61	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.0	63.1	61.4	55.3	63.9	64.5
Medium Trucks:	62.3	62.8	56.4	54.9	63.4	63.6
Heavy Trucks:	70.1	70.7	61.7	62.9	71.3	71.4
Vehicle Noise:	71.5	72.0	65.1	64.2	72.6	72.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	55	118	254	548
CNEL:	57	122	262	565

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAC (2022) Without Ext. | Project Name: DCW3
Road Name: Temescal Canyon Rd. | Job Number: 13627
Road Segment: s/o I-15

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,796 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	681 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	37.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	81.35%
Medium Trucks:	84.8%	4.9%	10.3%	6.69%
Heavy Trucks:	86.5%	2.7%	10.8%	11.96%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	36.851
Medium Trucks:	36.610
Heavy Trucks:	36.634

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-3.89	1.88	-1.20	-4.56	0.000	0.000
Medium Trucks:	77.72	-14.74	1.93	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-12.22	1.92	-1.20	-5.61	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.3	63.4	61.6	55.6	64.2	64.8
Medium Trucks:	63.7	64.2	57.8	56.3	64.7	65.0
Heavy Trucks:	71.5	72.1	63.0	64.3	72.6	72.8
Vehicle Noise:	72.7	73.2	66.1	65.4	73.8	74.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	66	143	308	664
CNEL:	68	147	317	684

Monday, October 12, 2020

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAC (2022) Without Ext. | Project Name: DCW3
Road Name: Temescal Canyon Rd. | Job Number: 13627
Road Segment: s/o Dos Lagos Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,710 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	1,118 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	81.35%
Medium Trucks:	84.8%	4.9%	10.3%	6.69%
Heavy Trucks:	86.5%	2.7%	10.8%	11.96%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	57.271
Medium Trucks:	57.117
Heavy Trucks:	57.132

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-2.25	-0.99	-1.20	-4.70	0.000	0.000
Medium Trucks:	79.45	-13.10	-0.97	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-10.58	-0.97	-1.20	-5.31	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.0	64.1	62.4	56.3	64.9	65.5
Medium Trucks:	64.2	64.7	58.3	56.8	65.2	65.5
Heavy Trucks:	71.5	72.1	63.0	64.3	72.7	72.8
Vehicle Noise:	72.9	73.4	66.4	65.6	74.0	74.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	117	253	545	1,174
CNEL:	121	261	562	1,211

Monday, October 12, 2020

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAC (2022) Without Ext. | Project Name: DCW3
Road Name: Temescal Canyon Rd. | Job Number: 13627
Road Segment: s/o Trilogy Pkwy.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,517 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	1,863 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	81.35%
Medium Trucks:	84.8%	4.9%	10.3%	6.69%
Heavy Trucks:	86.5%	2.7%	10.8%	11.96%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	0.48	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	77.72	-10.37	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-7.85	-0.60	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.2	65.3	63.5	57.5	66.1	66.7
Medium Trucks:	65.5	66.0	59.7	58.1	66.6	66.8
Heavy Trucks:	73.3	73.9	64.9	66.1	74.5	74.6
Vehicle Noise:	74.5	75.1	68.0	67.3	75.7	75.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	140	303	652	1,405
CNEL:	145	312	672	1,447

Monday, October 12, 2020

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAC (2022) Without Ext. | Project Name: DCW3
Road Name: Temescal Canyon Rd. | Job Number: 13627
Road Segment: s/o Dos Lagos Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,710 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	1,118 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	81.35%
Medium Trucks:	84.8%	4.9%	10.3%	6.69%
Heavy Trucks:	86.5%	2.7%	10.8%	11.96%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	57.271
Medium Trucks:	57.117
Heavy Trucks:	57.132

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-2.25	-0.99	-1.20	-4.70	0.000	0.000
Medium Trucks:	79.45	-13.10	-0.97	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-10.58	-0.97	-1.20	-5.31	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.0	64.1	62.4	56.3	64.9	65.5
Medium Trucks:	64.2	64.7	58.3	56.8	65.2	65.5
Heavy Trucks:	71.5	72.1	63.0	64.3	72.7	72.8
Vehicle Noise:	72.9	73.4	66.4	65.6	74.0	74.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	117	253	545	1,174
CNEL:	121	261	562	1,211

Monday, October 12, 2020

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAC (2022) Without Ext. | Project Name: DCW3
Road Name: Temescal Canyon Rd. | Job Number: 13627
Road Segment: s/o Dawson Canyon Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,161 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	1,651 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	0.0 feet
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	81.35%
Medium Trucks:	84.8%	4.9%	10.3%	6.69%
Heavy Trucks:	86.5%	2.7%	10.8%	11.96%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	57.271
Medium Trucks:	57.117
Heavy Trucks:	57.132

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-0.05	-0.99	-1.20	-4.70	0.000	0.000
Medium Trucks:	77.72	-10.90	-0.97	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-8.37	-0.97	-1.20	-5.31	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.3	64.4	62.6	56.6	65.2	65.8
Medium Trucks:	64.6	65.1	58.8	57.2	65.7	65.9
Heavy Trucks:	72.5	73.0	64.0	65.2	73.6	73.7
Vehicle Noise:	73.7	74.2	67.1	66.4	74.8	75.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	133	286	617	1,328
CNEL:	137	295	635	1,369

Monday, October 12, 2020

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAC (2022) Without Ext. | Project Name: DCW3
Road Name: Campbell Ranch Rd. | Job Number: 13627
Road Segment: s/o Temescal Canyon Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,569 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	730 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	0.0 feet
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	81.35%
Medium Trucks:	84.8%	4.9%	10.3%	6.69%
Heavy Trucks:	86.5%	2.7%	10.8%	11.96%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-4.10	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-14.95	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-12.43	-0.60	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.5	62.6	60.9	54.8	63.4	64.0
Medium Trucks:	62.7	63.2	56.8	55.3	63.7	64.0
Heavy Trucks:	70.0	70.6	61.6	62.8	71.2	71.3
Vehicle Noise:	71.4	71.9	65.0	64.1	72.5	72.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	86	186	400	862
CNEL:	89	192	413	890

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAC (2022) Without Ext. | Project Name: DCW3
Road Name: Temescal Canyon Rd. | Job Number: 13627
Road Segment: s/o Dawson Canyon Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,161 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	1,651 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	0.0 feet
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	81.35%
Medium Trucks:	84.8%	4.9%	10.3%	6.69%
Heavy Trucks:	86.5%	2.7%	10.8%	11.96%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	57.271
Medium Trucks:	57.117
Heavy Trucks:	57.132

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-0.05	-0.99	-1.20	-4.70	0.000	0.000
Medium Trucks:	77.72	-10.90	-0.97	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-8.37	-0.97	-1.20	-5.31	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.3	64.4	62.6	56.6	65.2	65.8
Medium Trucks:	64.6	65.1	58.8	57.2	65.7	65.9
Heavy Trucks:	72.5	73.0	64.0	65.2	73.6	73.7
Vehicle Noise:	73.7	74.2	67.1	66.4	74.8	75.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	133	286	617	1,328
CNEL:	137	295	635	1,369

Monday, October 12, 2020

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAC (2022) Without Ext. | Project Name: DCW3
Road Name: Dawson Canyon Rd. | Job Number: 13627
Road Segment: e/o Temescal Canyon Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,184 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	580 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	0.0 feet
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	37.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	81.35%
Medium Trucks:	84.8%	4.9%	10.3%	6.69%
Heavy Trucks:	86.5%	2.7%	10.8%	11.96%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	36.851
Medium Trucks:	36.610
Heavy Trucks:	36.634

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-4.59	1.88	-1.20	-4.56	0.000	0.000
Medium Trucks:	77.72	-15.44	1.93	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-12.92	1.92	-1.20	-5.61	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.6	62.7	60.9	54.9	63.5	64.1
Medium Trucks:	63.0	63.5	57.1	55.6	64.0	64.3
Heavy Trucks:	70.8	71.4	62.3	63.6	71.9	72.1
Vehicle Noise:	72.0	72.5	65.4	64.7	73.1	73.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	60	128	277	596
CNEL:	61	132	285	614

Monday, October 12, 2020

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAPC (2022) Without Ext. | Project Name: DCW3
Road Name: Temescal Canyon Rd. | Job Number: 13627
Road Segment: s/o I-15

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,676 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	737 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	37.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	82.76%
Medium Trucks:	84.8%	4.9%	10.3%	6.18%
Heavy Trucks:	86.5%	2.7%	10.8%	11.06%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	36.851
Medium Trucks:	36.610
Heavy Trucks:	36.634

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-3.47	1.88	-1.20	-4.56	0.000	0.000
Medium Trucks:	77.72	-14.74	1.93	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-12.22	1.92	-1.20	-5.61	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.7	63.8	62.1	56.0	64.6	65.2
Medium Trucks:	63.7	64.2	57.8	56.3	64.7	65.0
Heavy Trucks:	71.5	72.1	63.0	64.3	72.6	72.8
Vehicle Noise:	72.7	73.3	66.3	65.5	73.9	74.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	67	144	310	668
CNEL:	69	149	320	689

Monday, October 12, 2020

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAPC (2022) Without Ext. | Project Name: DCW3
Road Name: Temescal Canyon Rd. | Job Number: 13627
Road Segment: s/o Dos Lagos Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,464 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	1,165 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	82.00%
Medium Trucks:	84.8%	4.9%	10.3%	6.48%
Heavy Trucks:	86.5%	2.7%	10.8%	11.51%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	57.271
Medium Trucks:	57.117
Heavy Trucks:	57.132

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-2.04	-0.99	-1.20	-4.70	0.000	0.000
Medium Trucks:	79.45	-13.06	-0.97	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-10.56	-0.97	-1.20	-5.31	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.2	64.3	62.6	56.5	65.1	65.7
Medium Trucks:	64.2	64.7	58.4	56.8	65.3	65.5
Heavy Trucks:	71.5	72.1	63.1	64.3	72.7	72.8
Vehicle Noise:	72.9	73.4	66.5	65.6	74.0	74.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	118	255	549	1,182
CNEL:	122	263	566	1,220

Monday, October 12, 2020

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAPC (2022) Without Ext. | Project Name: DCW3
Road Name: Temescal Canyon Rd. | Job Number: 13627
Road Segment: s/o Trilogy Pkwy.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,251 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	1,909 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	81.80%
Medium Trucks:	84.8%	4.9%	10.3%	6.52%
Heavy Trucks:	86.5%	2.7%	10.8%	11.67%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	0.61	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	77.72	-10.37	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-7.85	-0.60	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.3	65.4	63.6	57.6	66.2	66.8
Medium Trucks:	65.5	66.0	59.7	58.1	66.6	66.8
Heavy Trucks:	73.3	73.9	64.9	66.1	74.5	74.6
Vehicle Noise:	74.6	75.1	68.0	67.3	75.7	75.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	141	303	653	1,408
CNEL:	145	313	673	1,451

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAPC (2022) Without Ext. | Project Name: DCW3
Road Name: Temescal Canyon Rd. | Job Number: 13627
Road Segment: s/o Dos Lagos Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,464 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	1,165 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	82.00%
Medium Trucks:	84.8%	4.9%	10.3%	6.48%
Heavy Trucks:	86.5%	2.7%	10.8%	11.51%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	57.271
Medium Trucks:	57.117
Heavy Trucks:	57.132

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-2.04	-0.99	-1.20	-4.70	0.000	0.000
Medium Trucks:	79.45	-13.06	-0.97	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-10.56	-0.97	-1.20	-5.31	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.2	64.3	62.6	56.5	65.1	65.7
Medium Trucks:	64.2	64.7	58.4	56.8	65.3	65.5
Heavy Trucks:	71.5	72.1	63.1	64.3	72.7	72.8
Vehicle Noise:	72.9	73.4	66.5	65.6	74.0	74.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	118	255	549	1,182
CNEL:	122	263	566	1,220

Monday, October 12, 2020

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAPC (2022) Without Ext. | Project Name: DCW3
Road Name: Temescal Canyon Rd. | Job Number: 13627
Road Segment: s/o Dawson Canyon Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,736 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	1,750 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	82.34%
Medium Trucks:	84.8%	4.9%	10.3%	6.35%
Heavy Trucks:	86.5%	2.7%	10.8%	11.31%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	57.271
Medium Trucks:	57.117
Heavy Trucks:	57.132

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	0.26	-0.99	-1.20	-4.70	0.000	0.000
Medium Trucks:	77.72	-10.87	-0.97	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-8.36	-0.97	-1.20	-5.31	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.6	64.7	62.9	56.9	65.5	66.1
Medium Trucks:	64.7	65.2	58.8	57.3	65.7	66.0
Heavy Trucks:	72.5	73.0	64.0	65.3	73.6	73.7
Vehicle Noise:	73.7	74.2	67.2	66.4	74.8	75.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	134	288	621	1,338
CNEL:	138	297	640	1,379

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAPC (2022) Without Ext. | Project Name: DCW3
Road Name: Campbell Ranch Rd. | Job Number: 13627
Road Segment: s/o Temescal Canyon Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,863 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	749 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	81.81%
Medium Trucks:	84.8%	4.9%	10.3%	6.52%
Heavy Trucks:	86.5%	2.7%	10.8%	11.67%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-3.97	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-14.95	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-12.43	-0.60	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.7	62.8	61.0	55.0	63.6	64.2
Medium Trucks:	62.7	63.2	56.8	55.3	63.7	64.0
Heavy Trucks:	70.0	70.6	61.6	62.8	71.2	71.3
Vehicle Noise:	71.4	71.9	65.0	64.1	72.5	72.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	86	186	401	865
CNEL:	89	192	414	892

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAPC (2022) Without Ext. | Project Name: DCW3
Road Name: Temescal Canyon Rd. | Job Number: 13627
Road Segment: s/o Dawson Canyon Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,736 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	1,750 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	82.34%
Medium Trucks:	84.8%	4.9%	10.3%	6.35%
Heavy Trucks:	86.5%	2.7%	10.8%	11.31%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	57.271
Medium Trucks:	57.117
Heavy Trucks:	57.132

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	0.26	-0.99	-1.20	-4.70	0.000	0.000
Medium Trucks:	77.72	-10.87	-0.97	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-8.36	-0.97	-1.20	-5.31	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.6	64.7	62.9	56.9	65.5	66.1
Medium Trucks:	64.7	65.2	58.8	57.3	65.7	66.0
Heavy Trucks:	72.5	73.0	64.0	65.3	73.6	73.7
Vehicle Noise:	73.7	74.2	67.2	66.4	74.8	75.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	134	288	621	1,338
CNEL:	138	297	640	1,379

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAPC (2022) Without Ext. | Project Name: DCW3
Road Name: Dawson Canyon Rd. | Job Number: 13627
Road Segment: e/o Temescal Canyon Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,033 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	696 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	37.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	84.48%
Medium Trucks:	84.8%	4.9%	10.3%	5.57%
Heavy Trucks:	86.5%	2.7%	10.8%	9.96%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	36.851
Medium Trucks:	36.610
Heavy Trucks:	36.634

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-3.63	1.88	-1.20	-4.56	0.000	0.000
Medium Trucks:	77.72	-15.44	1.93	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-12.92	1.92	-1.20	-5.61	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.6	63.7	61.9	55.8	64.5	65.1
Medium Trucks:	63.0	63.5	57.1	55.6	64.0	64.3
Heavy Trucks:	70.8	71.4	62.3	63.6	71.9	72.1
Vehicle Noise:	72.1	72.6	65.8	64.8	73.2	73.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	61	131	282	607
CNEL:	63	135	291	626

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAC (2022) With Ext. | Project Name: DCW3
Road Name: Temescal Canyon Rd. | Job Number: 13627
Road Segment: s/o I-15

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,796 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	681 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	37.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	81.35%
Medium Trucks:	84.8%	4.9%	10.3%	6.69%
Heavy Trucks:	86.5%	2.7%	10.8%	11.96%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	36.851
Medium Trucks:	36.610
Heavy Trucks:	36.634

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-3.89	1.88	-1.20	-4.56	0.000	0.000
Medium Trucks:	77.72	-14.74	1.93	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-12.22	1.92	-1.20	-5.61	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.3	63.4	61.6	55.6	64.2	64.8
Medium Trucks:	63.7	64.2	57.8	56.3	64.7	65.0
Heavy Trucks:	71.5	72.1	63.0	64.3	72.6	72.8
Vehicle Noise:	72.7	73.2	66.1	65.4	73.8	74.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	66	143	308	664
CNEL:	68	147	317	684

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAC (2022) With Ext. | Project Name: DCW3
Road Name: Temescal Canyon Rd. | Job Number: 13627
Road Segment: s/o Dos Lagos Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,710 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	1,118 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	81.35%
Medium Trucks:	84.8%	4.9%	10.3%	6.69%
Heavy Trucks:	86.5%	2.7%	10.8%	11.96%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	57.271
Medium Trucks:	57.117
Heavy Trucks:	57.132

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-2.25	-0.99	-1.20	-4.70	0.000	0.000
Medium Trucks:	79.45	-13.10	-0.97	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-10.58	-0.97	-1.20	-5.31	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.0	64.1	62.4	56.3	64.9	65.5
Medium Trucks:	64.2	64.7	58.3	56.8	65.2	65.5
Heavy Trucks:	71.5	72.1	63.0	64.3	72.7	72.8
Vehicle Noise:	72.9	73.4	66.4	65.6	74.0	74.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	117	253	545	1,174
CNEL:	121	261	562	1,211

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAC (2022) With Ext. | Project Name: DCW3
Road Name: Temescal Canyon Rd. | Job Number: 13627
Road Segment: s/o Trilogy Pkwy.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,528 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	1,169 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	81.35%
Medium Trucks:	84.8%	4.9%	10.3%	6.69%
Heavy Trucks:	86.5%	2.7%	10.8%	11.96%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-1.54	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	77.72	-12.40	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-9.87	-0.60	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.1	63.2	61.5	55.4	64.0	64.7
Medium Trucks:	63.5	64.0	57.6	56.1	64.6	64.8
Heavy Trucks:	71.3	71.9	62.9	64.1	72.5	72.6
Vehicle Noise:	72.5	73.0	65.9	65.2	73.6	73.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	103	222	478	1,030
CNEL:	106	229	493	1,061

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAC (2022) With Ext. | Project Name: DCW3
Road Name: Temescal Canyon Rd. | Job Number: 13627
Road Segment: s/o Dos Lagos Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,710 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	1,118 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	81.35%
Medium Trucks:	84.8%	4.9%	10.3%	6.69%
Heavy Trucks:	86.5%	2.7%	10.8%	11.96%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	57.271
Medium Trucks:	57.117
Heavy Trucks:	57.132

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-2.25	-0.99	-1.20	-4.70	0.000	0.000
Medium Trucks:	79.45	-13.10	-0.97	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-10.58	-0.97	-1.20	-5.31	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.0	64.1	62.4	56.3	64.9	65.5
Medium Trucks:	64.2	64.7	58.3	56.8	65.2	65.5
Heavy Trucks:	71.5	72.1	63.0	64.3	72.7	72.8
Vehicle Noise:	72.9	73.4	66.4	65.6	74.0	74.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	117	253	545	1,174
CNEL:	121	261	562	1,211

Monday, October 12, 2020

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAC (2022) With Ext. | Project Name: DCW3
Road Name: Temescal Canyon Rd. | Job Number: 13627
Road Segment: s/o Dawson Canyon Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,383 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	1,665 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	81.35%
Medium Trucks:	84.8%	4.9%	10.3%	6.69%
Heavy Trucks:	86.5%	2.7%	10.8%	11.96%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	57.271
Medium Trucks:	57.117
Heavy Trucks:	57.132

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-0.01	-0.99	-1.20	-4.70	0.000	0.000
Medium Trucks:	77.72	-10.86	-0.97	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-8.33	-0.97	-1.20	-5.31	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.3	64.4	62.6	56.6	65.2	65.8
Medium Trucks:	64.7	65.2	58.8	57.3	65.7	66.0
Heavy Trucks:	72.5	73.1	64.0	65.3	73.6	73.8
Vehicle Noise:	73.7	74.2	67.1	66.4	74.8	75.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	134	288	620	1,336
CNEL:	138	297	639	1,377

Monday, October 12, 2020

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAC (2022) With Ext. | Project Name: DCW3
Road Name: Campbell Ranch Rd. | Job Number: 13627
Road Segment: s/o Temescal Canyon Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,569 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	730 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	81.35%
Medium Trucks:	84.8%	4.9%	10.3%	6.69%
Heavy Trucks:	86.5%	2.7%	10.8%	11.96%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-4.10	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-14.95	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-12.43	-0.60	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.5	62.6	60.9	54.8	63.4	64.0
Medium Trucks:	62.7	63.2	56.8	55.3	63.7	64.0
Heavy Trucks:	70.0	70.6	61.6	62.8	71.2	71.3
Vehicle Noise:	71.4	71.9	65.0	64.1	72.5	72.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	86	186	400	862
CNEL:	89	192	413	890

Monday, October 12, 2020

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAC (2022) With Ext. | Project Name: DCW3
Road Name: Temescal Canyon Rd. | Job Number: 13627
Road Segment: s/o Dawson Canyon Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,383 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	1,665 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	81.35%
Medium Trucks:	84.8%	4.9%	10.3%	6.69%
Heavy Trucks:	86.5%	2.7%	10.8%	11.96%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	57.271
Medium Trucks:	57.117
Heavy Trucks:	57.132

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-0.01	-0.99	-1.20	-4.70	0.000	0.000
Medium Trucks:	77.72	-10.86	-0.97	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-8.33	-0.97	-1.20	-5.31	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.3	64.4	62.6	56.6	65.2	65.8
Medium Trucks:	64.7	65.2	58.8	57.3	65.7	66.0
Heavy Trucks:	72.5	73.1	64.0	65.3	73.6	73.8
Vehicle Noise:	73.7	74.2	67.1	66.4	74.8	75.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	134	288	620	1,336
CNEL:	138	297	639	1,377

Monday, October 12, 2020

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAC (2022) With Ext. | Project Name: DCW3
Road Name: Dawson Canyon Rd. | Job Number: 13627
Road Segment: e/o Temescal Canyon Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,184 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	580 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	37.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	81.35%
Medium Trucks:	84.8%	4.9%	10.3%	6.69%
Heavy Trucks:	86.5%	2.7%	10.8%	11.96%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	36.851
Medium Trucks:	36.610
Heavy Trucks:	36.634

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-4.59	1.88	-1.20	-4.56	0.000	0.000
Medium Trucks:	77.72	-15.44	1.93	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-12.92	1.92	-1.20	-5.61	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.6	62.7	60.9	54.9	63.5	64.1
Medium Trucks:	63.0	63.5	57.1	55.6	64.0	64.3
Heavy Trucks:	70.8	71.4	62.3	63.6	71.9	72.1
Vehicle Noise:	72.0	72.5	65.4	64.7	73.1	73.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	60	128	277	596
CNEL:	61	132	285	614

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAPC (2022) With Ext.
Road Name: Temescal Canyon Rd.
Road Segment: s/o I-15

Project Name: DCW3
Job Number: 13627

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,089 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	700 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	37.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	81.85%
Medium Trucks:	84.8%	4.9%	10.3%	6.51%
Heavy Trucks:	86.5%	2.7%	10.8%	11.64%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	36.851
Medium Trucks:	36.610
Heavy Trucks:	36.634

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-3.75	1.88	-1.20	-4.56	0.000	0.000
Medium Trucks:	77.72	-14.74	1.93	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-12.22	1.92	-1.20	-5.61	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.4	63.6	61.8	55.7	64.4	65.0
Medium Trucks:	63.7	64.2	57.8	56.3	64.7	65.0
Heavy Trucks:	71.5	72.1	63.0	64.3	72.6	72.8
Vehicle Noise:	72.7	73.2	66.2	65.4	73.8	74.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	67	143	309	665
CNEL:	69	148	318	686

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAPC (2022) With Ext.
Road Name: Temescal Canyon Rd.
Road Segment: s/o Dos Lagos Rd.

Project Name: DCW3
Job Number: 13627

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,464 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	1,165 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	82.00%
Medium Trucks:	84.8%	4.9%	10.3%	6.48%
Heavy Trucks:	86.5%	2.7%	10.8%	11.51%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	57.271
Medium Trucks:	57.117
Heavy Trucks:	57.132

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-2.04	-0.99	-1.20	-4.70	0.000	0.000
Medium Trucks:	79.45	-13.06	-0.97	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-10.56	-0.97	-1.20	-5.31	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.2	64.3	62.6	56.5	65.1	65.7
Medium Trucks:	64.2	64.7	58.4	56.8	65.3	65.5
Heavy Trucks:	71.5	72.1	63.1	64.3	72.7	72.8
Vehicle Noise:	72.9	73.4	66.5	65.6	74.0	74.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	118	255	549	1,182
CNEL:	122	263	566	1,220

Monday, October 12, 2020

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAPC (2022) With Ext.
Road Name: Temescal Canyon Rd.
Road Segment: s/o Trilogy Pkwy.

Project Name: DCW3
Job Number: 13627

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,675 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	1,178 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	81.50%
Medium Trucks:	84.8%	4.9%	10.3%	6.63%
Heavy Trucks:	86.5%	2.7%	10.8%	11.87%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-1.50	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	77.72	-12.40	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-9.87	-0.60	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.2	63.3	61.5	55.5	64.1	64.7
Medium Trucks:	63.5	64.0	57.6	56.1	64.6	64.8
Heavy Trucks:	71.3	71.9	62.9	64.1	72.5	72.6
Vehicle Noise:	72.5	73.0	66.0	65.2	73.6	73.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	103	222	478	1,030
CNEL:	106	229	493	1,062

Monday, October 12, 2020

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAPC (2022) With Ext.
Road Name: Temescal Canyon Rd.
Road Segment: s/o Dos Lagos Rd.

Project Name: DCW3
Job Number: 13627

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,464 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	1,165 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	82.00%
Medium Trucks:	84.8%	4.9%	10.3%	6.48%
Heavy Trucks:	86.5%	2.7%	10.8%	11.51%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	57.271
Medium Trucks:	57.117
Heavy Trucks:	57.132

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-2.04	-0.99	-1.20	-4.70	0.000	0.000
Medium Trucks:	79.45	-13.06	-0.97	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-10.56	-0.97	-1.20	-5.31	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.2	64.3	62.6	56.5	65.1	65.7
Medium Trucks:	64.2	64.7	58.4	56.8	65.3	65.5
Heavy Trucks:	71.5	72.1	63.1	64.3	72.7	72.8
Vehicle Noise:	72.9	73.4	66.5	65.6	74.0	74.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	118	255	549	1,182
CNEL:	122	263	566	1,220

Monday, October 12, 2020

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAPC (2022) With Ext. | Project Name: DCW3
Road Name: Temescal Canyon Rd. | Job Number: 13627
Road Segment: s/o Dawson Canyon Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,958 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	1,764 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	82.33%
Medium Trucks:	84.8%	4.9%	10.3%	6.36%
Heavy Trucks:	86.5%	2.7%	10.8%	11.31%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	57.271
Medium Trucks:	57.117
Heavy Trucks:	57.132

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	0.29	-0.99	-1.20	-4.70	0.000	0.000
Medium Trucks:	77.72	-10.83	-0.97	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-8.33	-0.97	-1.20	-5.31	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.6	64.7	63.0	56.9	65.5	66.1
Medium Trucks:	64.7	65.2	58.8	57.3	65.8	66.0
Heavy Trucks:	72.5	73.1	64.0	65.3	73.6	73.8
Vehicle Noise:	73.7	74.2	67.2	66.4	74.8	75.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	135	290	624	1,345
CNEL:	139	299	644	1,387

Monday, October 12, 2020

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAPC (2022) With Ext. | Project Name: DCW3
Road Name: Campbell Ranch Rd. | Job Number: 13627
Road Segment: s/o Temescal Canyon Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,863 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	749 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	81.81%
Medium Trucks:	84.8%	4.9%	10.3%	6.52%
Heavy Trucks:	86.5%	2.7%	10.8%	11.67%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	54.129
Medium Trucks:	53.966
Heavy Trucks:	53.982

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-3.97	-0.62	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-14.95	-0.60	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-12.43	-0.60	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.7	62.8	61.0	55.0	63.6	64.2
Medium Trucks:	62.7	63.2	56.8	55.3	63.7	64.0
Heavy Trucks:	70.0	70.6	61.6	62.8	71.2	71.3
Vehicle Noise:	71.4	71.9	65.0	64.1	72.5	72.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	86	186	401	865
CNEL:	89	192	414	892

Monday, October 12, 2020

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAPC (2022) With Ext. | Project Name: DCW3
Road Name: Temescal Canyon Rd. | Job Number: 13627
Road Segment: s/o Dawson Canyon Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,958 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	1,764 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	64.0 feet
Centerline Dist. to Observer:	64.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	82.33%
Medium Trucks:	84.8%	4.9%	10.3%	6.36%
Heavy Trucks:	86.5%	2.7%	10.8%	11.31%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	57.271
Medium Trucks:	57.117
Heavy Trucks:	57.132

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	0.29	-0.99	-1.20	-4.70	0.000	0.000
Medium Trucks:	77.72	-10.83	-0.97	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-8.33	-0.97	-1.20	-5.31	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.6	64.7	63.0	56.9	65.5	66.1
Medium Trucks:	64.7	65.2	58.8	57.3	65.8	66.0
Heavy Trucks:	72.5	73.1	64.0	65.3	73.6	73.8
Vehicle Noise:	73.7	74.2	67.2	66.4	74.8	75.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	135	290	624	1,345
CNEL:	139	299	644	1,387

Monday, October 12, 2020

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: EAPC (2022) With Ext. | Project Name: DCW3
Road Name: Dawson Canyon Rd. | Job Number: 13627
Road Segment: e/o Temescal Canyon Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,033 vehicles
Peak Hour Percentage:	6.31%
Peak Hour Volume:	696 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	37.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	84.48%
Medium Trucks:	84.8%	4.9%	10.3%	5.57%
Heavy Trucks:	86.5%	2.7%	10.8%	9.96%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	36.851
Medium Trucks:	36.610
Heavy Trucks:	36.634

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-3.63	1.88	-1.20	-4.56	0.000	0.000
Medium Trucks:	77.72	-15.44	1.93	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-12.92	1.92	-1.20	-5.61	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.6	63.7	61.9	55.8	64.5	65.1
Medium Trucks:	63.0	63.5	57.1	55.6	64.0	64.3
Heavy Trucks:	70.8	71.4	62.3	63.6	71.9	72.1
Vehicle Noise:	72.1	72.6	65.8	64.8	73.2	73.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	61	131	282	607
CNEL:	63	135	291	626

Monday, October 12, 2020

APPENDIX 9.1:

CADNAA OPERATIONAL NOISE MODEL INPUTS

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13627 - Temescal Valley Business Park (PAR190052)

CadnaA Noise Prediction Model: 13627_01.cna
Date: 21.10.20
Analyst: S. Shami

Calculation Configuration

Configuration	
Parameter	Value
General	
Country	(user defined)
Max. Error (dB)	0.00
Max. Search Radius (#(Unit,LEN))	2000.01
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section (#(Unit,LEN))	999.99
Min. Length of Section (#(Unit,LEN))	1.01
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
Reference Time Day (min)	960.00
Reference Time Night (min)	480.00
Daytime Penalty (dB)	0.00
Recr. Time Penalty (dB)	5.00
Night-time Penalty (dB)	10.00
DTM	
Standard Height (m)	0.00
Model of Terrain	Triangulation
Reflection	
max. Order of Reflection	2
Search Radius Src	100.00
Search Radius Rcvr	100.00
Max. Distance Source - Rcvr	1000.00 1000.00
Min. Distance Rvcr - Reflector	1.00 1.00
Min. Distance Source - Reflector	0.10
Industrial (ISO 9613)	
Lateral Diffraction	some Obj
Obst. within Area Src do not shield	On
Screening	Incl. Ground Att. over Barrier
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	3.0 20.0 0.0
Temperature (#(Unit,TEMP))	10
rel. Humidity (%)	70
Ground Absorption G	0.50
Wind Speed for Dir. (#(Unit,SPEED))	3.0
Roads (RLS-90)	
Strictly acc. to RLS-90	
Railways (FTA/FRA)	
Aircraft (???)	
Strictly acc. to AzB	

Receiver Noise Levels

Name	M.	ID	Level Lr			Limit. Value			Land Use			Height		Coordinates		
			Day	Night	CNEL	Day	Night	CNEL	Type	Auto	Noise Type			X	Y	Z
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)				(ft)		(ft)	(ft)	(ft)
RECEIVERS		R1	32.8	31.9	38.3	55.0	45.0	0.0				5.00	a	6183839.40	2231226.88	5.00
RECEIVERS		R2	36.4	35.7	42.2	55.0	45.0	0.0				5.00	a	6184217.00	2230062.30	5.00
RECEIVERS		R3	32.4	32.0	38.6	55.0	45.0	0.0				5.00	a	6183500.51	2228344.42	5.00
RECEIVERS		R4	30.4	30.0	36.6	55.0	45.0	0.0				5.00	a	6183906.17	2226981.10	5.00
RECEIVERS		R5	27.6	27.2	33.8	55.0	45.0	0.0				5.00	a	6186729.65	2225120.63	5.00

Point Source(s)

Name	M.	ID	Result. PWL			Lw / Li			Operating Time			K0	Height		Coordinates		
			Day	Evening	Night	Type	Value	norm.	Day	Special	Night				X	Y	Z
			(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	(dB)	(ft)		(ft)	(ft)	(ft)
POINTSOURCE		AC01	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00	g	6185942.37	2230807.62	50.00
POINTSOURCE		AC02	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00	g	6185773.93	2230704.68	50.00
POINTSOURCE		TRASH01	89.0	89.0	89.0	Lw	89.0		75.00	0.00	45.00	0.0	5.00	a	6186338.84	2230211.59	5.00

Line Source(s)

Name	M.	ID	Result. PWL			Result. PWL'			Lw / Li			Operating Time			Moving Pt. Src				Height
			Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Special	Night	Number			Speed	
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	Day	Evening	Night	(mph)	(ft)
LINESOURCE		DWY01	88.1	72.6	79.1	68.2	52.7	59.2	PWL-Pt	89.7					71.0	2.0	9.0	6.2	8

Name	Height				Coordinates			
	Begin		End		x	y	z	Ground
	(ft)		(ft)		(ft)	(ft)	(ft)	(ft)
LINESOURCE	8.00	a			6185922.64	2229853.50	8.00	0.00
					6186196.80	2230019.75	8.00	0.00

Area Source(s)

Name	M.	ID	Result. PWL			Result. PWL''			Lw / Li			Operating Time			Height
			Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Special	Night	(ft)
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	
AREASOURCE		DOCK01	103.4	103.4	103.4	66.5	66.5	66.5	Lw	103.4					8
AREASOURCE		DELIVERY01	101.2	101.2	101.2	65.5	65.5	65.5	Lw	101.2		900.00	0.00	540.00	5
AREASOURCE		DELIVERY02	101.2	101.2	101.2	65.5	65.5	65.5	Lw	101.2		900.00	0.00	540.00	5

Name	Height				Coordinates			
	Begin		End		x	y	z	Ground
	(ft)		(ft)		(ft)	(ft)	(ft)	(ft)
AREASOURCE	8.00	a			6186134.79	2230112.57	8.00	0.00
					6186344.07	2230242.82	8.00	0.00
					6186377.60	2230190.55	8.00	0.00
					6186380.49	2230187.46	8.00	0.00
					6186385.43	2230185.19	8.00	0.00
					6186391.00	2230184.16	8.00	0.00
					6186394.50	2230184.16	8.00	0.00
					6186400.27	2230184.98	8.00	0.00
					6186441.69	2230211.16	8.00	0.00
					6186447.05	2230213.22	8.00	0.00
					6186451.58	2230214.66	8.00	0.00
					6186456.53	2230216.10	8.00	0.00
					6186461.89	2230216.31	8.00	0.00
					6186466.21	2230216.31	8.00	0.00
					6186472.81	2230215.48	8.00	0.00
					6186478.37	2230214.04	8.00	0.00
					6186482.29	2230212.80	8.00	0.00
					6186486.41	2230211.16	8.00	0.00
					6186493.01	2230207.45	8.00	0.00
					6186497.33	2230204.15	8.00	0.00
					6186500.84	2230201.06	8.00	0.00
					6186505.16	2230196.11	8.00	0.00
					6186508.05	2230191.17	8.00	0.00
					6186510.73	2230187.04	8.00	0.00
					6186512.58	2230182.10	8.00	0.00
					6186514.23	2230175.50	8.00	0.00
					6186515.26	2230168.70	8.00	0.00
					6186515.26	2230161.90	8.00	0.00
					6186513.82	2230153.66	8.00	0.00
					6186512.17	2230148.09	8.00	0.00
					6186509.49	2230142.32	8.00	0.00
					6186505.99	2230136.14	8.00	0.00
					6186500.84	2230130.78	8.00	0.00
					6186494.65	2230125.84	8.00	0.00
					6186488.68	2230122.33	8.00	0.00
					6186483.94	2230120.48	8.00	0.00
					6186478.17	2230119.04	8.00	0.00
					6186472.60	2230118.01	8.00	0.00
					6186467.25	2230117.80	8.00	0.00
					6186460.86	2230118.42	8.00	0.00
					6186454.26	2230119.24	8.00	0.00
					6186448.90	2230121.10	8.00	0.00
					6186443.96	2230123.16	8.00	0.00
					6186441.49	2230124.60	8.00	0.00
					6186438.39	2230126.04	8.00	0.00
					6186435.71	2230126.66	8.00	0.00
					6186431.80	2230126.66	8.00	0.00
					6186428.71	2230126.66	8.00	0.00
					6186424.38	2230126.46	8.00	0.00
					6186421.29	2230126.04	8.00	0.00
					6186417.79	2230124.81	8.00	0.00
					6186414.28	2230123.16	8.00	0.00
					6186410.78	2230119.45	8.00	0.00
					6186408.31	2230115.95	8.00	0.00
					6186407.28	2230113.27	8.00	0.00
					6186406.45	2230109.15	8.00	0.00
					6186406.45	2230105.85	8.00	0.00
					6186407.07	2230101.93	8.00	0.00
					6186429.53	2230067.72	8.00	0.00
					6186300.32	2229986.32	8.00	0.00
					6186282.80	2230011.88	8.00	0.00
					6186279.09	2230014.35	8.00	0.00

Name	Height				Coordinates			
	Begin		End		x	y	z	Ground
	(ft)		(ft)		(ft)	(ft)	(ft)	(ft)
					6186276.62	2230015.58	8.00	0.00
					6186274.15	2230016.61	8.00	0.00
					6186271.06	2230017.03	8.00	0.00
					6186268.58	2230017.03	8.00	0.00
					6186265.29	2230016.41	8.00	0.00
					6186263.02	2230016.41	8.00	0.00
					6186218.30	2229987.56	8.00	0.00
AREASOURCE	5.00	a			6185944.72	2230850.04	5.00	0.00
					6185991.55	2230879.27	5.00	0.00
					6186390.89	2230270.03	5.00	0.00
					6186344.07	2230242.82	5.00	0.00
AREASOURCE	5.00	a			6185736.37	2230718.69	5.00	0.00
					6186134.79	2230112.57	5.00	0.00
					6186089.38	2230081.49	5.00	0.00
					6185689.87	2230691.06	5.00	0.00

Building(s)

Name	M.	ID	RB	Residents	Absorption	Height		Coordinates			
						Begin		x	y	z	Ground
						(ft)		(ft)	(ft)	(ft)	(ft)
BUILDING		BUILDING00001	x	0		45.00	a	6185736.37	2230718.69	45.00	0.00
								6185944.72	2230850.04	45.00	0.00
								6186344.07	2230242.82	45.00	0.00
								6186134.79	2230112.57	45.00	0.00

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APPENDIX 10.1:

CADNAA CONSTRUCTION NOISE MODEL INPUTS

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13627 - Temescal Valley Business Park (PAR190052)

CadnaA Noise Prediction Model: 13627-09_Construction.cna
Date: 27.04.21
Analyst: S. Shami

Calculation Configuration

Configuration	
Parameter	Value
General	
Country	(user defined)
Max. Error (dB)	0.00
Max. Search Radius (#(Unit,LEN))	2000.01
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section (#(Unit,LEN))	999.99
Min. Length of Section (#(Unit,LEN))	1.01
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
Reference Time Day (min)	960.00
Reference Time Night (min)	480.00
Daytime Penalty (dB)	0.00
Recr. Time Penalty (dB)	5.00
Night-time Penalty (dB)	10.00
DTM	
Standard Height (m)	0.00
Model of Terrain	Triangulation
Reflection	
max. Order of Reflection	2
Search Radius Src	100.00
Search Radius Rcvr	100.00
Max. Distance Source - Rcvr	1000.00 1000.00
Min. Distance Rvcr - Reflector	1.00 1.00
Min. Distance Source - Reflector	0.10
Industrial (ISO 9613)	
Lateral Diffraction	some Obj
Obst. within Area Src do not shield	On
Screening	Incl. Ground Att. over Barrier
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	3.0 20.0 0.0
Temperature (#(Unit,TEMP))	10
rel. Humidity (%)	70
Ground Absorption G	0.50
Wind Speed for Dir. (#(Unit,SPEED))	3.0
Roads (RLS-90)	
Strictly acc. to RLS-90	
Railways (FTA/FRA)	
Aircraft (???)	
Strictly acc. to AzB	

Receiver Noise Levels

Name	M.	ID	Level Lr			Limit. Value			Land Use			Height		Coordinates		
			Day	Night	CNEL	Day	Night	CNEL	Type	Auto	Noise Type			X	Y	Z
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)				(ft)		(ft)	(ft)	(ft)
RECEIVERS		R1	58.9	58.9	65.6	55.0	45.0	0.0				5.00	a	6183839.40	2231226.88	5.00
RECEIVERS		R2	61.2	61.2	67.8	55.0	45.0	0.0				5.00	a	6184217.00	2230062.30	5.00
RECEIVERS		R3	56.3	56.3	62.9	55.0	45.0	0.0				5.00	a	6183500.51	2228344.42	5.00
RECEIVERS		R4	54.5	54.5	61.2	55.0	45.0	0.0				5.00	a	6183906.17	2226981.10	5.00
RECEIVERS		R5	51.9	51.9	58.5	55.0	45.0	0.0				5.00	a	6186729.65	2225120.63	5.00

Area Source(s)

Name	M.	ID	Result. PWL			Result. PWL"			Lw / Li			Operating Time			Height
			Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Special	Night	(ft)
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	
CONSTRUCTION		0	117.4	117.4	117.4	75.3	75.3	75.3	Lw"	75.3					8
CONSTRUCTION		0	114.6	114.6	114.6	75.3	75.3	75.3	Lw"	75.3					8
CONSTRUCTION		0	120.3	120.3	120.3	75.3	75.3	75.3	Lw"	75.3					8
CONSTRUCTION		0	104.9	104.9	104.9	75.3	75.3	75.3	Lw"	75.3					8
CONSTRUCTION		0	127.9	127.9	127.9	75.3	75.3	75.3	Lw"	75.3					8
CONSTRUCTION		0	112.7	112.7	112.7	75.3	75.3	75.3	Lw"	75.3					8

Name	Height				Coordinates			
	Begin		End		x	y	z	Ground
	(ft)		(ft)		(ft)	(ft)	(ft)	(ft)
CONSTRUCTION	8.00	a			6185889.69	2231146.91	8.00	0.00

Name	Height		Coordinates			
	Begin	End	x	y	z	Ground
	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
			6185857.00	2231124.64	8.00	0.00
			6185856.95	2231124.69	8.00	0.00
			6185856.68	2231124.51	8.00	0.00
			6185856.73	2231124.45	8.00	0.00
			6185767.31	2231063.52	8.00	0.00
			6185756.49	2231079.41	8.00	0.00
			6185755.35	2231078.92	8.00	0.00
			6185755.05	2231079.37	8.00	0.00
			6185661.15	2231039.58	8.00	0.00
			6185639.18	2231024.61	8.00	0.00
			6185589.89	2230991.02	8.00	0.00
			6185363.66	2230836.86	8.00	0.00
			6185333.38	2230726.67	8.00	0.00
			6185328.88	2230710.31	8.00	0.00
			6185567.93	2230359.51	8.00	0.00
			6185738.90	2230108.46	8.00	0.00
			6185852.64	2229889.47	8.00	0.00
			6185937.75	2229663.50	8.00	0.00
			6185912.53	2229703.14	8.00	0.00
			6185894.23	2229731.64	8.00	0.00
			6185885.72	2229744.41	8.00	0.00
			6185883.83	2229746.94	8.00	0.00
			6185881.69	2229749.26	8.00	0.00
			6185879.31	2229751.34	8.00	0.00
			6185876.73	2229753.16	8.00	0.00
			6185873.97	2229754.70	8.00	0.00
			6185871.06	2229755.94	8.00	0.00
			6185868.04	2229756.87	8.00	0.00
			6185864.94	2229757.47	8.00	0.00
			6185861.79	2229757.75	8.00	0.00
			6185858.63	2229757.69	8.00	0.00
			6185855.50	2229757.30	8.00	0.00
			6185852.42	2229756.58	8.00	0.00
			6185849.43	2229755.55	8.00	0.00
			6185846.57	2229754.20	8.00	0.00
			6185843.87	2229752.56	8.00	0.00
			6185839.68	2229749.71	8.00	0.00
			6185832.97	2229744.56	8.00	0.00
			6185826.87	2229738.68	8.00	0.00
			6185821.48	2229732.16	8.00	0.00
			6185816.86	2229725.07	8.00	0.00
			6185813.07	2229717.51	8.00	0.00
			6185810.15	2229709.56	8.00	0.00
			6185808.15	2229701.34	8.00	0.00
			6185807.08	2229692.94	8.00	0.00
			6185806.97	2229684.48	8.00	0.00
			6185807.81	2229676.06	8.00	0.00
			6185809.60	2229667.79	8.00	0.00
			6185886.73	2229387.96	8.00	0.00
			6185838.53	2229374.67	8.00	0.00
			6185761.39	2229654.50	8.00	0.00
			6185758.42	2229668.29	8.00	0.00
			6185757.02	2229682.32	8.00	0.00
			6185757.20	2229696.43	8.00	0.00
			6185758.98	2229710.42	8.00	0.00
			6185762.32	2229724.12	8.00	0.00
			6185767.18	2229737.36	8.00	0.00
			6185773.50	2229749.97	8.00	0.00
			6185781.21	2229761.79	8.00	0.00
			6185790.19	2229772.66	8.00	0.00
			6185800.34	2229782.45	8.00	0.00
			6185811.54	2229791.03	8.00	0.00
			6185816.06	2229794.11	8.00	0.00
			6185818.56	2229796.01	8.00	0.00
			6185820.84	2229798.17	8.00	0.00
			6185822.89	2229800.55	8.00	0.00
			6185824.68	2229803.13	8.00	0.00
			6185826.19	2229805.88	8.00	0.00
			6185827.41	2229808.77	8.00	0.00
			6185828.31	2229811.78	8.00	0.00
			6185828.89	2229814.87	8.00	0.00
			6185829.15	2229818.00	8.00	0.00
			6185829.09	2229821.14	8.00	0.00
			6185828.69	2229824.25	8.00	0.00
			6185827.97	2229827.31	8.00	0.00
			6185826.93	2229830.27	8.00	0.00
			6185825.59	2229833.11	8.00	0.00

Name	Height				Coordinates			
	Begin		End		x	y	z	Ground
	(ft)		(ft)		(ft)	(ft)	(ft)	(ft)
					6185823.96	2229835.80	8.00	0.00
					6185216.88	2230727.19	8.00	0.00
					6185215.32	2230729.29	8.00	0.00
					6185213.62	2230731.27	8.00	0.00
					6185211.77	2230733.13	8.00	0.00
					6185209.79	2230734.83	8.00	0.00
					6185207.68	2230736.39	8.00	0.00
					6185205.47	2230737.78	8.00	0.00
					6185202.35	2230739.38	8.00	0.00
					6185199.09	2230740.66	8.00	0.00
					6185195.72	2230741.61	8.00	0.00
					6185192.26	2230742.22	8.00	0.00
					6185188.77	2230742.47	8.00	0.00
					6185185.27	2230742.38	8.00	0.00
					6185164.52	2230769.85	8.00	0.00
					6185166.21	2230773.35	8.00	0.00
					6185167.50	2230777.01	8.00	0.00
					6185168.38	2230780.79	8.00	0.00
					6185168.84	2230784.64	8.00	0.00
					6185168.87	2230788.52	8.00	0.00
					6185168.47	2230792.38	8.00	0.00
					6185237.92	2230855.91	8.00	0.00
					6185241.39	2230854.26	8.00	0.00
					6185245.01	2230853.00	8.00	0.00
					6185248.75	2230852.14	8.00	0.00
					6185252.56	2230851.70	8.00	0.00
					6185256.40	2230851.68	8.00	0.00
					6185260.22	2230852.08	8.00	0.00
					6185263.97	2230852.90	8.00	0.00
					6185267.61	2230854.12	8.00	0.00
					6185271.09	2230855.73	8.00	0.00
					6185274.38	2230857.71	8.00	0.00
					6185362.66	2230905.74	8.00	0.00
					6185844.33	2231233.78	8.00	0.00
					6185872.31	2231194.44	8.00	0.00
					6185871.00	2231191.97	8.00	0.00
					6185869.98	2231189.38	8.00	0.00
					6185869.25	2231186.68	8.00	0.00
					6185868.82	2231183.92	8.00	0.00
					6185868.71	2231181.13	8.00	0.00
					6185868.91	2231178.35	8.00	0.00
					6185869.41	2231175.61	8.00	0.00
					6185870.22	2231172.93	8.00	0.00
					6185871.32	2231170.37	8.00	0.00
					6185872.70	2231167.94	8.00	0.00
					6185874.35	2231165.69	8.00	0.00
CONSTRUCTION	8.00	a			6186831.66	2230727.95	8.00	0.00
					6186838.01	2230731.73	8.00	0.00
					6186841.77	2230736.99	8.00	0.00
					6186842.26	2230739.31	8.00	0.00
					6186842.86	2230742.08	8.00	0.00
					6186841.11	2230746.97	8.00	0.00
					6186839.29	2230751.86	8.00	0.00
					6186838.87	2230756.84	8.00	0.00
					6186838.88	2230761.86	8.00	0.00
					6186838.67	2230766.85	8.00	0.00
					6186836.66	2230771.73	8.00	0.00
					6186834.65	2230776.61	8.00	0.00
					6186832.58	2230781.48	8.00	0.00
					6186830.43	2230786.35	8.00	0.00
					6186828.89	2230791.26	8.00	0.00
					6186828.09	2230796.22	8.00	0.00
					6186830.48	2230801.39	8.00	0.00
					6186833.82	2230806.62	8.00	0.00
					6186834.09	2230807.13	8.00	0.00
					6186833.72	2230811.62	8.00	0.00
					6186833.27	2230816.60	8.00	0.00
					6186833.19	2230821.61	8.00	0.00
					6186833.53	2230826.64	8.00	0.00
					6186833.62	2230831.66	8.00	0.00
					6186833.70	2230836.68	8.00	0.00
					6186834.71	2230841.76	8.00	0.00
					6186841.58	2230859.78	8.00	0.00
					6186846.90	2230854.67	8.00	0.00
					6186857.12	2230843.97	8.00	0.00
					6186865.08	2230836.41	8.00	0.00
					6186871.69	2230835.01	8.00	0.00

Name	Height		Coordinates			
	Begin	End	x	y	z	Ground
	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
			6186876.42	2230831.83	8.00	0.00
			6186879.00	2230825.04	8.00	0.00
			6186887.95	2230817.09	8.00	0.00
			6186905.38	2230806.13	8.00	0.00
			6186911.39	2230799.31	8.00	0.00
			6186914.49	2230794.83	8.00	0.00
			6186915.09	2230788.47	8.00	0.00
			6186911.46	2230778.99	8.00	0.00
			6186914.17	2230777.30	8.00	0.00
			6186919.30	2230780.28	8.00	0.00
			6186923.88	2230784.82	8.00	0.00
			6186931.72	2230787.79	8.00	0.00
			6186942.08	2230787.29	8.00	0.00
			6186955.26	2230778.08	8.00	0.00
			6186966.02	2230765.40	8.00	0.00
			6186973.74	2230751.83	8.00	0.00
			6186983.28	2230733.16	8.00	0.00
			6186984.42	2230726.43	8.00	0.00
			6186994.88	2230718.41	8.00	0.00
			6187004.82	2230714.05	8.00	0.00
			6187016.35	2230709.99	8.00	0.00
			6187016.30	2230709.66	8.00	0.00
			6187016.90	2230709.72	8.00	0.00
			6187017.59	2230709.71	8.00	0.00
			6187018.28	2230709.70	8.00	0.00
			6187018.97	2230709.68	8.00	0.00
			6187020.01	2230709.64	8.00	0.00
			6187021.00	2230709.59	8.00	0.00
			6187021.72	2230709.54	8.00	0.00
			6187022.42	2230709.49	8.00	0.00
			6187023.06	2230709.43	8.00	0.00
			6187023.11	2230709.43	8.00	0.00
			6187023.80	2230709.36	8.00	0.00
			6187024.49	2230709.29	8.00	0.00
			6187025.18	2230709.21	8.00	0.00
			6187025.87	2230709.12	8.00	0.00
			6187026.55	2230709.03	8.00	0.00
			6187027.24	2230708.92	8.00	0.00
			6187027.92	2230708.82	8.00	0.00
			6187028.61	2230708.70	8.00	0.00
			6187029.17	2230708.60	8.00	0.00
			6187029.28	2230708.56	8.00	0.00
			6187029.96	2230708.39	8.00	0.00
			6187030.64	2230708.26	8.00	0.00
			6187031.31	2230708.11	8.00	0.00
			6187031.98	2230707.94	8.00	0.00
			6187032.65	2230707.77	8.00	0.00
			6187033.32	2230707.59	8.00	0.00
			6187033.98	2230707.41	8.00	0.00
			6187034.65	2230707.22	8.00	0.00
			6187035.15	2230707.07	8.00	0.00
			6187035.31	2230707.02	8.00	0.00
			6187035.96	2230706.81	8.00	0.00
			6187036.62	2230706.60	8.00	0.00
			6187037.27	2230706.39	8.00	0.00
			6187037.92	2230706.16	8.00	0.00
			6187038.57	2230705.93	8.00	0.00
			6187039.21	2230705.70	8.00	0.00
			6187039.85	2230705.46	8.00	0.00
			6187040.49	2230705.21	8.00	0.00
			6187040.96	2230705.02	8.00	0.00
			6187041.33	2230704.87	8.00	0.00
			6187041.78	2230704.68	8.00	0.00
			6187042.38	2230704.43	8.00	0.00
			6187043.00	2230704.16	8.00	0.00
			6187043.62	2230703.88	8.00	0.00
			6187044.41	2230703.52	8.00	0.00
			6187045.41	2230703.05	8.00	0.00
			6187046.06	2230702.75	8.00	0.00
			6187046.52	2230702.53	8.00	0.00
			6187046.68	2230702.46	8.00	0.00
			6187047.28	2230702.16	8.00	0.00
			6187047.88	2230701.86	8.00	0.00
			6187048.48	2230701.56	8.00	0.00
			6187049.07	2230701.25	8.00	0.00
			6187049.65	2230700.93	8.00	0.00
			6187050.24	2230700.61	8.00	0.00

Name	Height		Coordinates			
	Begin	End	x	y	z	Ground
	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
			6187050.82	2230700.28	8.00	0.00
			6187051.39	2230699.95	8.00	0.00
			6187051.88	2230699.66	8.00	0.00
			6187051.96	2230699.61	8.00	0.00
			6187052.53	2230699.27	8.00	0.00
			6187053.09	2230698.93	8.00	0.00
			6187053.84	2230698.45	8.00	0.00
			6187054.23	2230698.20	8.00	0.00
			6187054.74	2230697.86	8.00	0.00
			6187055.29	2230697.49	8.00	0.00
			6187055.82	2230697.12	8.00	0.00
			6187056.35	2230696.74	8.00	0.00
			6187056.88	2230696.36	8.00	0.00
			6187057.03	2230696.26	8.00	0.00
			6187057.40	2230695.98	8.00	0.00
			6187057.92	2230695.59	8.00	0.00
			6187058.61	2230695.06	8.00	0.00
			6187051.78	2230684.50	8.00	0.00
			6187053.15	2230673.51	8.00	0.00
			6187050.65	2230673.43	8.00	0.00
			6187044.99	2230673.24	8.00	0.00
			6187041.33	2230673.12	8.00	0.00
			6187034.32	2230668.67	8.00	0.00
			6187033.35	2230668.95	8.00	0.00
			6187030.19	2230669.02	8.00	0.00
			6187031.26	2230676.85	8.00	0.00
			6187027.90	2230676.53	8.00	0.00
			6187024.64	2230675.84	8.00	0.00
			6187021.23	2230675.86	8.00	0.00
			6187017.87	2230676.28	8.00	0.00
			6187014.82	2230676.75	8.00	0.00
			6187011.70	2230677.14	8.00	0.00
			6187008.55	2230677.22	8.00	0.00
			6187005.34	2230677.26	8.00	0.00
			6187006.42	2230668.16	8.00	0.00
			6187003.25	2230666.52	8.00	0.00
			6187000.11	2230664.72	8.00	0.00
			6186997.06	2230662.58	8.00	0.00
			6186993.91	2230659.91	8.00	0.00
			6186991.03	2230656.83	8.00	0.00
			6186988.72	2230653.64	8.00	0.00
			6186987.25	2230650.34	8.00	0.00
			6186986.24	2230647.26	8.00	0.00
			6186985.53	2230644.15	8.00	0.00
			6186985.16	2230641.04	8.00	0.00
			6186985.07	2230637.98	8.00	0.00
			6186985.24	2230634.97	8.00	0.00
			6186985.29	2230634.54	8.00	0.00
			6186985.86	2230628.70	8.00	0.00
			6186988.49	2230624.67	8.00	0.00
			6187040.07	2230621.79	8.00	0.00
			6187234.10	2230620.30	8.00	0.00
			6187248.61	2230620.08	8.00	0.00
			6187263.12	2230619.66	8.00	0.00
			6187277.62	2230619.03	8.00	0.00
			6187292.10	2230618.19	8.00	0.00
			6187306.58	2230617.14	8.00	0.00
			6187321.03	2230615.89	8.00	0.00
			6187467.95	2230602.08	8.00	0.00
			6187486.97	2230600.11	8.00	0.00
			6187505.96	2230597.78	8.00	0.00
			6187524.90	2230595.09	8.00	0.00
			6187543.78	2230592.05	8.00	0.00
			6187562.60	2230588.65	8.00	0.00
			6187581.36	2230584.89	8.00	0.00
			6187729.69	2230553.72	8.00	0.00
			6187748.00	2230550.05	8.00	0.00
			6187766.37	2230546.73	8.00	0.00
			6187784.81	2230543.76	8.00	0.00
			6187803.30	2230541.13	8.00	0.00
			6187821.84	2230538.86	8.00	0.00
			6187840.41	2230536.94	8.00	0.00
			6188379.09	2230486.30	8.00	0.00
			6188376.85	2230462.41	8.00	0.00
			6188361.78	2230463.83	8.00	0.00
			6188276.66	2230471.83	8.00	0.00
			6187838.16	2230513.03	8.00	0.00

Name	Height				Coordinates			
	Begin		End		x	y	z	Ground
	(ft)		(ft)		(ft)	(ft)	(ft)	(ft)
					6187819.14	2230515.00	8.00	0.00
					6187800.15	2230517.33	8.00	0.00
					6187781.21	2230520.02	8.00	0.00
					6187762.33	2230523.07	8.00	0.00
					6187743.51	2230526.47	8.00	0.00
					6187724.75	2230530.23	8.00	0.00
					6187576.43	2230561.40	8.00	0.00
					6187558.11	2230565.07	8.00	0.00
					6187539.74	2230568.39	8.00	0.00
					6187521.30	2230571.36	8.00	0.00
					6187502.81	2230573.99	8.00	0.00
					6187484.28	2230576.26	8.00	0.00
					6187465.70	2230578.19	8.00	0.00
					6187318.79	2230591.99	8.00	0.00
					6187304.67	2230593.22	8.00	0.00
					6187290.54	2230594.24	8.00	0.00
					6187276.40	2230595.06	8.00	0.00
					6187262.25	2230595.68	8.00	0.00
					6187248.09	2230596.09	8.00	0.00
					6187233.92	2230596.30	8.00	0.00
					6187078.64	2230597.49	8.00	0.00
					6187013.17	2230598.35	8.00	0.00
					6187001.64	2230599.27	8.00	0.00
					6187005.54	2230537.64	8.00	0.00
					6187004.46	2230537.69	8.00	0.00
					6187000.66	2230585.88	8.00	0.00
					6186980.68	2230586.07	8.00	0.00
					6186956.73	2230587.13	8.00	0.00
					6186932.83	2230589.00	8.00	0.00
					6186909.00	2230591.69	8.00	0.00
					6186885.29	2230595.20	8.00	0.00
					6186861.71	2230599.52	8.00	0.00
					6186820.04	2230609.56	8.00	0.00
					6186778.40	2230619.59	8.00	0.00
					6186696.89	2230646.00	8.00	0.00
					6186617.63	2230678.57	8.00	0.00
					6186541.11	2230717.13	8.00	0.00
					6186467.77	2230761.44	8.00	0.00
					6186398.04	2230811.25	8.00	0.00
					6186317.76	2230882.87	8.00	0.00
					6186256.74	2230937.29	8.00	0.00
					6186256.67	2230948.64	8.00	0.00
					6186502.00	2230786.11	8.00	0.00
					6186583.67	2230737.49	8.00	0.00
					6186669.63	2230696.94	8.00	0.00
					6186759.09	2230664.84	8.00	0.00
					6186832.87	2230646.14	8.00	0.00
					6186833.12	2230651.35	8.00	0.00
					6186831.76	2230651.65	8.00	0.00
					6186829.63	2230652.14	8.00	0.00
					6186828.85	2230655.96	8.00	0.00
					6186827.88	2230660.90	8.00	0.00
					6186826.79	2230665.84	8.00	0.00
					6186825.59	2230670.77	8.00	0.00
					6186824.39	2230675.70	8.00	0.00
					6186823.21	2230680.64	8.00	0.00
					6186822.32	2230684.42	8.00	0.00
					6186822.05	2230685.57	8.00	0.00
					6186820.89	2230690.50	8.00	0.00
					6186819.72	2230695.44	8.00	0.00
					6186818.39	2230700.36	8.00	0.00
					6186816.70	2230705.26	8.00	0.00
					6186815.43	2230710.18	8.00	0.00
					6186814.65	2230713.28	8.00	0.00
					6186814.35	2230715.12	8.00	0.00
					6186816.07	2230720.25	8.00	0.00
					6186828.53	2230726.09	8.00	0.00
CONSTRUCTION	8.00	a			6186076.14	2229296.05	8.00	0.00
					6186107.03	2229296.12	8.00	0.00
					6186141.75	2229296.21	8.00	0.00
					6186242.43	2229296.46	8.00	0.00
					6186267.86	2229296.52	8.00	0.00
					6186401.64	2229296.86	8.00	0.00
					6186458.49	2229297.00	8.00	0.00
					6186459.24	2229297.00	8.00	0.00
					6186459.52	2229297.00	8.00	0.00
					6186662.46	2229297.50	8.00	0.00

Name	Height		Coordinates			
	Begin	End	x	y	z	Ground
	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
			6186662.54	2229297.68	8.00	0.00
			6186663.35	2229297.67	8.00	0.00
			6186658.96	2229289.39	8.00	0.00
			6186656.61	2229284.97	8.00	0.00
			6186654.27	2229280.56	8.00	0.00
			6186651.93	2229276.14	8.00	0.00
			6186649.59	2229271.72	8.00	0.00
			6186647.24	2229267.31	8.00	0.00
			6186644.90	2229262.89	8.00	0.00
			6186642.56	2229258.47	8.00	0.00
			6186640.21	2229254.05	8.00	0.00
			6186637.87	2229249.64	8.00	0.00
			6186635.53	2229245.22	8.00	0.00
			6186633.19	2229240.80	8.00	0.00
			6186630.84	2229236.39	8.00	0.00
			6186628.50	2229231.97	8.00	0.00
			6186626.16	2229227.55	8.00	0.00
			6186623.82	2229223.13	8.00	0.00
			6186621.47	2229218.72	8.00	0.00
			6186619.13	2229214.30	8.00	0.00
			6186616.79	2229209.88	8.00	0.00
			6186614.44	2229205.47	8.00	0.00
			6186612.10	2229201.05	8.00	0.00
			6186609.76	2229196.63	8.00	0.00
			6186607.42	2229192.21	8.00	0.00
			6186605.07	2229187.80	8.00	0.00
			6186602.73	2229183.38	8.00	0.00
			6186600.39	2229178.96	8.00	0.00
			6186598.04	2229174.55	8.00	0.00
			6186595.70	2229170.13	8.00	0.00
			6186593.36	2229165.71	8.00	0.00
			6186591.02	2229161.29	8.00	0.00
			6186588.67	2229156.88	8.00	0.00
			6186586.33	2229152.46	8.00	0.00
			6186583.99	2229148.04	8.00	0.00
			6186581.65	2229143.63	8.00	0.00
			6186579.30	2229139.21	8.00	0.00
			6186576.96	2229134.79	8.00	0.00
			6186574.62	2229130.37	8.00	0.00
			6186572.27	2229125.96	8.00	0.00
			6186569.93	2229121.54	8.00	0.00
			6186567.59	2229117.12	8.00	0.00
			6186565.25	2229112.70	8.00	0.00
			6186562.90	2229108.29	8.00	0.00
			6186560.56	2229103.87	8.00	0.00
			6186558.22	2229099.45	8.00	0.00
			6186555.87	2229095.04	8.00	0.00
			6186553.53	2229090.62	8.00	0.00
			6186551.19	2229086.20	8.00	0.00
			6186548.85	2229081.78	8.00	0.00
			6186546.50	2229077.37	8.00	0.00
			6186544.16	2229072.95	8.00	0.00
			6186541.82	2229068.53	8.00	0.00
			6186539.48	2229064.12	8.00	0.00
			6186537.13	2229059.70	8.00	0.00
			6186534.79	2229055.28	8.00	0.00
			6186532.45	2229050.86	8.00	0.00
			6186530.10	2229046.45	8.00	0.00
			6186527.76	2229042.03	8.00	0.00
			6186525.42	2229037.61	8.00	0.00
			6186523.08	2229033.20	8.00	0.00
			6186520.73	2229028.78	8.00	0.00
			6186518.39	2229024.36	8.00	0.00
			6186516.05	2229019.94	8.00	0.00
			6186513.70	2229015.53	8.00	0.00
			6186511.36	2229011.11	8.00	0.00
			6186509.02	2229006.69	8.00	0.00
			6186506.68	2229002.28	8.00	0.00
			6186504.33	2228997.86	8.00	0.00
			6186501.99	2228993.44	8.00	0.00
			6186499.65	2228989.02	8.00	0.00
			6186497.31	2228984.61	8.00	0.00
			6186494.96	2228980.19	8.00	0.00
			6186492.52	2228975.58	8.00	0.00
			6186488.10	2228967.25	8.00	0.00
			6186483.47	2228958.49	8.00	0.00
			6186479.29	2228950.41	8.00	0.00

Name	Height		Coordinates			
	Begin	End	x	y	z	Ground
	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
			6186475.19	2228942.30	8.00	0.00
			6186471.17	2228934.14	8.00	0.00
			6186467.38	2228926.24	8.00	0.00
			6186467.17	2228925.80	8.00	0.00
			6186463.26	2228917.44	8.00	0.00
			6186461.53	2228913.65	8.00	0.00
			6186457.77	2228905.29	8.00	0.00
			6186454.13	2228896.96	8.00	0.00
			6186450.58	2228888.59	8.00	0.00
			6186447.11	2228880.19	8.00	0.00
			6186443.70	2228871.71	8.00	0.00
			6186442.08	2228867.58	8.00	0.00
			6186438.80	2228859.03	8.00	0.00
			6186435.63	2228850.51	8.00	0.00
			6186432.54	2228841.96	8.00	0.00
			6186429.54	2228833.38	8.00	0.00
			6186426.63	2228824.76	8.00	0.00
			6186423.80	2228816.12	8.00	0.00
			6186421.07	2228807.45	8.00	0.00
			6186418.42	2228798.76	8.00	0.00
			6186415.85	2228790.04	8.00	0.00
			6186413.38	2228781.29	8.00	0.00
			6186409.84	2228768.13	8.00	0.00
			6186407.58	2228759.30	8.00	0.00
			6186406.49	2228754.89	8.00	0.00
			6186405.42	2228750.47	8.00	0.00
			6186404.37	2228746.05	8.00	0.00
			6186403.34	2228741.62	8.00	0.00
			6186402.34	2228737.19	8.00	0.00
			6186401.36	2228732.75	8.00	0.00
			6186400.40	2228728.31	8.00	0.00
			6186399.46	2228723.86	8.00	0.00
			6186398.55	2228719.40	8.00	0.00
			6186397.66	2228714.95	8.00	0.00
			6186396.79	2228710.48	8.00	0.00
			6186395.94	2228706.02	8.00	0.00
			6186395.12	2228701.55	8.00	0.00
			6186394.32	2228697.07	8.00	0.00
			6186393.54	2228692.59	8.00	0.00
			6186392.78	2228688.11	8.00	0.00
			6186392.05	2228683.63	8.00	0.00
			6186391.34	2228679.14	8.00	0.00
			6186390.65	2228674.64	8.00	0.00
			6186389.99	2228670.15	8.00	0.00
			6186389.35	2228665.65	8.00	0.00
			6186388.73	2228661.14	8.00	0.00
			6186388.13	2228656.64	8.00	0.00
			6186387.56	2228652.13	8.00	0.00
			6186387.00	2228647.61	8.00	0.00
			6186386.48	2228643.10	8.00	0.00
			6186385.97	2228638.58	8.00	0.00
			6186385.49	2228634.06	8.00	0.00
			6186385.03	2228629.54	8.00	0.00
			6186384.59	2228625.01	8.00	0.00
			6186384.18	2228620.49	8.00	0.00
			6186383.78	2228615.96	8.00	0.00
			6186383.42	2228611.43	8.00	0.00
			6186383.07	2228606.90	8.00	0.00
			6186382.75	2228602.36	8.00	0.00
			6186382.45	2228597.83	8.00	0.00
			6186382.17	2228593.29	8.00	0.00
			6186381.92	2228588.75	8.00	0.00
			6186381.69	2228584.21	8.00	0.00
			6186381.48	2228579.67	8.00	0.00
			6186381.29	2228575.13	8.00	0.00
			6186381.13	2228570.58	8.00	0.00
			6186380.99	2228566.04	8.00	0.00
			6186380.87	2228561.50	8.00	0.00
			6186380.78	2228556.95	8.00	0.00
			6186380.71	2228552.41	8.00	0.00
			6186380.66	2228547.86	8.00	0.00
			6186380.64	2228543.32	8.00	0.00
			6186380.64	2228538.77	8.00	0.00
			6186380.66	2228534.22	8.00	0.00
			6186380.70	2228529.68	8.00	0.00
			6186380.77	2228525.13	8.00	0.00
			6186380.86	2228520.59	8.00	0.00

Name	Height		Coordinates			
	Begin	End	x	y	z	Ground
	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
			6186380.97	2228515.95	8.00	0.00
			6186381.11	2228511.52	8.00	0.00
			6186381.27	2228506.96	8.00	0.00
			6186381.45	2228502.42	8.00	0.00
			6186381.65	2228497.88	8.00	0.00
			6186381.88	2228493.34	8.00	0.00
			6186382.13	2228488.80	8.00	0.00
			6186382.41	2228484.26	8.00	0.00
			6186382.70	2228479.72	8.00	0.00
			6186383.02	2228475.19	8.00	0.00
			6186383.37	2228470.66	8.00	0.00
			6186383.73	2228466.13	8.00	0.00
			6186384.12	2228461.60	8.00	0.00
			6186384.53	2228457.07	8.00	0.00
			6186384.96	2228452.54	8.00	0.00
			6186385.42	2228448.02	8.00	0.00
			6186385.90	2228443.50	8.00	0.00
			6186386.40	2228438.98	8.00	0.00
			6186386.93	2228434.47	8.00	0.00
			6186387.48	2228429.96	8.00	0.00
			6186388.05	2228425.45	8.00	0.00
			6186388.64	2228420.94	8.00	0.00
			6186389.26	2228416.43	8.00	0.00
			6186389.90	2228411.93	8.00	0.00
			6186390.56	2228407.44	8.00	0.00
			6186391.24	2228402.93	8.00	0.00
			6186391.88	2228398.89	8.00	0.00
			6186392.75	2228393.46	8.00	0.00
			6186393.79	2228386.89	8.00	0.00
			6186216.05	2228358.64	8.00	0.00
			6186215.01	2228365.21	8.00	0.00
			6186214.11	2228370.84	8.00	0.00
			6186213.38	2228375.50	8.00	0.00
			6186212.56	2228380.88	8.00	0.00
			6186211.76	2228386.27	8.00	0.00
			6186211.00	2228391.67	8.00	0.00
			6186210.26	2228397.08	8.00	0.00
			6186209.55	2228402.48	8.00	0.00
			6186208.86	2228407.90	8.00	0.00
			6186208.20	2228413.31	8.00	0.00
			6186207.57	2228418.73	8.00	0.00
			6186206.97	2228424.15	8.00	0.00
			6186206.48	2228428.77	8.00	0.00
			6186145.64	2228882.34	8.00	0.00
			6186144.49	2228921.31	8.00	0.00
			6186141.50	2228960.18	8.00	0.00
			6186136.68	2228998.86	8.00	0.00
			6185962.31	2228793.69	8.00	0.00
			6185955.43	2228784.59	8.00	0.00
			6185949.64	2228774.77	8.00	0.00
			6185944.99	2228764.35	8.00	0.00
			6185941.57	2228753.47	8.00	0.00
			6185939.41	2228742.27	8.00	0.00
			6185938.53	2228730.90	8.00	0.00
			6185938.96	2228719.50	8.00	0.00
			6185940.68	2228708.22	8.00	0.00
			6185943.68	2228697.21	8.00	0.00
			6185947.91	2228686.62	8.00	0.00
			6185963.19	2228653.90	8.00	0.00
			6185945.07	2228645.43	8.00	0.00
			6185919.79	2228699.55	8.00	0.00
			6185918.78	2228701.44	8.00	0.00
			6185917.58	2228703.21	8.00	0.00
			6185916.19	2228704.84	8.00	0.00
			6185914.64	2228706.32	8.00	0.00
			6185912.94	2228707.61	8.00	0.00
			6185911.10	2228708.72	8.00	0.00
			6185909.16	2228709.63	8.00	0.00
			6185907.14	2228710.33	8.00	0.00
			6185905.05	2228710.80	8.00	0.00
			6185902.92	2228711.05	8.00	0.00
			6185900.78	2228711.07	8.00	0.00
			6185898.65	2228710.86	8.00	0.00
			6185896.55	2228710.42	8.00	0.00
			6185894.51	2228709.76	8.00	0.00
			6185892.56	2228708.89	8.00	0.00
			6185890.71	2228707.81	8.00	0.00

Name	Height				Coordinates			
	Begin		End		x	y	z	Ground
	(ft)		(ft)		(ft)	(ft)	(ft)	(ft)
					6185888.98	2228706.55	8.00	0.00
					6185887.40	2228705.10	8.00	0.00
					6185885.99	2228703.49	8.00	0.00
					6185833.12	2228752.72	8.00	0.00
					6185836.97	2228758.18	8.00	0.00
					6185840.18	2228764.03	8.00	0.00
					6185842.72	2228770.21	8.00	0.00
					6185844.56	2228776.63	8.00	0.00
					6185845.68	2228783.21	8.00	0.00
					6185846.06	2228789.88	8.00	0.00
					6185845.69	2228796.55	8.00	0.00
					6185844.59	2228803.14	8.00	0.00
					6185842.76	2228809.56	8.00	0.00
					6185840.23	2228815.74	8.00	0.00
					6185837.03	2228821.60	8.00	0.00
					6185833.19	2228827.07	8.00	0.00
					6185795.86	2228874.46	8.00	0.00
					6185825.68	2228897.94	8.00	0.00
					6185829.22	2228893.91	8.00	0.00
					6185833.17	2228890.29	8.00	0.00
					6185837.49	2228887.10	8.00	0.00
					6185842.13	2228884.40	8.00	0.00
					6185847.02	2228882.21	8.00	0.00
					6185852.13	2228880.56	8.00	0.00
					6185857.38	2228879.46	8.00	0.00
					6185862.72	2228878.93	8.00	0.00
					6185868.08	2228878.98	8.00	0.00
					6185873.41	2228879.60	8.00	0.00
					6185878.64	2228880.79	8.00	0.00
					6185883.72	2228882.54	8.00	0.00
					6185888.58	2228884.81	8.00	0.00
					6185893.16	2228887.60	8.00	0.00
					6185897.42	2228890.86	8.00	0.00
					6186035.81	2229009.01	8.00	0.00
					6186113.13	2229106.78	8.00	0.00
					6186105.27	2229132.34	8.00	0.00
CONSTRUCTION	8.00	a			6187050.65	2230673.43	8.00	0.00
					6187053.15	2230673.51	8.00	0.00
					6187051.78	2230684.50	8.00	0.00
					6187058.61	2230695.06	8.00	0.00
					6187057.92	2230695.59	8.00	0.00
					6187057.40	2230695.98	8.00	0.00
					6187057.03	2230696.26	8.00	0.00
					6187056.88	2230696.36	8.00	0.00
					6187056.35	2230696.74	8.00	0.00
					6187055.82	2230697.12	8.00	0.00
					6187055.29	2230697.49	8.00	0.00
					6187054.74	2230697.86	8.00	0.00
					6187054.23	2230698.20	8.00	0.00
					6187053.84	2230698.45	8.00	0.00
					6187053.09	2230698.93	8.00	0.00
					6187052.53	2230699.27	8.00	0.00
					6187051.96	2230699.61	8.00	0.00
					6187051.88	2230699.66	8.00	0.00
					6187051.39	2230699.95	8.00	0.00
					6187050.82	2230700.28	8.00	0.00
					6187050.24	2230700.61	8.00	0.00
					6187049.65	2230700.93	8.00	0.00
					6187049.07	2230701.25	8.00	0.00
					6187048.48	2230701.56	8.00	0.00
					6187047.88	2230701.86	8.00	0.00
					6187047.28	2230702.16	8.00	0.00
					6187046.68	2230702.46	8.00	0.00
					6187046.52	2230702.53	8.00	0.00
					6187046.06	2230702.75	8.00	0.00
					6187045.41	2230703.05	8.00	0.00
					6187044.41	2230703.52	8.00	0.00
					6187043.62	2230703.88	8.00	0.00
					6187043.00	2230704.16	8.00	0.00
					6187042.38	2230704.43	8.00	0.00
					6187041.78	2230704.68	8.00	0.00
					6187041.33	2230704.87	8.00	0.00
					6187040.96	2230705.02	8.00	0.00
					6187040.49	2230705.21	8.00	0.00
					6187039.85	2230705.46	8.00	0.00
					6187039.21	2230705.70	8.00	0.00
					6187038.57	2230705.93	8.00	0.00

Name	Height		Coordinates			
	Begin	End	x	y	z	Ground
	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
			6187037.92	2230706.16	8.00	0.00
			6187037.27	2230706.39	8.00	0.00
			6187036.62	2230706.60	8.00	0.00
			6187035.96	2230706.81	8.00	0.00
			6187035.31	2230707.02	8.00	0.00
			6187035.15	2230707.07	8.00	0.00
			6187034.65	2230707.22	8.00	0.00
			6187033.98	2230707.41	8.00	0.00
			6187033.32	2230707.59	8.00	0.00
			6187032.65	2230707.77	8.00	0.00
			6187031.98	2230707.94	8.00	0.00
			6187031.31	2230708.11	8.00	0.00
			6187030.64	2230708.26	8.00	0.00
			6187029.96	2230708.39	8.00	0.00
			6187029.28	2230708.56	8.00	0.00
			6187029.17	2230708.60	8.00	0.00
			6187028.61	2230708.70	8.00	0.00
			6187027.92	2230708.82	8.00	0.00
			6187027.24	2230708.92	8.00	0.00
			6187026.55	2230709.03	8.00	0.00
			6187025.87	2230709.12	8.00	0.00
			6187025.18	2230709.21	8.00	0.00
			6187024.49	2230709.29	8.00	0.00
			6187023.80	2230709.36	8.00	0.00
			6187023.11	2230709.43	8.00	0.00
			6187023.06	2230709.43	8.00	0.00
			6187022.42	2230709.49	8.00	0.00
			6187021.72	2230709.54	8.00	0.00
			6187021.00	2230709.59	8.00	0.00
			6187020.01	2230709.64	8.00	0.00
			6187018.97	2230709.68	8.00	0.00
			6187018.28	2230709.70	8.00	0.00
			6187017.59	2230709.71	8.00	0.00
			6187016.90	2230709.72	8.00	0.00
			6187016.30	2230709.66	8.00	0.00
			6187016.35	2230709.99	8.00	0.00
			6187004.82	2230714.05	8.00	0.00
			6186994.88	2230718.41	8.00	0.00
			6186984.42	2230726.43	8.00	0.00
			6186983.28	2230733.16	8.00	0.00
			6186973.74	2230751.83	8.00	0.00
			6186966.02	2230765.40	8.00	0.00
			6186955.26	2230778.08	8.00	0.00
			6186942.08	2230787.29	8.00	0.00
			6186931.72	2230787.79	8.00	0.00
			6186923.88	2230784.82	8.00	0.00
			6186919.30	2230780.28	8.00	0.00
			6186914.17	2230777.30	8.00	0.00
			6186911.46	2230778.99	8.00	0.00
			6186915.09	2230788.47	8.00	0.00
			6186914.49	2230794.83	8.00	0.00
			6186911.39	2230799.31	8.00	0.00
			6186905.38	2230806.13	8.00	0.00
			6186887.95	2230817.09	8.00	0.00
			6186879.00	2230825.04	8.00	0.00
			6186876.42	2230831.83	8.00	0.00
			6186871.69	2230835.01	8.00	0.00
			6186865.08	2230836.41	8.00	0.00
			6186857.12	2230843.97	8.00	0.00
			6186846.90	2230854.67	8.00	0.00
			6186841.58	2230859.78	8.00	0.00
			6186834.71	2230841.76	8.00	0.00
			6186833.70	2230836.68	8.00	0.00
			6186833.62	2230831.66	8.00	0.00
			6186833.53	2230826.64	8.00	0.00
			6186833.19	2230821.61	8.00	0.00
			6186833.27	2230816.60	8.00	0.00
			6186833.72	2230811.62	8.00	0.00
			6186834.09	2230807.13	8.00	0.00
			6186833.82	2230806.62	8.00	0.00
			6186830.48	2230801.39	8.00	0.00
			6186828.09	2230796.22	8.00	0.00
			6186828.89	2230791.26	8.00	0.00
			6186830.43	2230786.35	8.00	0.00
			6186832.58	2230781.48	8.00	0.00
			6186834.65	2230776.61	8.00	0.00
			6186836.66	2230771.73	8.00	0.00

Name	Height		Coordinates			
	Begin	End	x	y	z	Ground
	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
			6186838.67	2230766.85	8.00	0.00
			6186838.88	2230761.86	8.00	0.00
			6186838.87	2230756.84	8.00	0.00
			6186839.29	2230751.86	8.00	0.00
			6186841.11	2230746.97	8.00	0.00
			6186842.86	2230742.08	8.00	0.00
			6186842.26	2230739.31	8.00	0.00
			6186841.77	2230736.99	8.00	0.00
			6186838.01	2230731.73	8.00	0.00
			6186831.66	2230727.95	8.00	0.00
			6186828.23	2230729.61	8.00	0.00
			6186825.60	2230731.09	8.00	0.00
			6186821.47	2230734.09	8.00	0.00
			6186819.02	2230735.60	8.00	0.00
			6186815.77	2230737.08	8.00	0.00
			6186811.89	2230737.79	8.00	0.00
			6186805.71	2230737.34	8.00	0.00
			6186806.07	2230737.57	8.00	0.00
			6186807.23	2230738.19	8.00	0.00
			6186807.59	2230738.36	8.00	0.00
			6186819.15	2230743.78	8.00	0.00
			6186820.63	2230744.66	8.00	0.00
			6186820.54	2230744.90	8.00	0.00
			6186820.36	2230745.43	8.00	0.00
			6186819.98	2230746.68	8.00	0.00
			6186819.68	2230747.96	8.00	0.00
			6186819.47	2230749.25	8.00	0.00
			6186819.37	2230750.18	8.00	0.00
			6186818.94	2230755.16	8.00	0.00
			6186818.92	2230755.54	8.00	0.00
			6186818.87	2230756.84	8.00	0.00
			6186818.87	2230756.88	8.00	0.00
			6186818.88	2230761.45	8.00	0.00
			6186818.84	2230762.48	8.00	0.00
			6186818.17	2230764.11	8.00	0.00
			6186818.16	2230764.11	8.00	0.00
			6186816.19	2230768.90	8.00	0.00
			6186814.23	2230773.53	8.00	0.00
			6186812.14	2230778.25	8.00	0.00
			6186811.95	2230778.70	8.00	0.00
			6186811.49	2230779.92	8.00	0.00
			6186811.35	2230780.36	8.00	0.00
			6186809.81	2230785.27	8.00	0.00
			6186809.57	2230786.08	8.00	0.00
			6186809.27	2230787.36	8.00	0.00
			6186809.14	2230788.09	8.00	0.00
			6186808.35	2230793.05	8.00	0.00
			6186808.26	2230793.60	8.00	0.00
			6186808.14	2230794.91	8.00	0.00
			6186808.09	2230796.22	8.00	0.00
			6186808.14	2230797.52	8.00	0.00
			6186808.26	2230798.83	8.00	0.00
			6186808.48	2230800.12	8.00	0.00
			6186808.77	2230801.39	8.00	0.00
			6186809.15	2230802.64	8.00	0.00
			6186809.62	2230803.87	8.00	0.00
			6186809.94	2230804.60	8.00	0.00
			6186812.33	2230809.77	8.00	0.00
			6186812.54	2230810.23	8.00	0.00
			6186813.16	2230811.39	8.00	0.00
			6186813.60	2230812.10	8.00	0.00
			6186813.35	2230814.77	8.00	0.00
			6186813.31	2230815.30	8.00	0.00
			6186813.27	2230816.31	8.00	0.00
			6186813.19	2230821.32	8.00	0.00
			6186813.19	2230821.61	8.00	0.00
			6186813.23	2230822.92	8.00	0.00
			6186813.24	2230822.96	8.00	0.00
			6186813.54	2230827.50	8.00	0.00
			6186813.63	2230831.99	8.00	0.00
			6186813.70	2230836.97	8.00	0.00
			6186813.74	2230837.98	8.00	0.00
			6186813.87	2230839.29	8.00	0.00
			6186814.08	2230840.59	8.00	0.00
			6186815.10	2230845.67	8.00	0.00
			6186815.39	2230846.93	8.00	0.00
			6186815.77	2230848.18	8.00	0.00

Name	Height		Coordinates			
	Begin	End	x	y	z	Ground
	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
			6186816.02	2230848.88	8.00	0.00
			6186822.89	2230866.90	8.00	0.00
			6186823.10	2230867.43	8.00	0.00
			6186823.64	2230868.62	8.00	0.00
			6186824.26	2230869.78	8.00	0.00
			6186824.95	2230870.89	8.00	0.00
			6186825.71	2230871.95	8.00	0.00
			6186826.54	2230872.96	8.00	0.00
			6186827.44	2230873.92	8.00	0.00
			6186828.39	2230874.81	8.00	0.00
			6186829.40	2230875.64	8.00	0.00
			6186830.47	2230876.41	8.00	0.00
			6186831.58	2230877.10	8.00	0.00
			6186832.73	2230877.71	8.00	0.00
			6186833.93	2230878.25	8.00	0.00
			6186835.15	2230878.72	8.00	0.00
			6186836.40	2230879.10	8.00	0.00
			6186837.68	2230879.39	8.00	0.00
			6186838.97	2230879.61	8.00	0.00
			6186840.27	2230879.73	8.00	0.00
			6186841.58	2230879.78	8.00	0.00
			6186842.89	2230879.73	8.00	0.00
			6186844.19	2230879.61	8.00	0.00
			6186845.48	2230879.39	8.00	0.00
			6186846.76	2230879.10	8.00	0.00
			6186848.01	2230878.72	8.00	0.00
			6186849.23	2230878.25	8.00	0.00
			6186850.42	2230877.71	8.00	0.00
			6186851.58	2230877.10	8.00	0.00
			6186852.69	2230876.41	8.00	0.00
			6186853.75	2230875.64	8.00	0.00
			6186854.77	2230874.81	8.00	0.00
			6186855.43	2230874.21	8.00	0.00
			6186860.75	2230869.10	8.00	0.00
			6186861.05	2230868.81	8.00	0.00
			6186861.37	2230868.48	8.00	0.00
			6186871.24	2230858.14	8.00	0.00
			6186874.75	2230854.81	8.00	0.00
			6186875.84	2230854.58	8.00	0.00
			6186876.87	2230854.33	8.00	0.00
			6186878.12	2230853.95	8.00	0.00
			6186879.35	2230853.49	8.00	0.00
			6186880.54	2230852.95	8.00	0.00
			6186881.69	2230852.33	8.00	0.00
			6186882.80	2230851.64	8.00	0.00
			6186882.85	2230851.61	8.00	0.00
			6186887.58	2230848.43	8.00	0.00
			6186888.59	2230847.70	8.00	0.00
			6186889.60	2230846.87	8.00	0.00
			6186890.56	2230845.98	8.00	0.00
			6186891.45	2230845.02	8.00	0.00
			6186892.28	2230844.01	8.00	0.00
			6186893.05	2230842.95	8.00	0.00
			6186893.74	2230841.83	8.00	0.00
			6186894.35	2230840.68	8.00	0.00
			6186894.89	2230839.49	8.00	0.00
			6186895.11	2230838.93	8.00	0.00
			6186895.95	2230836.73	8.00	0.00
			6186900.00	2230833.14	8.00	0.00
			6186916.02	2230823.06	8.00	0.00
			6186916.49	2230822.76	8.00	0.00
			6186917.55	2230821.99	8.00	0.00
			6186918.56	2230821.16	8.00	0.00
			6186919.52	2230820.27	8.00	0.00
			6186920.37	2230819.36	8.00	0.00
			6186926.39	2230812.54	8.00	0.00
			6186926.43	2230812.49	8.00	0.00
			6186927.26	2230811.48	8.00	0.00
			6186927.85	2230810.68	8.00	0.00
			6186929.91	2230807.70	8.00	0.00
			6186930.41	2230807.75	8.00	0.00
			6186931.72	2230807.79	8.00	0.00
			6186932.67	2230807.77	8.00	0.00
			6186943.04	2230807.27	8.00	0.00
			6186943.39	2230807.25	8.00	0.00
			6186944.69	2230807.12	8.00	0.00
			6186945.99	2230806.91	8.00	0.00

Name	Height		Coordinates			
	Begin	End	x	y	z	Ground
	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
			6186947.26	2230806.61	8.00	0.00
			6186948.51	2230806.23	8.00	0.00
			6186949.74	2230805.77	8.00	0.00
			6186950.93	2230805.23	8.00	0.00
			6186952.08	2230804.61	8.00	0.00
			6186953.20	2230803.92	8.00	0.00
			6186953.54	2230803.68	8.00	0.00
			6186966.72	2230794.47	8.00	0.00
			6186967.44	2230793.95	8.00	0.00
			6186968.45	2230793.12	8.00	0.00
			6186969.41	2230792.22	8.00	0.00
			6186970.30	2230791.27	8.00	0.00
			6186970.52	2230791.02	8.00	0.00
			6186981.27	2230778.33	8.00	0.00
			6186981.89	2230777.57	8.00	0.00
			6186982.65	2230776.51	8.00	0.00
			6186983.34	2230775.40	8.00	0.00
			6186983.40	2230775.29	8.00	0.00
			6186991.12	2230761.71	8.00	0.00
			6186991.55	2230760.93	8.00	0.00
			6187001.09	2230742.26	8.00	0.00
			6187001.22	2230742.00	8.00	0.00
			6187001.76	2230740.81	8.00	0.00
			6187002.22	2230739.59	8.00	0.00
			6187002.60	2230738.34	8.00	0.00
			6187002.78	2230737.55	8.00	0.00
			6187005.13	2230735.75	8.00	0.00
			6187012.17	2230732.67	8.00	0.00
			6187020.80	2230729.63	8.00	0.00
			6187021.08	2230729.61	8.00	0.00
			6187022.07	2230729.56	8.00	0.00
			6187022.30	2230729.55	8.00	0.00
			6187023.02	2230729.50	8.00	0.00
			6187023.23	2230729.48	8.00	0.00
			6187023.92	2230729.43	8.00	0.00
			6187024.12	2230729.42	8.00	0.00
			6187024.75	2230729.36	8.00	0.00
			6187024.77	2230729.36	8.00	0.00
			6187024.83	2230729.36	8.00	0.00
			6187025.00	2230729.34	8.00	0.00
			6187025.69	2230729.28	8.00	0.00
			6187025.88	2230729.26	8.00	0.00
			6187026.57	2230729.18	8.00	0.00
			6187026.85	2230729.15	8.00	0.00
			6187027.53	2230729.07	8.00	0.00
			6187027.75	2230729.05	8.00	0.00
			6187028.44	2230728.96	8.00	0.00
			6187028.48	2230728.95	8.00	0.00
			6187028.63	2230728.93	8.00	0.00
			6187029.31	2230728.83	8.00	0.00
			6187029.50	2230728.81	8.00	0.00
			6187030.19	2230728.71	8.00	0.00
			6187030.38	2230728.68	8.00	0.00
			6187031.06	2230728.57	8.00	0.00
			6187031.25	2230728.54	8.00	0.00
			6187031.93	2230728.42	8.00	0.00
			6187032.21	2230728.37	8.00	0.00
			6187032.78	2230728.27	8.00	0.00
			6187033.08	2230728.21	8.00	0.00
			6187034.29	2230727.93	8.00	0.00
			6187034.31	2230727.92	8.00	0.00
			6187034.54	2230727.88	8.00	0.00
			6187035.21	2230727.74	8.00	0.00
			6187035.88	2230727.58	8.00	0.00
			6187036.08	2230727.53	8.00	0.00
			6187036.75	2230727.37	8.00	0.00
			6187036.95	2230727.32	8.00	0.00
			6187037.62	2230727.14	8.00	0.00
			6187037.81	2230727.09	8.00	0.00
			6187038.48	2230726.92	8.00	0.00
			6187038.67	2230726.86	8.00	0.00
			6187039.34	2230726.68	8.00	0.00
			6187039.53	2230726.62	8.00	0.00
			6187040.19	2230726.43	8.00	0.00
			6187040.38	2230726.38	8.00	0.00
			6187040.88	2230726.23	8.00	0.00
			6187040.90	2230726.22	8.00	0.00

Name	Height		Coordinates			
	Begin	End	x	y	z	Ground
	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
			6187041.06	2230726.17	8.00	0.00
			6187041.24	2230726.12	8.00	0.00
			6187041.89	2230725.92	8.00	0.00
			6187042.08	2230725.86	8.00	0.00
			6187042.74	2230725.64	8.00	0.00
			6187042.93	2230725.58	8.00	0.00
			6187043.58	2230725.37	8.00	0.00
			6187043.70	2230725.33	8.00	0.00
			6187043.77	2230725.30	8.00	0.00
			6187044.42	2230725.08	8.00	0.00
			6187044.61	2230725.01	8.00	0.00
			6187045.26	2230724.78	8.00	0.00
			6187045.44	2230724.72	8.00	0.00
			6187046.09	2230724.48	8.00	0.00
			6187046.27	2230724.41	8.00	0.00
			6187046.91	2230724.17	8.00	0.00
			6187047.10	2230724.10	8.00	0.00
			6187047.74	2230723.85	8.00	0.00
			6187047.93	2230723.77	8.00	0.00
			6187048.40	2230723.58	8.00	0.00
			6187048.43	2230723.57	8.00	0.00
			6187048.80	2230723.42	8.00	0.00
			6187048.99	2230723.35	8.00	0.00
			6187049.45	2230723.16	8.00	0.00
			6187049.60	2230723.09	8.00	0.00
			6187050.19	2230722.84	8.00	0.00
			6187050.36	2230722.77	8.00	0.00
			6187050.98	2230722.50	8.00	0.00
			6187051.17	2230722.42	8.00	0.00
			6187051.78	2230722.14	8.00	0.00
			6187051.99	2230722.05	8.00	0.00
			6187052.78	2230721.68	8.00	0.00
			6187052.82	2230721.66	8.00	0.00
			6187053.82	2230721.20	8.00	0.00
			6187054.47	2230720.90	8.00	0.00
			6187054.66	2230720.81	8.00	0.00
			6187055.12	2230720.59	8.00	0.00
			6187055.15	2230720.58	8.00	0.00
			6187055.30	2230720.50	8.00	0.00
			6187055.46	2230720.43	8.00	0.00
			6187056.07	2230720.13	8.00	0.00
			6187056.13	2230720.10	8.00	0.00
			6187056.24	2230720.04	8.00	0.00
			6187056.84	2230719.74	8.00	0.00
			6187057.02	2230719.65	8.00	0.00
			6187057.61	2230719.35	8.00	0.00
			6187057.79	2230719.26	8.00	0.00
			6187058.38	2230718.95	8.00	0.00
			6187058.55	2230718.85	8.00	0.00
			6187059.14	2230718.54	8.00	0.00
			6187059.31	2230718.44	8.00	0.00
			6187059.90	2230718.12	8.00	0.00
			6187060.07	2230718.03	8.00	0.00
			6187060.65	2230717.70	8.00	0.00
			6187060.82	2230717.60	8.00	0.00
			6187061.39	2230717.27	8.00	0.00
			6187061.56	2230717.17	8.00	0.00
			6187062.05	2230716.88	8.00	0.00
			6187062.07	2230716.87	8.00	0.00
			6187062.14	2230716.83	8.00	0.00
			6187062.30	2230716.74	8.00	0.00
			6187062.86	2230716.39	8.00	0.00
			6187063.03	2230716.29	8.00	0.00
			6187063.59	2230715.95	8.00	0.00
			6187063.78	2230715.83	8.00	0.00
			6187064.53	2230715.36	8.00	0.00
			6187064.70	2230715.24	8.00	0.00
			6187065.09	2230714.99	8.00	0.00
			6187065.22	2230714.91	8.00	0.00
			6187065.74	2230714.56	8.00	0.00
			6187065.86	2230714.49	8.00	0.00
			6187065.91	2230714.45	8.00	0.00
			6187066.46	2230714.08	8.00	0.00
			6187066.70	2230713.92	8.00	0.00
			6187067.24	2230713.55	8.00	0.00
			6187067.39	2230713.44	8.00	0.00
			6187067.92	2230713.06	8.00	0.00

Name	Height				Coordinates			
	Begin		End		x	y	z	Ground
	(ft)		(ft)		(ft)	(ft)	(ft)	(ft)
					6187068.07	2230712.95	8.00	0.00
					6187068.60	2230712.57	8.00	0.00
					6187068.72	2230712.48	8.00	0.00
					6187068.87	2230712.38	8.00	0.00
					6187068.91	2230712.34	8.00	0.00
					6187069.29	2230712.06	8.00	0.00
					6187069.42	2230711.96	8.00	0.00
					6187069.94	2230711.57	8.00	0.00
					6187070.06	2230711.48	8.00	0.00
					6187070.75	2230710.95	8.00	0.00
					6187070.79	2230710.93	8.00	0.00
					6187071.80	2230710.10	8.00	0.00
					6187072.75	2230709.20	8.00	0.00
					6187073.65	2230708.25	8.00	0.00
					6187074.48	2230707.24	8.00	0.00
					6187075.24	2230706.17	8.00	0.00
					6187075.93	2230705.06	8.00	0.00
					6187076.55	2230703.91	8.00	0.00
					6187077.09	2230702.72	8.00	0.00
					6187077.55	2230701.49	8.00	0.00
					6187077.93	2230700.24	8.00	0.00
					6187078.23	2230698.96	8.00	0.00
					6187078.44	2230697.67	8.00	0.00
					6187078.57	2230696.37	8.00	0.00
					6187078.61	2230695.06	8.00	0.00
					6187078.57	2230693.75	8.00	0.00
					6187078.44	2230692.45	8.00	0.00
					6187078.23	2230691.16	8.00	0.00
					6187077.93	2230689.89	8.00	0.00
					6187077.55	2230688.63	8.00	0.00
					6187077.09	2230687.41	8.00	0.00
					6187076.55	2230686.22	8.00	0.00
					6187075.93	2230685.06	8.00	0.00
					6187075.40	2230684.20	8.00	0.00
					6187072.52	2230679.75	8.00	0.00
					6187072.99	2230675.98	8.00	0.00
					6187073.10	2230674.82	8.00	0.00
					6187073.15	2230673.51	8.00	0.00
					6187073.10	2230672.20	8.00	0.00
					6187072.97	2230670.90	8.00	0.00
					6187072.76	2230669.61	8.00	0.00
					6187072.46	2230668.33	8.00	0.00
					6187072.08	2230667.08	8.00	0.00
					6187071.62	2230665.86	8.00	0.00
					6187071.08	2230664.66	8.00	0.00
					6187070.48	2230663.53	8.00	0.00
					6187065.79	2230665.21	8.00	0.00
					6187059.10	2230668.20	8.00	0.00
					6187053.46	2230671.20	8.00	0.00
					6187051.42	2230672.71	8.00	0.00
CONSTRUCTION	8.00	a			6186256.38	2230990.12	8.00	0.00
					6186256.45	2230980.04	8.00	0.00
					6186256.47	2230978.26	8.00	0.00
					6186256.67	2230948.64	8.00	0.00
					6186256.74	2230937.29	8.00	0.00
					6186317.76	2230882.87	8.00	0.00
					6186398.04	2230811.25	8.00	0.00
					6186467.77	2230761.44	8.00	0.00
					6186541.11	2230717.13	8.00	0.00
					6186617.63	2230678.57	8.00	0.00
					6186696.89	2230646.00	8.00	0.00
					6186778.40	2230619.59	8.00	0.00
					6186820.04	2230609.56	8.00	0.00
					6186861.71	2230599.52	8.00	0.00
					6186885.29	2230595.20	8.00	0.00
					6186909.00	2230591.69	8.00	0.00
					6186932.83	2230589.00	8.00	0.00
					6186956.73	2230587.13	8.00	0.00
					6186980.68	2230586.07	8.00	0.00
					6187000.66	2230585.88	8.00	0.00
					6187004.46	2230537.69	8.00	0.00
					6187010.76	2230458.01	8.00	0.00
					6187017.34	2230359.30	8.00	0.00
					6187020.91	2230259.67	8.00	0.00
					6187021.64	2230222.48	8.00	0.00
					6187018.65	2230175.05	8.00	0.00
					6187014.63	2230120.10	8.00	0.00

Name	Height				Coordinates			
	Begin		End		x	y	z	Ground
	(ft)		(ft)		(ft)	(ft)	(ft)	(ft)
					6186998.94	2230022.07	8.00	0.00
					6186988.38	2229984.21	8.00	0.00
					6186971.27	2229918.41	8.00	0.00
					6186941.00	2229832.86	8.00	0.00
					6186912.05	2229771.00	8.00	0.00
					6186883.09	2229713.10	8.00	0.00
					6186834.40	2229622.28	8.00	0.00
					6186777.20	2229513.97	8.00	0.00
					6186754.91	2229472.10	8.00	0.00
					6186717.09	2229400.55	8.00	0.00
					6186703.49	2229374.96	8.00	0.00
					6186686.14	2229342.33	8.00	0.00
					6186663.44	2229299.46	8.00	0.00
					6186662.54	2229297.68	8.00	0.00
					6186662.46	2229297.50	8.00	0.00
					6186459.52	2229297.00	8.00	0.00
					6186459.24	2229297.00	8.00	0.00
					6186458.49	2229297.00	8.00	0.00
					6186401.64	2229296.86	8.00	0.00
					6186267.86	2229296.52	8.00	0.00
					6186242.43	2229296.46	8.00	0.00
					6186141.75	2229296.21	8.00	0.00
					6186107.03	2229296.12	8.00	0.00
					6186076.14	2229296.05	8.00	0.00
					6185937.75	2229663.50	8.00	0.00
					6185852.64	2229889.47	8.00	0.00
					6185738.90	2230108.46	8.00	0.00
					6185567.93	2230359.51	8.00	0.00
					6185328.88	2230710.31	8.00	0.00
					6185333.38	2230726.67	8.00	0.00
					6185363.66	2230836.86	8.00	0.00
					6185589.89	2230991.02	8.00	0.00
					6185639.18	2231024.61	8.00	0.00
					6185661.15	2231039.58	8.00	0.00
					6185755.05	2231079.37	8.00	0.00
					6185755.35	2231078.92	8.00	0.00
					6185766.31	2231062.84	8.00	0.00
					6185767.31	2231063.52	8.00	0.00
					6185856.73	2231124.45	8.00	0.00
					6185857.00	2231124.64	8.00	0.00
					6185889.69	2231146.91	8.00	0.00
					6185945.42	2231184.89	8.00	0.00
					6185964.95	2231198.20	8.00	0.00
					6185978.44	2231193.88	8.00	0.00
					6185991.56	2231178.26	8.00	0.00
					6186000.93	2231162.64	8.00	0.00
					6186014.68	2231144.52	8.00	0.00
					6186035.92	2231134.52	8.00	0.00
					6186048.94	2231131.05	8.00	0.00
					6186062.76	2231122.35	8.00	0.00
					6186065.91	2231122.65	8.00	0.00
					6186083.41	2231117.03	8.00	0.00
					6186100.90	2231106.41	8.00	0.00
					6186115.27	2231094.54	8.00	0.00
					6186124.65	2231085.16	8.00	0.00
					6186127.21	2231081.78	8.00	0.00
					6186148.33	2231068.48	8.00	0.00
					6186196.50	2231031.43	8.00	0.00
					6186215.57	2231015.09	8.00	0.00
CONSTRUCTION	8.00	a			6186256.38	2230990.12	8.00	0.00
					6186215.57	2231015.09	8.00	0.00
					6186196.50	2231031.43	8.00	0.00
					6186148.33	2231068.48	8.00	0.00
					6186127.21	2231081.78	8.00	0.00
					6186124.65	2231085.16	8.00	0.00
					6186115.27	2231094.54	8.00	0.00
					6186100.90	2231106.41	8.00	0.00
					6186083.41	2231117.03	8.00	0.00
					6186065.91	2231122.65	8.00	0.00
					6186062.76	2231122.35	8.00	0.00
					6186048.94	2231131.05	8.00	0.00
					6186035.92	2231134.52	8.00	0.00
					6186014.68	2231144.52	8.00	0.00
					6186000.93	2231162.64	8.00	0.00
					6185991.56	2231178.26	8.00	0.00
					6185978.44	2231193.88	8.00	0.00
					6185964.95	2231198.20	8.00	0.00

Name	Height				Coordinates			
	Begin		End		x	y	z	Ground
	(ft)		(ft)		(ft)	(ft)	(ft)	(ft)
					6186224.84	2231375.29	8.00	0.00
					6186253.97	2231346.80	8.00	0.00
					6186256.36	2230994.04	8.00	0.00