



Vernola Ranch

NOISE IMPACT ANALYSIS

CITY OF JURUPA VALLEY

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LIST OF ABBREVIATED TERMS

(1)	Reference
ADT	Average Daily Traffic
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
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
NR	Noise Reduction
Project	Vernola Ranch
REMEL	Reference Energy Mean Emission Level
STC	Sound Transmission Class

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EXECUTIVE SUMMARY

Urban Crossroads, Inc. has prepared this noise study to determine the noise exposure and the necessary noise abatement measures for the proposed Vernola Ranch ("Project"). The Project site is located north of Limonite Avenue, south of Bellgrave Avenue, east of the Interstate 15 (I-15) and west of Pats Ranch Road in the City of Jurupa Valley. It is our understanding that the project is to consist of 1,576 single and multifamily homes, recreation areas, internal street network, open space, landscaping, and street improvements. This noise impact analysis was prepared to satisfy the City of Jurupa Valley noise level standards and ensure that adequate noise abatement measures are incorporated into the Project's development. In addition, recommendations for exterior and interior noise abatement are identified based on the latest Project site and grading plans.

EXTERIOR NOISE ABATEMENT

To satisfy the City of Jurupa Valley 65 dBA CNEL exterior noise level standard for residential land uses, the construction of a minimum 12-foot-high noise barrier is required for the outdoor living areas (backyards) of lots within PA-2, -3, and -4, adjacent I-15. A minimum 10-foot-high noise barrier is required for the outdoor living areas of lots within PA-17 adjacent I-15. A minimum of 9-foot-high noise barrier is required for the outdoor living area of lots within PA-4 and a minimum of 8-foot-high noise barrier is required for the outdoor living area of lots within PA-16, adjacent to Bellegrave Avenue. Lots within PA-13, -14, -16, -17, and -20 adjacent to Pats Ranch Road would satisfy the City of Jurupa Valley exterior noise level standard of 65 dBA CNEL for residential land uses. With the recommended noise barriers shown on Exhibit ES-A, the future exterior noise levels will range from 62.8 to 63.5 dBA CNEL in outdoor living areas (backyards). This noise analysis shows that the recommended noise barrier will satisfy the City of Jurupa Valley 65 dBA CNEL exterior noise level standards for residential land uses. The effective noise barrier height recommendations represent the minimum wall and/or berm combination height required to satisfy the City of Jurupa Valley exterior noise level standards.

The recommended noise control barriers shall be constructed so that the top of each wall and/or berm combination extends to the planned height above the pad elevation of the lot it is shielding. When the road is elevated above the pad elevation, the barrier shall extend to the recommended height above the highest point between the residential home and the road. The barrier shall provide a weight of at least 4 pounds per square foot of face area with no decorative cutouts or line-of-sight openings between shielded areas and the roadways, or a minimum transmission loss of 20 dBA. (1) The noise barrier shall be constructed using the following materials:

- Masonry block;
- Stucco veneer over wood framing (or foam core), or 1-inch-thick tongue and groove wood of sufficient weight per square foot;
- Glass (1/4-inch-thick), or other transparent material with sufficient weight per square foot capable of providing a minimum transmission loss of 20 dBA;

- Earthen berm;
- Any combination of these construction materials.

The barrier shall consist of a solid face from top to bottom. Unnecessary openings or decorative cutouts shall not be made. All gaps (except for weep holes) should be filled with grout or caulking.

INTERIOR NOISE ABATEMENT

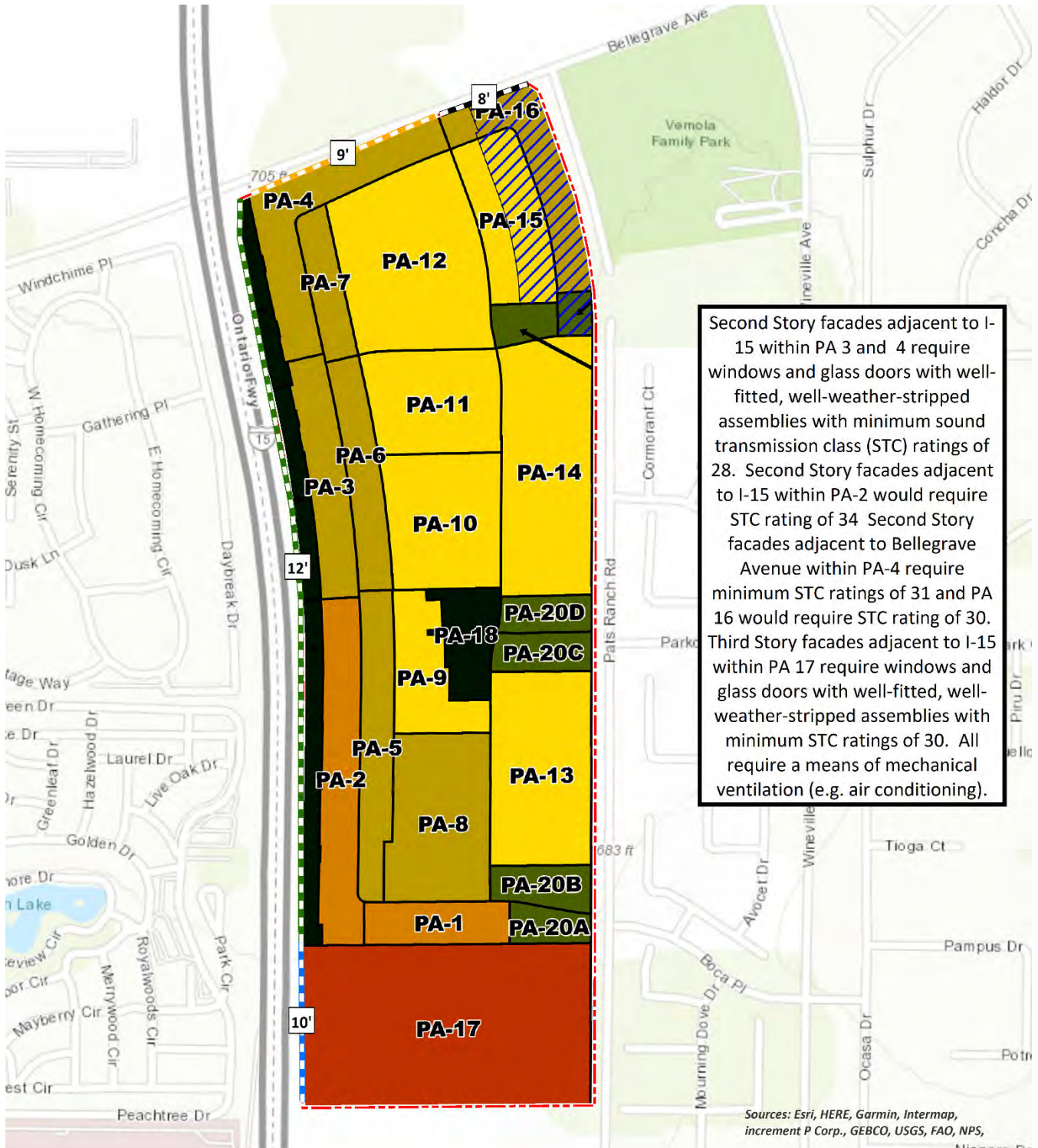
Typical building construction will provide a Noise Reduction (NR) of approximately 12 dBA with "windows open" and a minimum 25 dBA noise reduction with "windows closed." (2) (3) To satisfy the City of Jurupa Valley 45 dBA CNEL interior noise level criteria, second story receivers on lots adjacent to I-15 will require a Noise Reduction (NR) of up to 31.1 dBA and second story receivers on lots adjacent to Bellegrave Avenue will require a Noise Reduction (NR) of up to 27.7 dBA. Thus, all units fronting these roads would require a windows-closed condition and a means of mechanical ventilation (e.g. air conditioning).

Noise: 1 To meet the City of Jurupa Valley 45 dBA CNEL interior noise standards for residential land use the Project shall provide the following or equivalent noise abatement measures:

- Windows & Glass Doors: Second Story facades adjacent to I-15 within PA-3 and -4 require windows and glass doors with well-fitted, well-weather-stripped assemblies with minimum sound transmission class (STC) ratings of 28. Second Story facades adjacent to I-15 within PA-2 would require STC rating of 34. Second Story facades adjacent to Bellegrave Avenue within PA-4 require minimum STC ratings of 31 and PA-16 would require STC rating of 30. Third Story facades adjacent to I-15 within PA-17 require windows and glass doors with well-fitted, well-weather-stripped assemblies with minimum STC ratings of 30.
- Doors (Non-Glass): All exterior doors shall be well weather-stripped and have minimum STC ratings of 27. Well-sealed perimeter gaps around the doors are essential to achieve the optimal STC rating. (4)
- Walls: At any penetrations of exterior walls by pipes, ducts, or conduits, the space between the wall and pipes, ducts, or conduits shall be caulked or filled with mortar to form an airtight seal.
- Roof: Roof sheathing of wood construction shall be per manufacturer's specification or caulked plywood of at least one-half inch thick. Ceilings shall be per manufacturer's specification or well-sealed gypsum board of at least one-half inch thick. Insulation with at least a rating of R-19 shall be used in the attic space.
- Ventilation: Arrangements for any habitable room shall be such that any exterior door or window can be kept closed when the room is in use and still receive circulated air. A forced air circulation system (e.g. air conditioning) or active ventilation system (e.g. fresh air supply) shall be provided which satisfies the requirements of the Uniform Building Code.

With the interior noise abatement measures provided in this study, the proposed Project is expected to satisfy the City of Jurupa Valley 45 dBA CNEL interior noise level standards for residential development.

EXHIBIT ES-A: SUMMARY OF RECOMMENDATIONS



LEGEND:

Planned Noise Barrier 8' 9' 10' 12' Site Boundary

OFF-SITE TRAFFIC NOISE ANALYSIS

Traffic generated by the operation of the proposed Project will influence the traffic noise levels in surrounding off-site areas. To quantify the traffic noise increases on the surrounding off-site areas, the changes in traffic noise levels on nine roadway segments surrounding the Project site were calculated based on the change in the average daily traffic (ADT) volumes. The traffic noise levels provided in this analysis are based on the traffic forecasts found in *Vernola Ranch Traffic Study*. (5) To assess the off-site noise level impacts associated with the proposed Project, noise level contour boundaries were developed for Existing, Phase 1 (2027), Phase 2 (2029), Phase 3 (2031), and General Plan Buildout (2040) traffic conditions with and without project traffic. Land uses along analyzed roadway segments would experience Project related traffic noise level increases. However, based on the City of Jurupa Valley significance criteria for off-site traffic noise land uses adjacent to the study area roadway segments these locations would experience a *less than significant* noise level increase due to Project-related traffic noise levels. Therefore, the analysis shows that the Project-related off-site traffic noise level increases would be *less than significant*.

OPERATIONAL NOISE ANALYSIS

Using reference noise levels to represent the expected noise sources from the Project, this analysis estimates the Project-related stationary-source operational noise levels at nearby receiver locations. The typical activities associated with the Project are anticipated to include air conditioning units, outdoor activity, pool/spa activity and parking lot vehicle movements. Project operational noise levels are expected to range from 40.2 to 50.1 dBA L_{eq} during the daytime hours of 7:00 a.m. to 10:00 p.m. and 33.9 to 38.8 dBA L_{eq} during the nighttime hours of 10:00 p.m. to 7:00 a.m. Thus, the operational noise analysis shows that Project activities will satisfy the City of Jurupa Valley daytime and nighttime exterior noise level thresholds at all receiver locations.

Further, the Project is anticipated to generate a daytime and nighttime operational noise level increases ranging up to 0.2 dBA L_{eq} at the nearby receiver locations. Thus, this analysis demonstrates that the Project operational noise levels will not contribute a long-term operational noise level impact to the existing ambient noise environment at any of the sensitive receiver locations. Therefore, the operational noise level impacts associated with the proposed 24-hour seven days per week Project activities, such as the air conditioning units, outdoor activity, pool/spa activity and parking lot vehicle movements, are considered *less than significant*.

CONSTRUCTION NOISE ANALYSIS

Using sample reference noise levels to represent the planned construction activities of the Project site, this analysis estimates the Project-related construction noise levels at nearby sensitive receiver locations. Since the City of Jurupa Valley General Plan and Municipal Codes do not identify specific construction noise level thresholds, an hourly average L_{eq} threshold is identified based on the Federal Transit Administration (FTA) *Transit Noise and Vibration Impact Assessment Manual* for noise sensitive residential use. The Project-related short-term construction noise levels are expected to range from 45.0 to 58.1 dBA L_{eq} and will satisfy the

80 dBA L_{eq} construction noise level threshold at all receiver locations. Additionally, construction activities are planned to typically occur between 7:00 a.m. and 6:00 p.m. and would comply with the City of Jurupa Valley limitation on allowable hours of construction per Section 11.05.020. Therefore, based on the results of this analysis, all nearby sensitive receiver locations will experience *less than significant* impacts due to Project construction noise levels.

CONSTRUCTION VIBRATION

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). At the nearest receivers Project construction vibration velocity levels are estimated to range up to 0.06 PPV (in/sec). Based on maximum acceptable vibration threshold of 0.20 PPV (in/sec), the typical Project construction vibration levels will comply with City of Jurupa Valley thresholds at all receiver locations and vibration impacts would be *less than significant*.

SUMMARY OF CEQA SIGNIFICANCE FINDINGS

The results of this Vernola Ranch 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. (6). 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
On-Site Traffic Noise	7	<i>Significant</i>	<i>Less Than Significant</i>
Off-Site Traffic Noise	8	<i>Less than Significant</i>	-
Operational Noise	10	<i>Less than Significant</i>	-
Construction Noise	11	<i>Less Than Significant</i>	-
Construction Vibration		<i>Less Than Significant</i>	-

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1 INTRODUCTION

This noise analysis has been completed to determine the noise impacts associated with the development of the proposed Vernola Ranch (“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 noise analysis, evaluates the potential noise impacts from operation and construction of the Project, and as necessary, identifies mitigation measures to reduce impacts.

1.1 SITE LOCATION

The Project site is located north of Limonite Avenue, south of Bellgrave Avenue, east of the I-15 and west of Pats Ranch Road in the City of Jurupa Valley, as shown on Exhibit 1-A. The closest major airport is the Ontario International Airport located roughly 4.5 miles north of the Project site.

1.2 PROJECT DESCRIPTION

The project proposes approximately 1,576 homes (single-family, multi-family, townhomes, and other housing types), recreation areas, network of trails & parks, internal street network, open space, landscaping, and approximately 11.7 Acres of street improvements on Limonite Avenue, Pat’s Ranch Road and Bellegrave Avenue. The Specific Plan will be divided into 20 Planning Areas to guide land use types and intensity. The project also includes an overlay for a potential school site located at the northeast portion of the site, as shown in Exhibit 1-B.

The southern ±36 acres, between the south boundary of the proposed VRSP and Limonite Avenue is currently approved for commercial use under the I- 15 Corridor Specific Plan and related EIR and will remain in that Specific Plan. Since the southern ±36 acres are adjacent to the south, it will likely need to be mass graded at one time to balance the entire 200.7 acres of the site, therefore; this area will be evaluated in the grading analysis for the VRSP and included in this analysis. However, this portion is not included in the Project for operational or traffic noise impact analyses.

EXHIBIT 1-A: LOCATION MAP

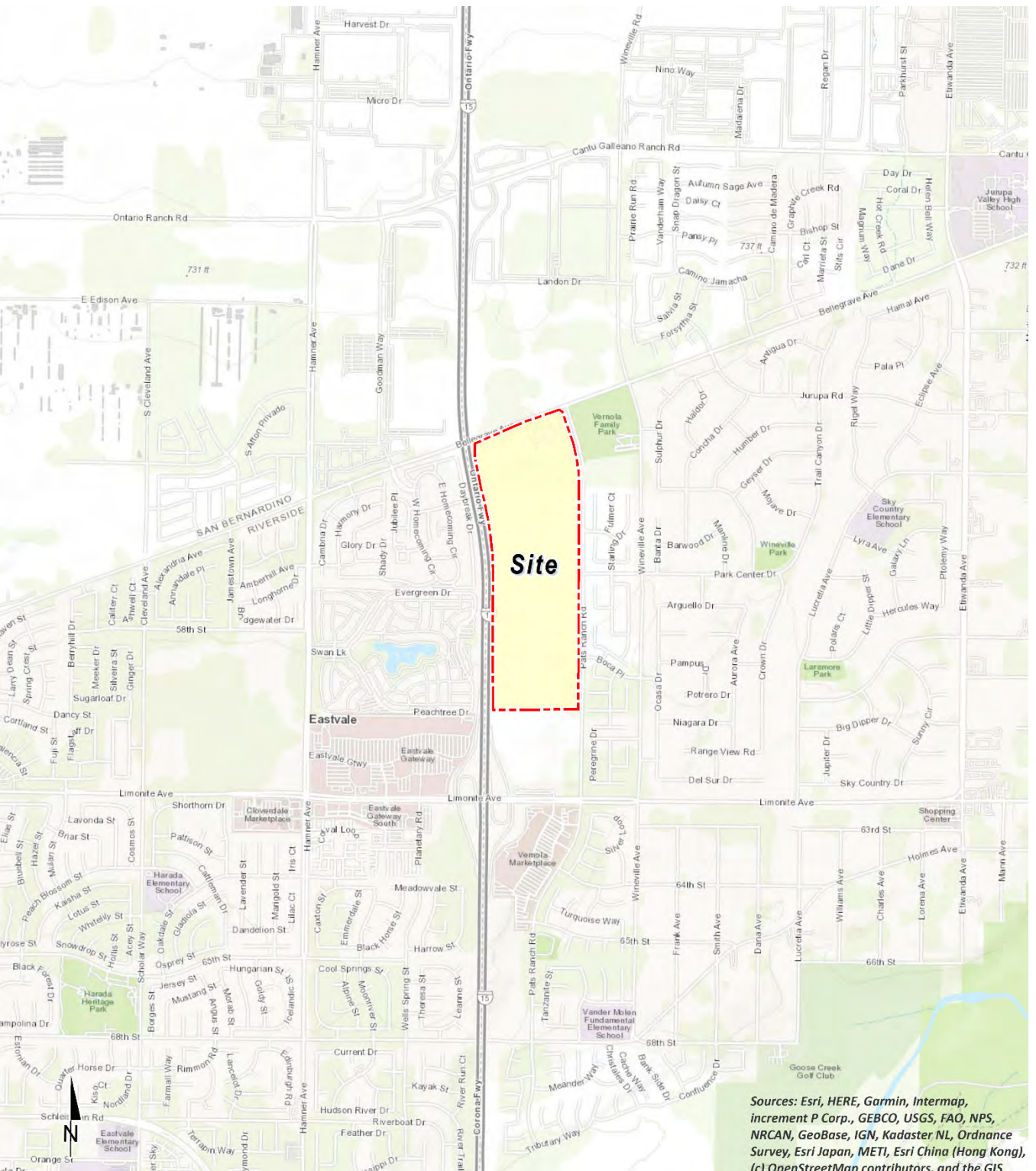
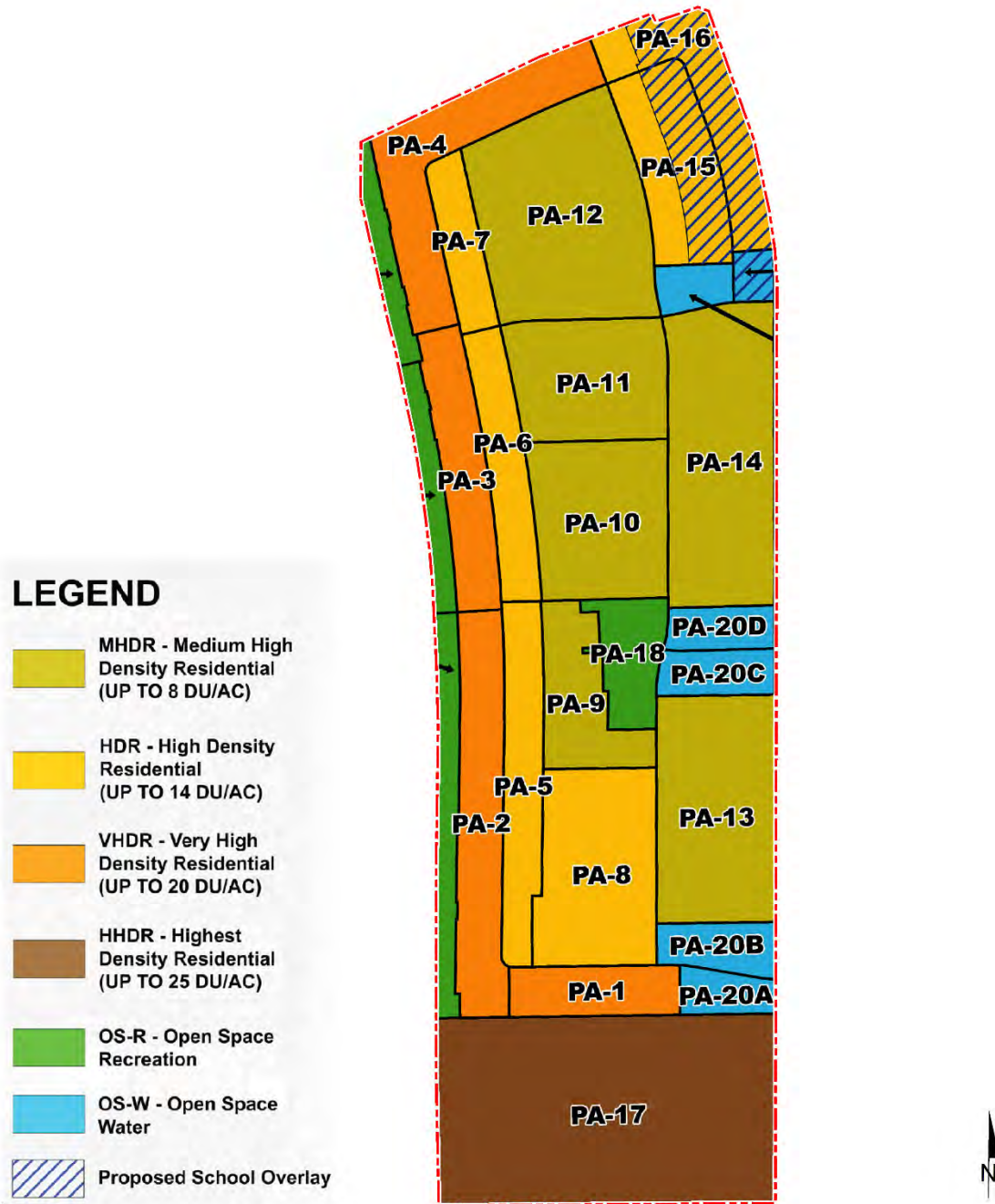


EXHIBIT 1-B: SITE PLAN



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2 FUNDAMENTALS

Noise has been 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	SPEECH INTERFERENCE
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		
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. (7) 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. (8) 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 commonly 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. While the L_{50} describes the median noise levels occurring 50 percent of the time, the L_{eq} accounts for the total energy (average) observed for the entire hour. Therefore, the L_{eq} noise descriptor is generally 1-2 dBA higher than the L_{50} noise level.

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 City of Jurupa Valley 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. (7)

2.3.2 GROUND ABSORPTION

The propagation path of noise from a highway to a receptor 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 receptor, 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 receptor 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. (9)

2.3.3 ATMOSPHERIC EFFECTS

Receptors 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. (7)

2.3.4 SHIELDING

A large object or barrier in the path between a noise source and a receptor can substantially attenuate noise levels at the receptor. 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 resident. 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 FHWA does not consider the planting of vegetation to be a noise abatement measure. (9)

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. (10) 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 receptor by controlling the noise source, transmission path, receptor, or all three. This concept is known as the source-path-receptor 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 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 receptor. 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. (9)

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. (11)

2.8 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:

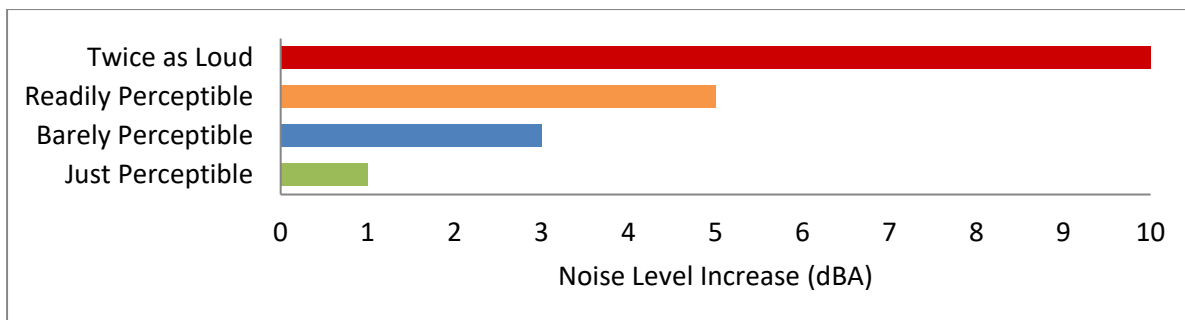
- Fear associated with noise producing activities;

- 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. Another 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. (12) 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. (12)

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. An increase or decrease of 1 dBA cannot be perceived except in carefully controlled laboratory experiments, a change of 3 dBA is considered *barely perceptible*, and changes of 5 dBA are considered *readily perceptible*. (13)

EXHIBIT 2-B: NOISE LEVEL INCREASE PERCEPTION



2.9 VIBRATION

Per the Federal Transit Administration (FTA) *Transit Noise and Vibration Impact Assessment Manual*, 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.

Additionally, in contrast to airborne noise, ground-borne vibration outdoors is not a common environmental problem and annoyance from ground-borne vibration is almost exclusively an indoor phenomenon (6). Therefore, the effects of vibrations should only be evaluated at a

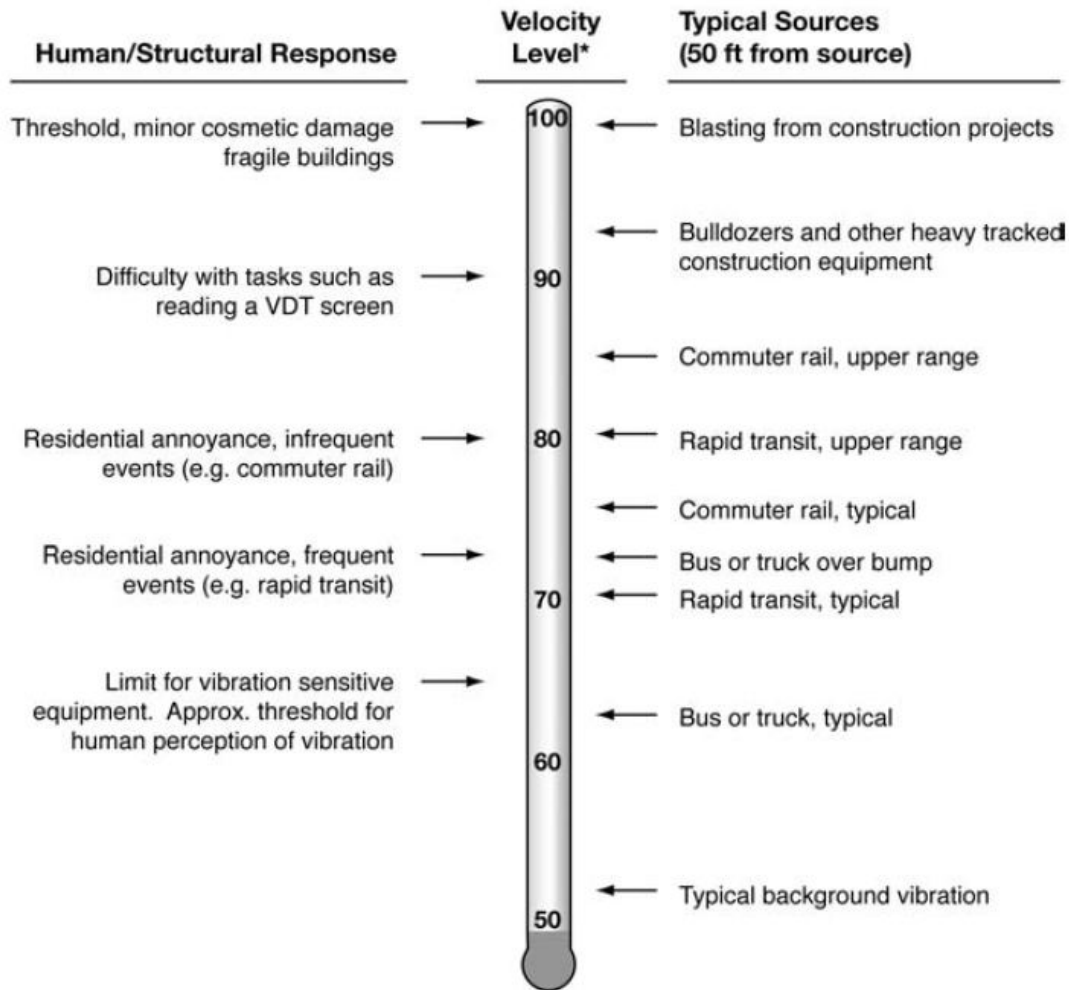
structure and the effects of the building structure on the vibration should be considered. Wood-frame buildings, such as typical residential structures, are more easily excited by ground vibration than heavier buildings. In contrast, large masonry buildings with spread footings have a low response to ground vibration (6). In general, the heavier a building is, the lower the response will be to the incident vibration energy. However, all structures reduce vibration levels due to the coupling of the building to the soil.

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 (6). 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 (6). However, the RMS amplitude and PPV are related mathematically, and the RMS amplitude of equipment is typically calculated from the PPV reference level. The RMS amplitude is approximately 70% of the PPV (14). Thus, either can be used on the description of vibration impacts.

While not universally accepted, vibration decibel notation (VdB) is another vibration notation developed and used by the FTA in their guidance manual to describe vibration levels and provide a background of common vibration levels and set vibration limits (15). Decibel notation (VdB) serves to reduce the range of numbers used to describe vibration levels and is used in this report to describe vibration levels.

As stated in the FTA guidance manual, 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). (16) 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 BUILDING CODE

The State of California's noise insulation standards for all residential units are codified in the California Code of Regulations (CCR), Title 24, Building Standards Administrative Code, Chapter 12, Section 1206. These noise standards are applied to new construction that contains dwelling units or sleeping units, such as residential and hotel or motel uses, in California for controlling interior noise levels resulting from exterior noise sources. For new buildings, the acceptable interior noise limit is 45 dBA CNEL in habitable rooms (17).

3.3 CITY OF JURUPA VALLEY GENERAL PLAN NOISE ELEMENT

The City of Jurupa Valley adopted the General Plan on September 7, 2017 (18) The Noise Element identifies several policies to minimize the impacts of excessive noise levels throughout the community and establishes noise level compatibility guidelines for all land uses.

3.2.1 POLICIES AND PROGRAMS

To protect City of Jurupa Valley residents from excessive noise, the Noise Element contains the following policies and programs related to the noise the Project generates:

NE 1.3 New or Modified Stationary Noise Sources. Noise created by new stationary noise sources, or by existing stationary noise sources that undergo modifications that may increase noise levels, shall be mitigated so as not exceed the noise level standards of Figure 7-3. This

policy does not apply to noise levels associated with agricultural operations existing in 2017.

- NE 1.4 *Acoustical Assessment. Require an acoustical assessment for proposed General Plan amendments and rezones that exceed the “Normally Acceptable” thresholds of the Land Use/Noise Compatibility Matrix.*
- NE 3.1 *Noise Analysis. Require that a noise analysis be conducted by an acoustical specialist for all proposed development projects that have the potential to generate significant noise near a noise-sensitive land use, or on or near land designated for noise-sensitive land uses and ensure that recommended mitigation measures are implemented.*
- NE 3.5 *Construction Noise. Limit commercial construction activities adjacent to or within 200 feet of residential uses to weekdays, between 7:00 a.m. and 6:00 p.m., and limit high-noise-generating construction activities (e.g., grading, demolition, pile driving) near sensitive receptors to weekdays between 9:00 a.m. and 3:00 p.m.*

To ensure noise-sensitive land uses are protected from new or Modified Stationary Noise Sources, Policy (NE 1.3), Figure 7-3 of the Noise Element identifies guidelines to evaluate proposed developments based on exterior noise level limits for land uses and requires a noise analysis to determine needed mitigation measures if necessary. The Noise Element requires an acoustical assessment for proposed General Plan amendments and rezones that exceed the “Normally Acceptable” thresholds of the Land Use/Noise Compatibility Matrix (NE 1.4).

To control stationary noise sources, Policy (NE 3.1) requires that a noise analysis be conducted by an acoustical specialist for all proposed development projects. Maximum noise exposure levels from stationary sources for noise-sensitive uses are regulated by the Municipal Code. To prevent high levels of construction noise from impacting noise-sensitive land uses, Policy NE 3.5 limits construction activities within 200 feet of residential uses to weekdays, between 7:00 a.m. and 6:00 p.m., and limit high-noise-generating construction activities (e.g., grading, demolition, pile driving) near sensitive receptors to weekdays between 9:00 a.m. and 3:00 p.m.

3.2.2 LAND USE COMPATIBILITY

The noise criteria identified in the City of Jurupa Valley Noise Element (Figure 7-3) are guidelines to evaluate the land use compatibility of transportation related noise. The compatibility criteria, shown on Exhibit 3-A, provides the city with a planning tool to gauge the compatibility of land uses relative to existing and future exterior noise levels. The *Land Use/Noise Compatibility Matrix* describes categories of compatibility and not specific noise standards. The existing 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.

EXHIBIT 3-A: LAND USE/NOISE COMPATIBILITY MATRIX

LAND USE CATEGORY	COMMUNITY NOISE EXPOSURE Ldn or CNEL, dB					
	55	60	65	70	75	80
Residential - Low Density Single Family, Duplex, Mobile Homes						
Residential - Multi Family						
Transient Lodging - Motels, Hotels						
Schools, Libraries, Churches, Hospitals, Nursing Homes						
Auditoriums, Concert Halls, Amphitheatres						
Sports Arena, Outdoor Spectator Sports						
Playgrounds, Neighborhood Parks						
Golf Courses, Riding Stables, Water Recreation, Cemeteries						
Office Buildings, Business Commercial and Professional						
Industrial, Manufacturing Utilities, Agriculture						

-  **NORMALLY ACCEPTABLE**
Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.
-  **CONDITIONALLY ACCEPTABLE**
New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air sup systems or air conditioning will normally suffice.
-  **NORMALLY UNACCEPTABLE**
New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise reduction features included in the design.
-  **CLEARLY UNACCEPTABLE**
New construction or development should generally not be undertaken.

Source: Jurupa Valley General Plan, 2017 Figure 7-3.

3.3 OPERATIONAL NOISE STANDARDS

To analyze noise impacts originating from a designated fixed location or private property such as Vernola Ranch Project, stationary-source (operational) noise such as the expected air conditioning units, outdoor activity, pool/spa activity and parking lot vehicle movements are typically evaluated against standards established under a jurisdiction's Municipal Code.

However, Section 11.05.010 of the City of Jurupa Valley Municipal Code (19) indicates that this chapter is not intended to establish city-wide standards regulating noise. Therefore, potential Project related stationary-source (operational) noise impacts are limited to the generation of a substantial temporary or permanent relative increase in the ambient noise levels. This is consistent with the February 22, 2021, MA 21046 1st Review CEQA comments provided by the City of Jurupa Valley. During operation of the Project, a significant noise-related impact would occur if Project operational noise at a noise-sensitive receiver exceeds 65 dBA L_{eq} between 7:00 a.m. and 10:00 p.m. or 45 dBA L_{eq} between 10:00 p.m. to 7:00 a.m. The City of Jurupa Valley Municipal Code is included in Appendix 3.1

3.4 CONSTRUCTION NOISE STANDARDS

To control noise impacts associated with the construction of the proposed Project, the City of Jurupa Valley Municipal Code has established limits to the hours of operation. Section 11.05.020 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. (19) In addition, City of Jurupa Valley General Plan Noise Element Policy NE 3.5 limits (17) commercial construction activities adjacent to or within 200 feet of residential uses to weekdays, between 7:00 a.m. and 6:00 p.m., as well as limiting high-noise-generating construction activities (e.g., grading, demolition, pile driving) near sensitive receptors to weekdays between 9:00 a.m. and 3:00 p.m. (18)

Neither the General Plan nor Municipal Code establish numeric maximum acceptable construction source noise levels at potentially affected receivers for CEQA analysis purposes. Therefore, this analysis relies on a numerical daytime construction threshold based on Federal Transit Administration (FTA) *Transit Noise and Vibration Impact Assessment Manual*. 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 land use. (20 p. 179)

3.5 CONSTRUCTION VIBRATION STANDARDS

To analyze vibration impacts originating from the construction of the Vernola Ranch, vibration-generating activities are evaluated against the standards identified by the City of Jurupa Valley as a threshold of 0.2 inches per second (in/sec) peak-particle-velocity (PPV). (21)

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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. (22) 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?

4.1 NOISE LEVEL INCREASES (THRESHOLD A)

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 baseline 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*. (23) 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—also called the *ambient* noise environment. According to the City of Jurupa Valley, a noise impact would occur if a project-related increase:

- at residential land uses of 3 dBA or more to 65 dBA CNEL or above; or
- at commercial land uses of 3 dBA or more to 70 dBA CNEL or above. (24)

The City of Jurupa Valley noise related CEQA thresholds guidance is provided in Appendix 4.1.

4.2 VIBRATION (THRESHOLD B)

As described in Section 3.5, the vibration impacts originating from the construction of the Project, vibration-generating activities are appropriately evaluated against the thresholds of significance outlined in the City of Jurupa Valley noise related CEQA thresholds guidance. According to the City of Jurupa Valley, a vibration-related impact would occur if a project exposes a vibration sensitive receiver to peak-particle-velocity (PPV) in excess of 0.20 inches per second (in/sec).

4.3 CEQA GUIDELINES NOT FURTHER ANALYZED (THRESHOLD C)

CEQA Noise Threshold C applies when there are nearby public and private airports and/or air strips and focuses on land use compatibility of the Project to nearby airports and airstrips. The Project site is not located within two miles of an airport or airstrip. The closest major airport is

the French Valley Airport located roughly 3.9 miles southwest 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 Appendix G to the CEQA Guidelines, Noise Threshold C.

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 4-1 shows the significance criteria summary matrix that includes the allowable criteria used to identify potentially significant incremental noise level increases.

TABLE 4-1: SIGNIFICANCE CRITERIA SUMMARY

Analysis	Receiving Land Use	Condition(s)	Significance Criteria	
			Daytime	Nighttime
Off-Site	Noise-Sensitive	If ambient is < 65 dBA CNEL ¹	Project plus ambient > 65 dBA CNEL and a ≥ 3 dBA CNEL Project increase ²	
	Non-Noise-Sensitive	If ambient is < 70 dBA CNEL ¹	Project plus ambient > 70 dBA CNEL and a ≥ 3 dBA CNEL Project increase ²	
Operational	Noise-Sensitive	Exterior Noise Level Standards ²	65 dBA L _{eq}	45 dBA L _{eq}
		If ambient is > 65 dBA L _{eq} ¹	≥ 3 dBA L _{eq} Project increase ²	
		Vibration Level Threshold	0.2 in./sec.	
Construction	Noise-Sensitive	Limit construction activities adjacent to or within 200 feet of residential uses to weekdays, between 7:00 a.m. and 6:00 p.m., and limit high-noise-generating construction activities (e.g., grading, demolition, pile driving) near sensitive receptors to weekdays between 9:00 a.m. and 3:00 p.m. ³		
		Noise Level Threshold ⁴	80 dBA L _{eq}	70 dBA L _{eq}
		Vibration Level Threshold	0.2 in/sec PPV	

¹ City of Jurupa Valley General Plan Noise Element Policy NE 1.5 and Figure 7-3 *normally acceptable* noise exposure.

² City of Jurupa Valley noise related CEQA thresholds guidance for noise sensitive receivers (Appendix 4.1).

³ City of Jurupa Valley Municipal Code, Section 11.05.020.(9).

⁴ 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.; "PPV" = Peak Particle Velocity

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 shows the Project site and the noise level measurement locations. To fully describe the existing noise conditions, noise level measurements were collected by Urban Crossroads, Inc. on Thursday, June 21, 2022. 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. (25)

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.* (7) Further, FTA guidance states, *that 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.* (20)

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. (20) 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

EXHIBIT 5-A: NOISE MEASUREMENT LOCATIONS



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. Appendix 5.2 provides a summary of the existing hourly ambient noise levels.

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

Location ¹	Description	Energy Average Noise Level (dBA L_{eq}) ²	
		Daytime	Nighttime
L1	Located near the northwest corner of the Project Site near I-15 and Bellegrave Ave.	72.0	69.9
L2	Located east of the Project Site on Pats Ranch Road near southwest corner of Vernola Park	55.6	58.8
L3	Located east of the Project Site on Pats Ranch Road near single-family residence at 5343 Cormorant Court.	61.2	58.1
L4	Located east of the Project Site on Pats Ranch Road and Park Center drive near single-family residence at 5487 Tree Sparrow Ct.	61.5	59.8
L5	Located east of the Project Site on Pats Ranch Road and Park Center drive near single-family residence at 11981 Kestral Ct.	62.9	60.3

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 nearby surface streets. This includes the auto and heavy truck activities on study area roadway segments near the noise level 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.

6.1 FHWA TRAFFIC NOISE PREDICTION MODEL

The estimated roadway noise impacts from vehicular traffic were calculated using a computer program that replicates the Federal Highway Administration (FHWA) Traffic Noise Prediction Model- FHWA-RD-77-108. (26) 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. (27) 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.

6.2 ON-SITE TRAFFIC NOISE PREDICTION MODEL INPUTS

The on-site roadway parameters including the average daily traffic (ADT) volumes used for this study are presented on Table 6-1. Based on the Vernola Ranch Traffic Study (5), Limonite Avenue is classified as a six (6) lane "Urban Arterial", Bellegrave Avenue and Wineville Avenue are classified as four (4) lane "Major", and Pats Ranch Road, north of Boca Place, is classified as a two (2) lane "Collector" and south of Boca Place, Pats Ranch Road is classified as a four (4) lane "Collector". Future average daily traffic volumes, shown on Table 6-1, were obtained from the City of Jurupa Valley General Plan Traffic Study. (28)

Tables 6-2 and 6-3 present the time-of-day vehicle splits by vehicle type and roadway classification, and Table 6-4 presents the total traffic flow distributions (vehicle mixes) used for this analysis. The vehicle mix provides the hourly distribution percentages of automobile, medium trucks, and heavy trucks for input into the FHWA Model based on roadway types. The vehicle splits are shown on Tables 6-2 and 6-3 are reported as a percentage of the overall percentage. To predict the future noise environment at each lot within the Project site, coordinate information was collected to identify the noise transmission path between the noise source and receiver. The coordinate information is based on the Project site plan showing the plotting of each lot, as shown in Exhibit 1-B. The site plan is used to identify the relationship between the roadway centerline elevation, the pad elevation and the centerline distance to the noise barrier, and the building façade. The first-floor exterior noise level receivers were placed five feet above the pad elevation, second-floor receivers were placed 14 feet above the pad elevation, and third floor receivers were placed 23 feet above pad elevation.

TABLE 6-1: ON-SITE ROADWAY PARAMETERS

Roadway	Lanes	Classification ¹	LOS C Capacity (ADT) ²	Speeds (MPH)	Site Conditions
Bellegrave Ave.	4	Major	27,300	50	Soft
Limonite Ave.	6	Urban Arterial	43,100	50	Soft
Pats Ranch Rd. (N. of Boca Pl.)	2	Collector	10,400	40	Soft
Pats Ranch Rd. (S. of Boca Pl.)	4	Collector	15,400	40	Soft
I-15	8	Interstate	147,000 ³	65	Soft

¹ Vernola Ranch Traffic Study, Albert A. Webb Associates, Inc. October 2022² City of Jurupa Valley General Plan Traffic Study, 2017.³ Based on CalTrans 2020 Traffic Counts**TABLE 6-2: TIME OF DAY SPLITS (MAJOR, URBAN ARTERIAL, SECONDARY, COLLECTOR)**

Vehicle Type	Time of Day Splits			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%

Typical California Vehicle Mix.

"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 6-3: DISTRIBUTION OF TRAFFIC FLOW BY VEHICLE TYPE (VEHICLE MIX)

Roadway Classification	Total % Traffic Flow			Total
	Autos	Medium Trucks	Heavy Trucks	
All Roadways	97.42%	1.84%	0.74%	100.00%

Typical California Vehicle Mix.

6.3 OFF-SITE TRAFFIC NOISE PREDICTION MODEL INPUTS

Table 6-4 identifies the eight off-site study area roadway segments, the distance from the centerline to adjacent land use based on the functional roadway classifications per the Vernola Ranch Traffic Study (5) and the posted vehicle speeds. Consistent with the Traffic Study prepared by Albert A. Webb Associates, Inc. for the Project, (5) the off-site traffic noise analysis includes the following traffic scenarios.

- Phase 1 (2027) Conditions
- Phase 2 (2029) Conditions
- Phase 3 (2031) Conditions
- General Plan Buildout 2040

The average daily traffic (ADT) volumes used for this study are presented on Table 6-5. Table 6-2 and Table 6-3 provides the time of day (daytime, evening, and nighttime) vehicle splits used for calculating CNEL values.

TABLE 6-4: OFF-SITE ROADWAY PARAMETERS

ID	Roadway	Segment	Receiving Existing Land Use ¹	Classification ²	Distance from Centerline to Receiving Land Use (Feet) ³	Vehicle Speed (mph)
1	Bellegrave Ave.	w/o Pats Ranch Rd.	Sensitive	Major	50'	50
2	Bellegrave Ave.	e/o Pats Ranch Rd.	Sensitive	Major	50'	50
3	Bellegrave Ave.	e/o Wineville Ave.	Sensitive	Major	50'	50
4	Wineville Ave.	n/o Bellegrave Ave.	Sensitive	Major	50'	45
5	Wineville Ave.	s/o Bellegrave Ave.	Sensitive	Major	50'	45
6	Limonite Ave	e/o Pats Ranch Rd.	Sensitive	Urban Arterial	81'	50
7	Pats Ranch Rd.	n/o Boca Pl	Sensitive	Collector	37'	40
8	Pats Ranch Rd.	s/o Boca Pl	Sensitive	Collector	49'	40

¹ Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.

² Vernola Ranch Traffic Study, Albert A. Webb Associates, Inc. October 2022

³ Distance to receiving land use is based upon existing aerial imagery.

TABLE 6-5: AVERAGE DAILY TRAFFIC VOLUMES

ID	Roadway	Segment	Phase 1 NP	Phase 1 WP	Phase 2 NP	Phase 2 WP	Phase 3 NP	Phase 3 WP	GPBO NP	GPBO WP
1	Bellegrave Ave.	w/o Pats Ranch Rd.	12,634	14,582	13,498	14,685	13,600	15,226	17,637	19,263
2	Bellegrave Ave.	e/o Pats Ranch Rd.	12,634	14,582	13,498	14,685	13,600	15,764	17,637	19,801
3	Bellegrave Ave.	e/o Wineville Ave.	11,312	13,225	12,009	13,434	12,069	13,567	15,792	17,290
4	Wineville Ave.	n/o Bellegrave Ave.	7,266	7,910	7,433	8,027	7,452	8,119	10,143	10,810
5	Wineville Ave.	s/o Bellegrave Ave.	9,242	11,795	9,409	11,875	9,428	9,428	12,902	12,902
6	Limonite Ave	e/o Pats Ranch Rd.	34,862	36,567	35,243	35,837	35,370	35,964	48,667	49,261
7	Pats Ranch Rd.	n/o Boca Pl.	1,232	5,107	1,232	7,307	1,232	8,672	1,720	9,160
8	Pats Ranch Rd.	s/o Boca Pl.	3,209	9,547	3,209	11,875	3,209	12,168	4,480	13,439

¹ Vernola Ranch Traffic Study, Albert A. Webb Associates, Inc. October 2022

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7 ON-SITE TRAFFIC NOISE IMPACTS

This on-site exterior noise impact analysis has been completed to determine the traffic noise exposure and to identify potential necessary noise abatement measures for the Project. The primary source of noise impacts to the Project site will be traffic noise from Bellegrave Avenue, Pats Ranch Road, and I-15. The Project will also experience some background traffic noise from the Project's internal local streets, however, due to low traffic volume/speed, traffic noise from these roads will not make a significant contribution to the noise environment.

7.1 ON-SITE EXTERIOR NOISE ANALYSIS

Using the FHWA traffic noise prediction model and the parameters outlined in Tables 6-1 to 6-3, the expected future exterior noise levels for individual lots were calculated. Table 7-1 presents a summary of future exterior noise levels in the outdoor living areas (backyards) within the Project site. The on-site traffic noise level impacts indicate that the outdoor living areas adjacent to Bellegrave Avenue, Pats Ranch Road, and I-15 will experience unshielded exterior noise levels ranging from 62.1 to 75.6 dBA CNEL. The on-site traffic noise analysis calculations are provided in Appendix 7.1.

To satisfy the City of Jurupa Valley exterior noise level standard of 65 dBA CNEL for residential land uses, the construction of a minimum 12-foot-high noise barrier is required for the outdoor living area (backyards) of lots within PA-2, 3, and 4, adjacent I-15. Construction of a minimum 10-foot-high noise barrier is required for the outdoor living area (backyards) of lots within PA-17 adjacent I-15. A minimum of 9-foot-high noise barrier is required for the outdoor living area of lots within PA-4 and a minimum of 8-foot-high noise barrier is required for the outdoor living area of lots within PA-16, adjacent to Bellegrave Avenue. Lots within PA-13, 14, 16, 17, and 20 adjacent to Pats Ranch Road would satisfy the City of Jurupa Valley exterior noise level standard of 65 dBA CNEL for residential land uses. With the recommended noise barriers shown on Exhibit ES-A, the future exterior noise levels at the residential units will range from 62.8 to 63.5 dBA CNEL in outdoor living areas adjacent to Bellegrave Avenue and future exterior noise levels at the residential units would be 65.0 dBA CNEL in outdoor living areas adjacent to I-15. This noise analysis shows that the recommended noise barrier will satisfy the City of Jurupa Valley 65 dBA CNEL exterior noise level standards for residential land uses. The effective noise barrier height recommendations represent the minimum wall and/or berm combination height required to satisfy the City of Jurupa Valley exterior noise level standards.

TABLE 7-1: EXTERIOR NOISE LEVELS

Planning Area	Source	24-Hr Exterior Noise Levels (dBA CNEL) ¹	Mitigated Noise Level (dBA CNEL)	Barrier Height (Feet)	Land Use Compatibility With Mitigation ²
PA-4	Bellegrave Ave.	74.1	61.1	0.0	Conditionally Acceptable
PA-16	Bellegrave Ave.	73.5	61.0	0.0	Conditionally Acceptable
PA-16	Pats Ranch Rd. (N. of Boca Pl.)	62.1	--	--	Normally Acceptable
PA-20	Pats Ranch Rd. (N. of Boca Pl.)	62.1	--	--	Normally Acceptable
PA-14	Pats Ranch Rd. (N. of Boca Pl.)	63.4	--	--	Normally Acceptable
PA-13	Pats Ranch Rd. (N. of Boca Pl.)	62.5	--	--	Normally Acceptable
PA-17	Pats Ranch Rd. (S. of Boca Pl.)	63.0	--	--	Normally Acceptable
PA-3 and 4	I-15	75.4	65.0	0.0	Conditionally Acceptable
PA-2	I-15	75.6	65.0	0.0	Conditionally Acceptable
PA-17	I-15	72.9	65.0	0.0	Conditionally Acceptable

¹ Exterior noise calculations are included in Appendix 7.1.

² City of Jurupa Valley General Plan Noise Element, Figure 7-3 (Exhibit 3-A).

7.2 ON-SITE INTERIOR NOISE ANALYSIS

The future noise levels were calculated at the first, second, and third-floor building façades to ensure that the interior noise levels comply with the City of Jurupa Valley 45 dBA CNEL interior noise standards. Third-floor receivers have only been calculated for Planning Area 17 with all other proposed residential units being two-story.

7.2.1 NOISE REDUCTION METHODOLOGY

The interior noise level is the difference between the predicted exterior noise level at the building façade and the noise reduction of the structure. Typical building construction will provide a Noise Reduction (NR) of approximately 12 dBA with "windows open" and a minimum 25 dBA noise reduction with "windows closed." (20) (3) However, sound leaks, cracks and openings within the window assembly can greatly diminish its effectiveness in reducing noise. Several methods are used to improve interior noise reduction, including: [1] weather-stripped solid core exterior doors; [2] upgraded dual glazed windows; [3] mechanical ventilation/air conditioning; and [4] exterior wall/roof assemblies free of cut outs or openings.

7.2.2 INTERIOR NOISE LEVEL ASSESSMENT

Tables 7-2 to 7-4 shows that the lots facing I-15, Bellegrave Avenue, and Pats Ranch Road would experience future unmitigated and mitigated (accounting for proposed I-15 and Bellegrave Avenue noise barriers) noise levels ranging from 61.4 to 64.9 dBA CNEL at the first-floor building façade and 61.7 to 76.1 dBA CNEL at the second-floor building façade. The third-floor building facades of lots within PA-17 would experience a noise level of ranging from 62.5 to 72.7 dBA CNEL. The interior noise level analysis shows that the City of Jurupa Valley 45 dBA CNEL with

windows closed interior noise standards can be satisfied using standard windows with a minimum STC rating of 27 for all first-floor building facades adjacent to I-15, Bellegrave Avenue, and Pats Ranch Road. However, second- and third-floor building facades adjacent to Bellegrave Avenue and I-15 would not comply with the County of Riverside 45 dBA CNEL using standard windows. Second-floor facades adjacent to Bellegrave Avenue would require STC 30 windows for PA-16 and STC 31 windows for PA-4. Second-floor facades adjacent to I-15 would require STC 28 windows for PA-3 and PA-4 and STC 34 for PA-2 facades.

Therefore, the interior noise analysis shows that with the recommended interior noise abatement measures for first-, second-, and third-floor facades adjacent to Bellegrave Avenue and I-15 described in the Executive Summary, the Project will satisfy the City of Jurupa Valley 45 dBA CNEL windows closed interior noise level standards for residential development.

TABLE 7-2: FIRST FLOOR INTERIOR NOISE IMPACTS (CNEL)

Unit Plan	Noise Level at Façade ¹	Required Interior NR ²	Estimated Interior NR ³	Upgraded Windows ⁴	Interior Noise Level ⁵	Threshold ⁶	Threshold Exceeded?
PA-4	61.4	16.4	25.0	No	36.4	45	No
PA-16	62.2	17.2	25.0	No	37.2	45	No
PA-16	61.7	16.7	25.0	No	36.7	45	No
PA-20	61.7	16.7	25.0	No	36.7	45	No
PA-14	62.9	17.9	25.0	No	37.9	45	No
PA-13	62.1	17.1	25.0	No	37.1	45	No
PA-17	62.6	17.6	25.0	No	37.6	45	No
PA-3 and 4	64.9	19.9	25.0	No	39.9	45	No
PA-2	64.7	19.7	25.0	No	39.7	45	No
PA-17	64.9	19.9	25.0	No	39.9	45	No

¹ Exterior noise level at the facade with a windows closed condition requiring a means of mechanical ventilation (e.g. air conditioning).

² Noise reduction required to satisfy the 45 dBA CNEL interior noise standard.

³ Estimated minimum interior noise reduction.

⁴ Does the required interior noise reduction trigger upgraded windows with a minimum STC rating of greater than 27?

⁵ Estimated interior noise level with minimum STC rating for all windows.

⁶ Interior noise level threshold for residential use (California Code of Regulations, Title 24, Building Standards Administrative Code)

"NR" = Noise Reduction

TABLE 7-3: SECOND FLOOR INTERIOR NOISE IMPACTS (CNEL)

Parcel	Noise Level at Façade ¹	Required Interior NR ²	Estimated Interior NR ³	Upgraded Windows ⁴	Interior Noise Level ⁵	Threshold ⁶	Threshold Exceeded?
PA-4	73.6	28.6	25.0	No	48.6	45	Yes
PA-16	72.8	27.8	25.0	No	47.8	45	Yes
PA-16	61.7	16.7	25.0	No	36.7	45	No
PA-20	61.7	16.7	25.0	No	36.7	45	No
PA-14	62.8	17.8	25.0	No	37.8	45	No
PA-13	62.0	17.0	25.0	No	37.0	45	No
PA-17	62.6	17.6	25.0	No	37.6	45	No
PA-3 and 4	70.3	25.3	25.0	No	45.3	45	Yes
PA-2	76.1	31.1	25.0	No	51.1	45	Yes
PA-17	68.1	23.1	25.0	No	43.1	45	No

¹ Exterior noise level at the facade with a windows closed condition requiring a means of mechanical ventilation (e.g. air conditioning).

² Noise reduction required to satisfy the 45 dBA CNEL interior noise standard.

³ Estimated minimum interior noise reduction.

⁴ Does the required interior noise reduction trigger upgraded windows with a minimum STC rating of greater than 27?

⁵ Estimated interior noise level with minimum STC rating for all windows.

⁶ Interior noise level threshold for residential use (California Code of Regulations, Title 24, Building Standards Administrative Code)

"NR" = Noise Reduction

TABLE 7-4: THIRD FLOOR INTERIOR NOISE IMPACTS (CNEL)

Parcel	Noise Level at Façade ¹	Required Interior NR ²	Estimated Interior NR ³	Upgraded Windows ⁴	Interior Noise Level ⁵	Threshold ⁶	Threshold Exceeded?
PA-17	62.5	17.5	25.0	No	37.5	45	No
PA-17	72.7	27.7	25.0	No	47.7	45	Yes

¹ Exterior noise level at the facade with a windows closed condition requiring a means of mechanical ventilation (e.g. air conditioning).

² Noise reduction required to satisfy the 45 dBA CNEL interior noise standard.

³ Estimated minimum interior noise reduction.

⁴ Does the required interior noise reduction trigger upgraded windows with a minimum STC rating of greater than 27?

⁵ Estimated interior noise level with minimum STC rating for all windows.

⁶ Interior noise level threshold for residential use (California Code of Regulations, Title 24, Building Standards Administrative Code)

"NR" = Noise Reduction

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8 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 *Vernola Ranch Traffic Study* (5). Noise contour boundaries represent the equal levels of noise exposure and are measured in CNEL from the center of the roadway. Noise contours were developed for the following traffic scenarios:

- Phase 1 (2027) Conditions Without Project: This scenario refers to the Phase 1 opening year noise conditions without the proposed Project.
 - Phase 1 (2027) plus Project Conditions: This scenario refers to the Phase 1 opening year noise conditions plus other cumulative projects with the proposed Project.
- Phase 2 Conditions (2029) Without Project: This scenario refers to the Phase 2 opening year noise conditions without the proposed Project.
 - Phase 2 Project Conditions (2029): This scenario refers to the Phase 2 opening year noise conditions plus other cumulative projects with the proposed Project.
- Phase 3 Conditions (2031) Without Project: This scenario refers to the Phase 3 opening year noise conditions without the proposed Project.
 - Phase 3 Project Conditions (2031): This scenario refers to the Phase 3 opening year noise conditions plus other cumulative projects with the proposed Project.
- General Plan Buildout (2040) Conditions Without Project: This scenario refers to cumulative near-term noise conditions without the proposed Project.
 - General Plan Buildout (2040) Conditions – Project Buildout: This scenario includes all cumulative projects identified in the *Traffic Impact Analysis*.

Based on the Traffic Study prepared by Albert A. Webb Associates, Inc. for the Project, (5), under Buildout, the Project is anticipated to generate a total of 13,334 new trips daily.

8.1 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 8-1 through 8-8 present a summary of the exterior dBA CNEL traffic noise levels. Roadway segments are analyzed in each of the following timeframes: Phase 1, Phase 2, Phase 3, and GPBO 2040 without and with Project conditions. Appendix 8.1 includes a summary of the dBA CNEL traffic noise level contours for each of the traffic scenarios.

TABLE 8-1: PHASE 1 WITHOUT PROJECT NOISE CONTOURS

ID	Road	Segment	Receiving Existing 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	Bellegrave Ave.	w/o Pats Ranch Rd.	Sensitive	69.1	RW	RW	201
2	Bellegrave Ave.	e/o Pats Ranch Rd.	Sensitive	69.1	RW	RW	201
3	Bellegrave Ave.	e/o Wineville Ave.	Sensitive	68.6	RW	RW	187
4	Wineville Ave.	n/o Bellegrave Ave.	Sensitive	65.5	RW	RW	116
5	Wineville Ave.	s/o Bellegrave Ave.	Sensitive	66.6	RW	RW	137
6	Limonite Ave	e/o Pats Ranch Rd.	Sensitive	71.0	RW	202	436
7	Pats Ranch Rd.	n/o Boca Pl	Sensitive	58.1	RW	RW	RW
8	Pats Ranch Rd.	s/o Boca Pl	Sensitive	60.8	RW	RW	RW

¹ Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.

² The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.

"RW" = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 8-2: PHASE 1 WITH PROJECT NOISE CONTOURS

ID	Road	Segment	Receiving Existing 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	Bellegrave Ave.	w/o Pats Ranch Rd.	Sensitive	69.7	RW	103	221
2	Bellegrave Ave.	e/o Pats Ranch Rd.	Sensitive	69.7	RW	103	221
3	Bellegrave Ave.	e/o Wineville Ave.	Sensitive	69.3	RW	RW	207
4	Wineville Ave.	n/o Bellegrave Ave.	Sensitive	65.9	RW	RW	123
5	Wineville Ave.	s/o Bellegrave Ave.	Sensitive	67.6	RW	RW	161
6	Limonite Ave	e/o Pats Ranch Rd.	Sensitive	71.2	RW	209	450
7	Pats Ranch Rd.	n/o Boca Pl	Sensitive	64.3	RW	RW	RW
8	Pats Ranch Rd.	s/o Boca Pl	Sensitive	65.6	RW	RW	115

¹ Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.

² The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.

"RW" = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 8-3: PHASE 2 WITHOUT PROJECT NOISE CONTOURS

ID	Road	Segment	Receiving Existing 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	Bellegrave Ave.	w/o Pats Ranch Rd.	Sensitive	69.3	RW	RW	210
2	Bellegrave Ave.	e/o Pats Ranch Rd.	Sensitive	69.3	RW	RW	210
3	Bellegrave Ave.	e/o Wineville Ave.	Sensitive	68.8	RW	RW	194
4	Wineville Ave.	n/o Bellegrave Ave.	Sensitive	65.6	RW	RW	118
5	Wineville Ave.	s/o Bellegrave Ave.	Sensitive	66.6	RW	RW	138
6	Limonite Ave	e/o Pats Ranch Rd.	Sensitive	71.0	RW	204	439
7	Pats Ranch Rd.	n/o Boca Pl	Sensitive	58.1	RW	RW	RW
8	Pats Ranch Rd.	s/o Boca Pl	Sensitive	60.8	RW	RW	RW

¹ Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.

² The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.

"RW" = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 8-4: PHASE 2 WITH PROJECT NOISE CONTOURS

ID	Road	Segment	Receiving Existing 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	Bellegrave Ave.	w/o Pats Ranch Rd.	Sensitive	69.7	RW	103	222
2	Bellegrave Ave.	e/o Pats Ranch Rd.	Sensitive	69.7	RW	103	222
3	Bellegrave Ave.	e/o Wineville Ave.	Sensitive	69.3	RW	RW	209
4	Wineville Ave.	n/o Bellegrave Ave.	Sensitive	65.9	RW	RW	124
5	Wineville Ave.	s/o Bellegrave Ave.	Sensitive	67.6	RW	RW	162
6	Limonite Ave	e/o Pats Ranch Rd.	Sensitive	71.1	RW	206	444
7	Pats Ranch Rd.	n/o Boca Pl	Sensitive	65.8	RW	RW	91
8	Pats Ranch Rd.	s/o Boca Pl	Sensitive	66.5	RW	RW	133

¹ Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.

² The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.

"RW" = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 8-5: PHASE 3 WITHOUT PROJECT NOISE CONTOURS

ID	Road	Segment	Receiving Existing 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	Bellegrave Ave.	w/o Pats Ranch Rd.	Sensitive	69.4	RW	RW	211
2	Bellegrave Ave.	e/o Pats Ranch Rd.	Sensitive	69.4	RW	RW	211
3	Bellegrave Ave.	e/o Wineville Ave.	Sensitive	68.9	RW	RW	195
4	Wineville Ave.	n/o Bellegrave Ave.	Sensitive	65.6	RW	RW	118
5	Wineville Ave.	s/o Bellegrave Ave.	Sensitive	66.6	RW	RW	138
6	Limonite Ave	e/o Pats Ranch Rd.	Sensitive	71.0	RW	204	440
7	Pats Ranch Rd.	n/o Boca Pl	Sensitive	58.1	RW	RW	RW
8	Pats Ranch Rd.	s/o Boca Pl	Sensitive	60.8	RW	RW	RW

¹ Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.

² The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.

"RW" = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 8-6: PHASE 3 WITH PROJECT NOISE CONTOURS

ID	Road	Segment	Receiving Existing 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	Bellegrave Ave.	w/o Pats Ranch Rd.	Sensitive	69.9	RW	106	227
2	Bellegrave Ave.	e/o Pats Ranch Rd.	Sensitive	70.0	RW	108	233
3	Bellegrave Ave.	e/o Wineville Ave.	Sensitive	69.4	RW	RW	211
4	Wineville Ave.	n/o Bellegrave Ave.	Sensitive	66.0	RW	RW	125
5	Wineville Ave.	s/o Bellegrave Ave.	Sensitive	66.6	RW	RW	138
6	Limonite Ave	e/o Pats Ranch Rd.	Sensitive	71.1	RW	207	445
7	Pats Ranch Rd.	n/o Boca Pl	Sensitive	66.6	RW	RW	102
8	Pats Ranch Rd.	s/o Boca Pl	Sensitive	66.6	RW	RW	135

¹ Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.

² The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.

"RW" = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 8-7: GPBO 2040 WITHOUT PROJECT NOISE CONTOURS

ID	Road	Segment	Receiving Existing 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	Bellegrave Ave.	w/o Pats Ranch Rd.	Sensitive	70.5	RW	116	251
2	Bellegrave Ave.	e/o Pats Ranch Rd.	Sensitive	70.5	RW	116	251
3	Bellegrave Ave.	e/o Wineville Ave.	Sensitive	70.0	RW	108	233
4	Wineville Ave.	n/o Bellegrave Ave.	Sensitive	67.0	RW	RW	145
5	Wineville Ave.	s/o Bellegrave Ave.	Sensitive	68.0	RW	RW	171
6	Limonite Ave	e/o Pats Ranch Rd.	Sensitive	72.4	RW	253	545
7	Pats Ranch Rd.	n/o Boca Pl	Sensitive	59.6	RW	RW	RW
8	Pats Ranch Rd.	s/o Boca Pl	Sensitive	62.3	RW	RW	RW

¹ Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.

² The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.

"RW" = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 8-8: GPBO 2040 WITH PROJECT NOISE CONTOURS

ID	Road	Segment	Receiving Existing 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	Bellegrave Ave.	w/o Pats Ranch Rd.	Sensitive	70.9	RW	123	266
2	Bellegrave Ave.	e/o Pats Ranch Rd.	Sensitive	71.0	RW	126	271
3	Bellegrave Ave.	e/o Wineville Ave.	Sensitive	70.4	RW	115	248
4	Wineville Ave.	n/o Bellegrave Ave.	Sensitive	67.2	RW	RW	152
5	Wineville Ave.	s/o Bellegrave Ave.	Sensitive	68.0	RW	RW	171
6	Limonite Ave	e/o Pats Ranch Rd.	Sensitive	72.5	RW	255	549
7	Pats Ranch Rd.	n/o Boca Pl	Sensitive	66.8	RW	RW	105
8	Pats Ranch Rd.	s/o Boca Pl	Sensitive	67.1	RW	RW	145

¹ Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.

² The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.

"RW" = Location of the respective noise contour falls within the right-of-way of the road.

8.2 PHASE 1 PROJECT TRAFFIC NOISE LEVELS

Table 8-1 shows the Phase 1 without Project conditions CNEL noise levels. The Phase 1 without Project exterior noise levels are expected to range from 56.1 to 71.0 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 8-2 shows the Phase 1 plus Project conditions will range from 62.3 to 71.2 dBA CNEL. Table 8-9 shows that the Project off-site traffic noise level increases will range from 0.2 to 6.2 dBA CNEL. Based on the modeled results all adjacent receivers would experience a future noise level less than 65 dBA CNEL or the increase in noise levels would be less than 3 dBA CNEL. According to the City of Jurupa Valley CEQA significance criteria for off-site traffic noise presented in Section 4.1, land uses adjacent to the study area roadway segments would experience *less than significant* noise level increases due to Project-related traffic noise.

8.3 PHASE 2 PROJECT TRAFFIC NOISE LEVELS

Table 8-3 shows the Phase 2 without Project conditions CNEL noise levels. The Phase 2 without Project exterior noise levels are expected to range from 56.1 to 71.0 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 8-4 shows the Phase 2 plus Project conditions will range from 63.9 to 71.1 dBA CNEL. Table 8-10 shows that the Project off-site traffic noise level increases will range from 0.1 to 7.7 dBA CNEL. Based on the modeled results all adjacent receivers would experience a future noise level less than 65 dBA CNEL or the increase in noise levels would be less than 3 dBA CNEL. According to the City of Jurupa Valley CEQA significance criteria for off-site traffic noise presented in Section 4.1, land uses adjacent to the study area roadway segments would experience *less than significant* noise level increases due to Project-related traffic noise levels.

8.4 PHASE 3 PROJECT TRAFFIC NOISE LEVELS

Table 8-5 shows the Phase 3 without Project conditions CNEL noise levels. The Phase 3 without Project exterior noise levels are expected to range from 56.1 to 71.0 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 8-6 shows the Phase 3 plus Project conditions will range from 64.6 to 71.1 dBA CNEL. Table 8-11 shows that the Project off-site traffic noise level increases will range from 0.0 to 8.5 dBA CNEL. Based on the modeled results all adjacent receivers would experience a future noise level less than 65 dBA CNEL or the increase in noise levels would be less than 3 dBA CNEL except the existing noise sensitive receiver locations along Segment 8 of Pats Ranch Road. These receivers would experience noise level greater than 65 dBA CNEL and increases greater than 3 dBA CNEL. However, the noise sensitive receivers along Segment 8 are shielded from adjacent traffic noise by 8-foot-high barriers. Thus, the noise levels at these locations would be up to 5 dBA lower than modeled, resulting in traffic noise levels of approximately 60 dBA CNEL along this location. Based on the significance criteria for off-site traffic noise presented in Section 4.2, since future noise levels would be less than 65 dBA CNEL, land uses adjacent to the study area roadway segments would experience *less than significant* noise level increases due to Project-related traffic noise levels along Pats Ranch Road north and south of Boca Place (Segment 8).

8.5 GPBO 2040 PROJECT TRAFFIC NOISE LEVELS

Table 8-7 shows the GPBO 2040 without Project conditions CNEL noise levels. The GPBO 2040 without Project exterior noise levels are expected to range from 57.6 to 72.4 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 8-8 shows the GPBO 2040 plus Project conditions will range from 64.8 to 72.5 dBA CNEL. Table 8-12 shows that the Project off-site traffic noise level increases will range from 0.0 to 7.3 dBA CNEL. Based on the modeled results all adjacent receivers would experience a future noise level less than 65 dBA CNEL or the increase in noise levels would be less than 3 dBA CNEL except the existing noise sensitive receiver locations along Segment 8 of Pats Ranch Road. These receivers would experience noise level greater than 65 dBA CNEL and increases greater than 3 dBA CNEL. However, the noise sensitive receivers along Segment 8 are shielded from adjacent traffic noise by 8-foot-high barriers. Thus, the noise levels at these locations would be up to 5 dBA lower than modeled, resulting in traffic noise levels of approximately 61 dBA CNEL. Based on the significance criteria for off-site traffic noise presented in Section 4.2, land uses adjacent to the study area roadway segments would experience *less than significant* noise level impacts due to unmitigated Project-related traffic noise levels along Pats Ranch Road north and south of Boca Place (Segment 8).

8.6 CUMULATIVE TRAFFIC NOISE LEVEL INCREASES

Table 8-13 shows that the Project off-site contribution to cumulative traffic noise level increases range from 0.4 to 6.2 dBA CNEL. Based on the modeled results all adjacent receivers would experience a future noise level less than 65 dBA CNEL or the increase in noise levels would be less than 3 dBA CNEL except the existing noise sensitive receiver locations along Segment 8 of Pats Ranch Road. These receivers would experience noise level greater than 65 dBA CNEL and increases greater than 3 dBA CNEL. However, the noise sensitive receivers along Segment 8 are shielded from adjacent traffic noise by 8-foot-high barriers. Thus, the noise levels at these locations would be up to 5 dBA lower than modeled, resulting in traffic noise levels of approximately 61 dBA CNEL. Based on the significance criteria for off-site traffic noise, land uses adjacent to the study area roadway segments would experience *less than significant* noise level impacts due to unmitigated Project-related traffic noise levels along Pats Ranch Road north and south of Boca Place (Segment 8).

TABLE 8-9: PHASE 1 WITH PROJECT TRAFFIC NOISE INCREASES

ID	Road	Segment	Receiving Existing Land Use ¹	CNEL at Receiving Land Use (dBA) ²			Exterior Noise Standard	Noise Level Increase Threshold Over Statndard ³	
				No Project	With Project	Project Addition		Limit	Exceeded?
1	Bellegrave Ave.	w/o Pats Ranch Rd.	Sensitive	69.1	69.7	0.6	65	3	No
2	Bellegrave Ave.	e/o Pats Ranch Rd.	Sensitive	69.1	69.7	0.6	65	3	No
3	Bellegrave Ave.	e/o Wineville Ave.	Sensitive	68.6	69.3	0.7	65	3	No
4	Wineville Ave.	n/o Bellegrave Ave.	Sensitive	65.5	65.9	0.4	65	3	No
5	Wineville Ave.	s/o Bellegrave Ave.	Sensitive	66.6	67.6	1.1	65	3	No
6	Limonite Ave	e/o Pats Ranch Rd.	Sensitive	71.0	71.2	0.2	65	3	No
7	Pats Ranch Rd.	n/o Boca Pl	Sensitive	56.1	62.3	6.2	65	3	No
8	Pats Ranch Rd.	s/o Boca Pl	Sensitive	59.4	64.1	4.7	65	3	No

¹ Noise sensitive uses limited to existing 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 4-1)?

TABLE 8-10: PHASE 2 WITH PROJECT TRAFFIC NOISE INCREASES

ID	Road	Segment	Receiving Existing Land Use ¹	CNEL at Receiving Land Use (dBA) ²			Exterior Noise Standard	Noise Level Increase Threshold Over Statndard ³	
				No Project	With Project	Project Addition		Limit	Exceeded?
1	Bellegrave Ave.	w/o Pats Ranch Rd.	Sensitive	69.3	69.7	0.4	65	3	No
2	Bellegrave Ave.	e/o Pats Ranch Rd.	Sensitive	69.3	69.7	0.4	65	3	No
3	Bellegrave Ave.	e/o Wineville Ave.	Sensitive	68.8	69.3	0.5	65	3	No
4	Wineville Ave.	n/o Bellegrave Ave.	Sensitive	65.6	65.9	0.3	65	3	No
5	Wineville Ave.	s/o Bellegrave Ave.	Sensitive	66.6	67.6	1.0	65	3	No
6	Limonite Ave	e/o Pats Ranch Rd.	Sensitive	71.0	71.1	0.1	65	3	No
7	Pats Ranch Rd.	n/o Boca Pl	Sensitive	56.1	63.9	7.7	65	3	No
8	Pats Ranch Rd.	s/o Boca Pl	Sensitive	59.4	65.0	5.7	65	3	No

¹ Noise sensitive uses limited to existing 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 4-1)?

TABLE 8-11: PHASE 3 WITH PROJECT TRAFFIC NOISE INCREASES

ID	Road	Segment	Receiving Existing Land Use ¹	CNEL at Receiving Land Use (dBA) ²			Exterior Noise Standard	Noise Level Increase Threshold Over Statndard ³	
				No Project	With Project	Project Addition		Limit	Exceeded?
1	Bellegrave Ave.	w/o Pats Ranch Rd.	Sensitive	69.4	69.9	0.5	65	3	No
2	Bellegrave Ave.	e/o Pats Ranch Rd.	Sensitive	69.4	70.0	0.6	65	3	No
3	Bellegrave Ave.	e/o Wineville Ave.	Sensitive	68.9	69.4	0.5	65	3	No
4	Wineville Ave.	n/o Bellegrave Ave.	Sensitive	65.6	66.0	0.4	65	3	No
5	Wineville Ave.	s/o Bellegrave Ave.	Sensitive	66.6	66.6	0.0	65	3	No
6	Limonite Ave	e/o Pats Ranch Rd.	Sensitive	71.0	71.1	0.1	65	3	No
7	Pats Ranch Rd.	n/o Boca Pl	Sensitive	56.1	64.6	8.5	65	3	No
8	Pats Ranch Rd.	s/o Boca Pl	Sensitive	59.4	65.2	5.8	65	3	Yes

¹ Noise sensitive uses limited to existing 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 4-1)?

TABLE 8-12: GPBO 2040 WITH PROJECT TRAFFIC NOISE INCREASES

ID	Road	Segment	Receiving Existing Land Use ¹	CNEL at Receiving Land Use (dBA) ²			Exterior Noise Standard	Noise Level Increase Threshold Over Statndard ³	
				No Project	With Project	Project Addition		Limit	Exceeded?
1	Bellegrave Ave.	w/o Pats Ranch Rd.	Sensitive	70.5	70.9	0.4	65	3	No
2	Bellegrave Ave.	e/o Pats Ranch Rd.	Sensitive	70.5	71.0	0.5	65	3	No
3	Bellegrave Ave.	e/o Wineville Ave.	Sensitive	70.0	70.4	0.4	65	3	No
4	Wineville Ave.	n/o Bellegrave Ave.	Sensitive	67.0	67.2	0.3	65	3	No
5	Wineville Ave.	s/o Bellegrave Ave.	Sensitive	68.0	68.0	0.0	65	3	No
6	Limonite Ave	e/o Pats Ranch Rd.	Sensitive	72.4	72.5	0.1	65	3	No
7	Pats Ranch Rd.	n/o Boca Pl	Sensitive	57.6	64.8	7.3	65	3	No
8	Pats Ranch Rd.	s/o Boca Pl	Sensitive	60.8	65.6	4.8	65	3	Yes

¹ Noise sensitive uses limited to existing 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 4-1)?

TABLE 8-13: CUMULATIVE PROJECT TRAFFIC NOISE INCREASES

ID	Road	Segment	Receiving Land Use ¹	CNEL at Receiving Land Use (dBA) ²					Exceeded?
				Phase 1 Without Project	Phase 1 With Project	GPBO 2040 with Project	Cumulative Increase	Project Contribution	
1	Bellevue Ave.	w/o Pats Ranch Rd.	Sensitive	69.1	69.7	70.9	1.8	1.2	No
2	Bellevue Ave.	e/o Pats Ranch Rd.	Sensitive	69.1	69.7	71.0	2.0	1.3	No
3	Bellevue Ave.	e/o Wineville Ave.	Sensitive	68.6	69.3	70.4	1.8	1.2	No
4	Wineville Ave.	n/o Bellevue Ave.	Sensitive	65.5	65.9	67.2	1.7	1.4	No
5	Wineville Ave.	s/o Bellevue Ave.	Sensitive	66.6	67.6	68.0	1.4	0.4	No
6	Limonite Ave	e/o Pats Ranch Rd.	Sensitive	71.0	71.2	72.5	1.5	1.3	No
7	Pats Ranch Rd.	n/o Boca Pl	Sensitive	56.1	62.3	64.8	8.7	6.2	No
8	Pats Ranch Rd.	s/o Boca Pl	Sensitive	59.4	64.1	65.6	6.2	4.7	Yes

¹ Based on a review of existing aerial imagery. Noise sensitive uses limited to existing 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 4-1)?

s/o = south of; e/o = east of; w/o = west of

9 SENSITIVE 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 9-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, outpatient 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.

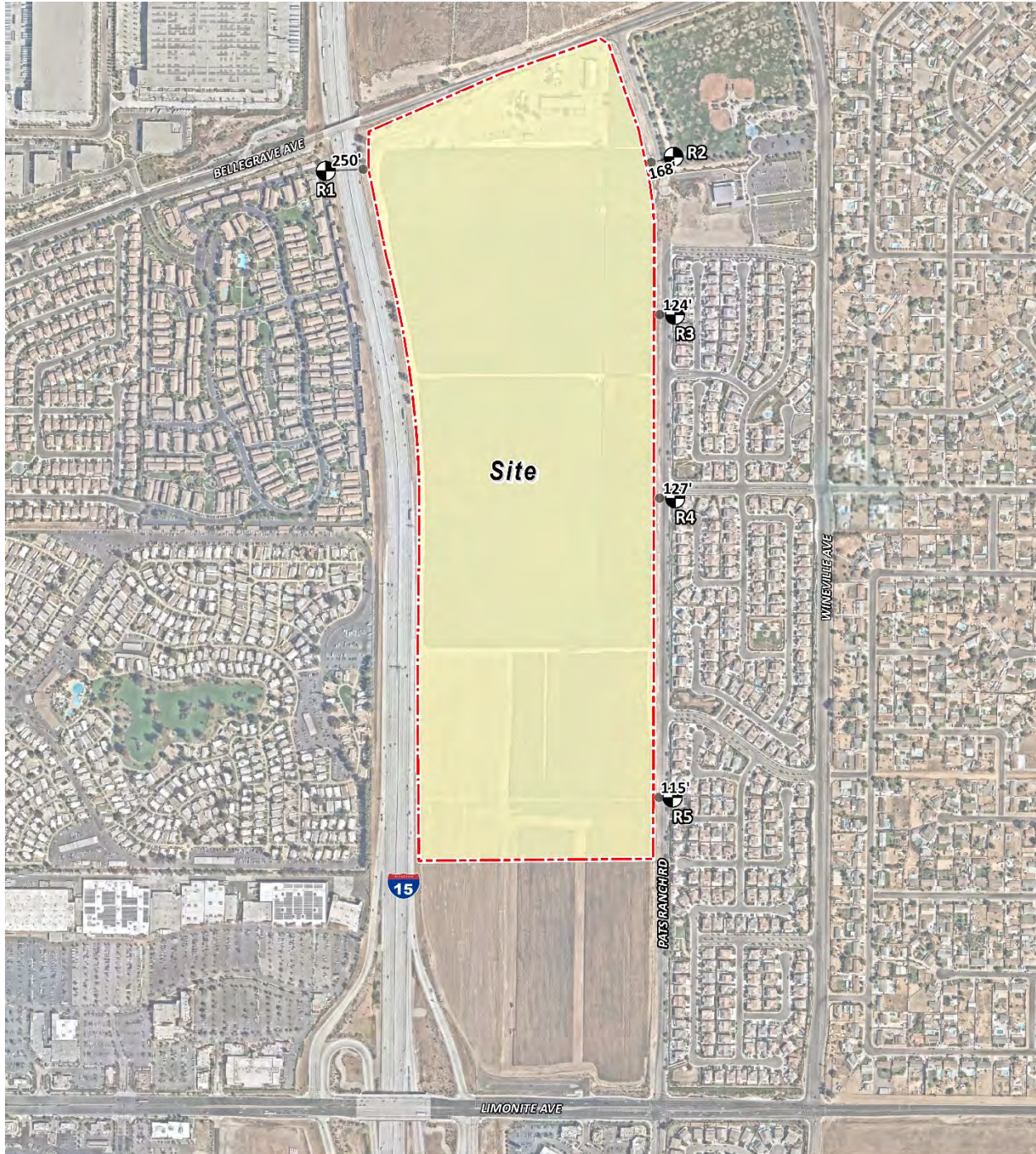
To describe the potential off-site Project noise levels, five receiver locations in the vicinity of the Project site were identified. All distances are measured from the Project site boundary to the outdoor living areas (e.g., private backyards) or at the building façade, whichever is closer to the Project 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 nearest existing noise sensitive residence within the Homecoming at Eastvale Community along Daybreak Drive, approximately 250 feet east of the Project site. Receiver R3 is placed adjacent to the private outdoor living areas (backyards) facing the Project site along Pats Ranch Road. A 24-hour noise measurement was taken near this location, L3, to describe the existing ambient noise environment.
- R2: Location R2 represents the existing noise sensitive land use at Vernola Park, approximately 168 feet east of the Project site adjacent to Pats Ranch Road. Since there are no private outdoor living areas (backyards) facing the Project site, receiver R2 is placed adjacent to the southwest corner of Vernola Park. 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 5343 Cormorant Court, approximately 124 feet east of the Project site. Receiver R3 is placed adjacent to the private outdoor living areas (backyards) facing the Project site along Pats Ranch Road. A 24-hour noise measurement was taken near this location, L3, to describe the existing ambient noise environment.
- R4: Location R4 represents the existing noise sensitive residence at 5487 Tree Sparrow Court, approximately 127 feet east of the Project site. Receiver R4 is placed adjacent to the private outdoor living areas (backyards) facing the Project site along Pats Ranch Road. A

24-hour noise measurement was taken near this location, L4, to describe the existing ambient noise environment.

- R5: Location R5 represents the existing noise sensitive residence at 11981 Kestral Court., approximately 115 feet east of the Project site. Receiver R5 is placed adjacent to the private outdoor living areas (backyards) facing the Project site along Pats Ranch Road. A 24-hour noise measurement was taken near this location, L5, to describe the existing ambient noise environment.

EXHIBIT 9-A: RECEIVER LOCATIONS



LEGEND:

- Receiver Locations
- Distance from receiver to Project site boundary (in feet)

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10 OPERATIONAL NOISE IMPACTS

This section analyzes the potential stationary-source operational noise impacts at the nearest receiver locations, identified in Section 9, resulting from the operation of the proposed Vernola Ranch Project. Exhibit 10-A identifies the representative receiver locations and noise source locations used to assess the hourly average L_{eq} operational noise levels consistent with the City of Jurupa Valley noise related CEQA thresholds guidance for noise sensitive receivers included in Appendix 4.1. (24)

10.1 OPERATIONAL NOISE SOURCES

This operational noise analysis is intended to describe noise level impacts associated with the expected typical 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. The on-site Project-related noise sources are expected to include: air conditioning units, outdoor activity, pool/spa activity and parking lot vehicle movements.

10.2 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 10-1 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 air conditioning units, outdoor activity, pool/spa activity and parking lot vehicle movements all operating at the same time. These sources of noise activity will likely vary throughout the day.

10.2.1 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. (25)

EXHIBIT 9-A: OPERATIONAL NOISE SOURCE LOCATIONS



LEGEND:

- Receiver Locations
 Roof-Top Air Conditioning Unit
 Outdoor Activity Area
- Parking Lot Vehicle Movements
 Pool Activity

TABLE 10-1: 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		
Air Conditioning Units	3'	45	30	44.4	76.0
Outdoor Activity	5'	60	0	59.9	91.5
Pool/Spa Activity	5'	60	0	63.0	94.6
Parking Lot Vehicle Movements	5'	60	60	40.9	72.5

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. "Daytime" = 7:00 a.m. - 10:00 p.m.; "Nighttime" = 10:00 p.m. - 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.

10.2.2 AIR CONDITIONING UNITS

To assess the noise levels created by the roof-top air conditioning units, reference noise levels were taken from the Carrier model 24ACC4 product data sheet. The product data sheet for Carrier model 24ACC4 indicates that each air conditioning units will produce a maximum sound power level of 75 dBA L_w. For this noise analysis, the air conditioning units are expected operate continuously for 60 minutes per hour during the daytime and nighttime hours.

10.2.3 OUTDOOR ACTIVITY AREA

To describe the outdoor common area courtyards activity areas, a reference noise level measurement was taken by Urban Crossroads, Inc. At 50 feet, the reference noise level is 59.8 dBA L_{eq} at a noise source height of 5 feet. The reference noise level measurement includes outdoor eating, drinking, with patrons laughing and talking. Outdoor activities are limited to the daytime hours.

10.2.4 POOL/SPA ACTIVITY

To represent the noise levels associated with pool activities, Urban Crossroads collected a reference noise level measurement at the Covenant Hill Clubhouse Pool in the unincorporated community of Ladera Ranch in the County of Orange. The reference noise level at 50 feet is 54.7 dBA L_{eq} for pool activity. The pool activity noise levels include kids playing, running, screaming, splashing, playing with a ball, and parents talking. Pool and Spa activities are estimated to occur for 60 minutes during all the daytime hours, with no nighttime activities.

10.2.5 PARKING LOT VEHICLE MOVEMENTS

To determine the noise levels associated with a residential apartment community parking lot, Urban Crossroads collected reference noise level measurements at the Windemere Apartment community in the City of Riverside. At 50 feet, the parking lot vehicle movements produced a reference noise level of 40.8 dBA L_{eq}. The residential parking lot noise levels are mainly due to cars pulling in and out of spaces and residents going to and from their apartment homes and

includes horns honking in the parking lot. Noise associated with parking lot vehicle movements is expected during the typical daytime, and nighttime conditions for the entire hour (60 minutes).

10.3 CADNA A 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 9613-2 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 9613-2 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 because of 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. Appendix 10.1 includes the detailed noise model inputs used to estimate the Project operational noise levels presented in this section.

10.4 PROJECT OPERATIONAL NOISE LEVELS

Using the reference noise levels to represent the proposed Project operations that include air conditioning units, outdoor activity, pool/spa activity and parking lot vehicle movements, 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. Tables 10-2 shows the Project operational noise levels during the daytime hours of 7:00 a.m. to 10:00 p.m. The daytime hourly noise levels at the off-site receiver locations are expected to range from 40.2 to 50.1 dBA L_{eq} .

TABLE 10-2: DAYTIME PROJECT OPERATIONAL NOISE LEVELS

Noise Source ¹	Operational Noise Levels by Receiver Location (dBA L_{eq})				
	R1	R2	R3	R4	R5
Air Conditioning Units	37.9	41.4	41.6	38.5	36.7
Outdoor Activity	49.8	36.9	35.8	34.3	30.5

Pool/Spa Activity	21.5	22.0	24.5	27.9	37.1
Parking Lot Vehicle Movements	8.5	9.3	12.8	16.7	24.5
Total (All Noise Sources)	50.1	42.8	42.7	40.2	40.4

¹ See Exhibit 10-A for the noise source locations. CadnaA noise model calculations are included in Appendix 10.1.

Table 10-3 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 33.9 to 38.8 dBA L_{eq} . The differences between the daytime and nighttime noise levels are largely related to the duration of noise activity (Table 10-1).

TABLE 10-3: NIGHTTIME PROJECT OPERATIONAL NOISE LEVELS

Noise Source ¹	Operational Noise Levels by Receiver Location (dBA L_{eq})				
	R1	R2	R3	R4	R5
Air Conditioning Units	35.2	38.7	38.8	35.8	33.9
Outdoor Activity	0.0	0.0	0.0	0.0	0.0
Pool/Spa Activity	0.0	0.0	0.0	0.0	0.0
Parking Lot Vehicle Movements	7.5	8.4	11.8	15.7	23.5
Total (All Noise Sources)	35.2	38.7	38.8	35.8	33.9

¹ See Exhibit 10-A for the noise source locations. CadnaA noise model calculations are included in Appendix 10.1.

10.5 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 City of Jurupa Valley exterior noise level standards at nearby noise-sensitive receiver locations.

Table 10-4 shows the operational noise levels associated with Vernola Ranch Project will satisfy the City of Jurupa Valley 65 dBA L_{eq} daytime and 45 dBA L_{eq} nighttime exterior noise level standards at all nearby receiver locations. Therefore, the operational noise impacts are considered *less than significant* at the nearby noise-sensitive receiver locations.

TABLE 10-4: OPERATIONAL NOISE LEVEL COMPLIANCE

Receiver Location ¹	Project Operational Noise Levels (dBA L_{eq}) ²		Noise Level Standards (dBA L_{eq}) ³		Noise Level Standards Exceeded? ⁴	
	Daytime	Nighttime	Daytime	Nighttime	Daytime	Nighttime
R1	50.1	35.2	65	45	No	No
R2	42.8	38.7	65	45	No	No
R3	42.7	38.8	65	45	No	No
R4	40.2	35.8	65	45	No	No
R5	40.4	33.9	65	45	No	No

¹ See Exhibit 9-A for the receiver locations.

² Proposed Project operational noise levels as shown on Tables 10-2 and 10-3.

³ Exterior noise level standards for source (commercial) land use, as shown on Table 4-1.

⁴ Do the estimated Project operational noise source activities exceed the noise level standards?
 "Daytime" = 7:00 a.m. - 10:00 p.m.; "Nighttime" = 10:00 p.m. - 7:00 a.m.

10.6 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 nearby 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. (7) Instead, they must be logarithmically added using the following base equation:

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

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. As indicated on Tables 10-5 and 10-6, the Project will generate a daytime and nighttime operational noise level increase ranging up to 0.2 dBA L_{eq} at the nearby receiver locations. This is largely due to the high existing background ambient noise levels from the I-15 Freeway. Project-related operational noise level increases will satisfy the operational noise level increase significance criteria presented on Table 4-1. Therefore, the incremental Project operational noise level increase is considered *less than significant* at all receiver locations.

TABLE 10-5: 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	Increase Criteria ⁷	Increase Criteria Exceeded?
R1	50.1	L1	72.0	72.0	0.0	3	No
R2	42.8	L2	55.6	55.8	0.2	3	No
R3	42.7	L3	61.2	61.3	0.1	3	No
R4	40.2	L4	61.5	61.5	0.0	3	No
R5	40.4	L5	61.6	61.6	0.0	3	No

¹ See Exhibit 9-A for the receiver locations.

² Total Project daytime operational noise levels as shown on Table 109-2.

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 4-1.

TABLE 10-6: 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	Increase Criteria ⁷	Increase Criteria Exceeded?
R1	35.2	L1	69.9	69.9	0.0	3	No
R2	38.7	L2	58.8	58.8	0.0	3	No
R3	38.8	L3	58.1	58.2	0.1	3	No
R4	35.8	L4	59.8	59.8	0.0	3	No
R5	33.9	L5	59.1	59.1	0.0	3	No

¹ See Exhibit 9-A for the receiver locations.

² Total Project nighttime operational noise levels as shown on Table 10-3.

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 4-1.

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11 CONSTRUCTION IMPACTS

This section analyzes potential impacts resulting from the short-term construction activities associated with the development of the Project. Exhibit 11-A shows the construction noise source locations in relation to the nearest sensitive receiver locations previously described in Section 9. Section 9.52.020 of the City of Jurupa Valley Code, states that construction activities are exempted from the noise ordinance if located $\frac{1}{4}$ mile or greater from inhabited dwelling units; or if with a quarter mile, it occurs between the hours of 6:00 a.m. to 6:00 p.m. Monday through Friday from June 1st to September 30th, 7:00 a.m. to 6:00 p.m. Monday through Friday from October 1st to May 30th.

In addition, since the City of Jurupa Valley has not established a numeric maximum acceptable construction source noise levels at potentially affected receivers for CEQA analysis purposes, 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. The FTA considers a daytime exterior construction noise level of 80 dBA Leq as a reasonable threshold for noise sensitive residential land use. (29 p. 179)

11.1 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 are expected to occur in the following stages:

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

11.2 CONSTRUCTION REFERENCE NOISE LEVELS

To describe construction noise activities, this construction noise analysis was prepared using reference construction equipment noise levels from the Federal Highway Administration (FHWA) published the Roadway Construction Noise Model (RCNM), which includes a national database of construction equipment reference noise emission levels. (30) The RCNM equipment database, provides a comprehensive list of the noise generating characteristics for specific types of construction equipment. In addition, the database provides an acoustical usage factor to estimate the fraction of time each piece of construction equipment is operating at full power (i.e., its loudest condition) during a construction operation.

EXHIBIT 11-A: CONSTRUCTION NOISE SOURCE LOCATIONS



LEGEND:

 Construction Activity
  Receiver Locations
 —●— Distance from receiver to construction activity (in feet)

TABLE 11-1: CONSTRUCTION REFERENCE NOISE LEVELS

Construction Stage	Reference Construction Equipmnet ¹	Reference Noise Level @ 50 Feet (dBA L _{eq})	Composite Reference Noise Level (dBA L _{eq})	Reference Power Level (dBA L _w)
Site Preparation	Dozer	78.0	83.4	115.1
	Front End Loader	75.0		
	Grader	81.0		
Grading	Excavator	77.0	84.0	115.6
	Tractor	80.0		
	Scraper	80.0		
Building Construction	Crane	73.0	77.4	109.1
	Backhoe	74.0		
	Generator (<25kVA)	70.0		
Paving	Paver	74.0	77.8	109.5
	Dump Truck	72.0		
	Roller	73.0		
Architectural Coating	Man Lift	68.0	76.2	107.8
	Compressor (air)	74.0		
	Generator (<25kVA)	70.0		

¹ FHWA Road Construction Noise Model.

11.3 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 nearby 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 11-2, the construction noise levels are expected to range from 45.0 to 58.1 dBA L_{eq}, and the highest construction levels are expected to range from 52.8 to 58.1 dBA L_{eq} at the nearby receiver locations. Appendix 11.1 includes the detailed CadnaA construction noise model inputs.

TABLE 11-2: 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	52.3	52.8	46.2	46.7	45.0	52.8
R2	55.4	55.9	49.3	49.8	48.1	55.9
R3	57.6	58.1	51.5	52.0	50.3	58.1
R4	57.6	58.1	51.5	52.0	50.3	58.1
R5	57.2	57.7	51.1	51.6	49.9	57.7

¹ Noise receiver locations are shown on Exhibit 11-A.

² Construction noise level calculations based on distance from the construction activity, which is measured from the Project site boundary to the nearest receiver locations. CadnaA construction noise model inputs are included in Appendix 11.1.

11.4 CONSTRUCTION NOISE LEVEL COMPLIANCE

To evaluate whether the Project will generate potentially significant short-term noise levels at nearest receiver locations, a construction-related daytime noise level threshold of 80 dBA L_{eq} is used as a reasonable threshold to assess the daytime construction noise level impacts. The construction noise analysis shows that the nearest receiver locations will satisfy the reasonable daytime 80 dBA L_{eq} significance threshold during Project construction activities as shown on Table 11-3. Therefore, the noise impacts due to Project construction noise are considered *less than significant* at all receiver locations.

TABLE 11-3: CONSTRUCTION NOISE LEVEL COMPLIANCE

Receiver Location ¹	Construction Noise Levels (dBA L _{eq})		
	Highest Construction Noise Levels ²	Threshold ³	Threshold Exceeded? ⁴
R1	52.8	80	No
R2	55.9	80	No
R3	58.1	80	No
R4	58.1	80	No
R5	57.7	80	No

¹ Noise receiver locations are shown on Exhibit 11-A.

² Highest construction noise level calculations based on distance from the construction noise source activity to the nearest receiver locations as shown on Table 11-2.

³ Construction noise level thresholds as shown on Table 4-1.

⁴ Do the estimated Project construction noise levels exceed the construction noise level threshold?

11.5 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). (29) 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 11-4. 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 Caltrans. To calculate the vibration of equipment at distance Caltrans provides the following equation: $PPV_{\text{equip}} = PPV_{\text{ref}} \times (25/D)^{1.1}$

TABLE 11-4: VIBRATION SOURCE LEVELS FOR CONSTRUCTION EQUIPMENT

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

Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual

Using the vibration source level of construction equipment provided on Table 11-4 and the construction vibration assessment methodology published by the FTA, it is possible to estimate the Project vibration impacts. Table 11-5 presents the expected Project related vibration levels at the nearby receiver locations. At distances ranging from 33 to 250 feet from Project construction activities, construction vibration velocity levels are estimated to range up to 0.06 PPV (in/sec) and will not exceed the City of Jurupa Valley threshold of 0.2 PPV (in/sec) at off-site receivers, as shown on Table 11-5. Therefore, the Project-related vibration impacts are considered *less than significant*.

TABLE 11-5: PROJECT CONSTRUCTION VIBRATION LEVELS

Receiver ¹	Distance to Const. Activity (Feet) ²	Typical Construction Vibration Levels PPV (in/sec) ³					Thresholds PPV (in/sec) ⁴	Thresholds Exceeded? ⁵
		Small bulldozer	Jackhammer	Loaded Trucks	Large bulldozer	Highest Vibration Level		
R1	250'	0.00	0.00	0.00	0.00	0.00	0.20	No
R2	84'	0.00	0.01	0.01	0.01	0.01	0.20	No
R3	33'	0.00	0.02	0.05	0.06	0.06	0.20	No
R4	38'	0.00	0.02	0.04	0.05	0.05	0.20	No
R5	43'	0.00	0.02	0.03	0.04	0.04	0.20	No

¹ Receiver locations are shown on Exhibit 11-A.

² Distance from receiver location to Project construction boundary.

³ Based on the Vibration Source Levels of Construction Equipment (Table 11-4).

⁴ Based on guidance from the City of Jurupa Valley Planning Department.

⁵ Does the peak vibration exceed the acceptable vibration thresholds?

"PPV" = Peak Particle Velocity

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13 CERTIFICATION

The contents of this noise study report represent an accurate depiction of the noise environment and impacts associated with the proposed Vernola Ranch 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 (619) 788-1971.

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EDUCATION

Bachelor of Science in Urban and Regional Planning
California Polytechnic State University, Pomona • June 2000

PROFESSIONAL AFFILIATIONS

ASA – Acoustical Society of America
APA – American Planning Association
AWMA – Air and Waste Management Association

PROFESSIONAL CERTIFICATIONS

Approved Acoustical Consultant • County of San Diego
FHWA Traffic Noise Model of Training • November 2004
CadnaA Basic and Advanced Training Certificate • October 2008.

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APPENDIX 3.1:

CITY OF JURUPA VALLEY MUNICIPAL CODE

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CHAPTER 11.05. - NOISE REGULATIONS

Sec. 11.05.010. - Intent.

At certain levels, sound becomes noise and may jeopardize the health, safety or general welfare of City of Jurupa Valley residents and degrade their quality of life. Pursuant to its police power, the City Council declares that noise shall be regulated in the manner described in this chapter. This chapter is intended to establish city-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 (Pub. Resources Code Section 21000 *et seq.*) and no such thresholds are established.

(Ord. No. 2012-01, § 1(11.10.010), 2-16-2012)

Sec. 11.05.020. - Exemptions.

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

- (1) Facilities owned or operated by or for a governmental agency;
- (2) Capital improvement projects of a governmental agency;
- (3) The maintenance or repair of public properties;
- (4) 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;
- (5) Public or private schools and school-sponsored activities;
- (6) Agricultural operations on land designated "agriculture" in the Jurupa Valley General Plan, or land zoned A-1 (light agriculture), A-P (light agriculture with poultry), A-2 (heavy agriculture), or A-D (agriculture-dairy), 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;
- (7) Wind energy conversion systems (WECS), provided such systems comply with the WECS noise provisions of Jurupa Valley Municipal Code or Title 9;
- (8) Private construction projects located one-quarter ($\frac{1}{4}$) of a mile or more from an inhabited dwelling;
- (9) Private construction projects located within one-quarter ($\frac{1}{4}$) of a mile from an inhabited dwelling, provided that:
 - (a) Construction does not occur between the hours of six (6:00) p.m. and six (6:00) a.m. during the months of June through September; and
 - (b) Construction does not occur between the hours of six (6:00) p.m. and seven (7:00) a.m. during the months of October through May;
- (10) Property maintenance, including, but not limited to, the operation of lawnmowers, leaf blowers, etc., provided such maintenance occurs between the hours of seven (7:00) a.m. and eight (8:00) p.m.;
- (11) Motor vehicles, other than off-highway vehicles. This exemption does not include sound emanating from motor vehicle sound systems;
- (12) Heating and air conditioning equipment;
- (13) 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; or

(14) The discharge of firearms consistent with all state laws.

(Ord. No. 2012-01, § 1(11.10.020), 2-16-2012)

Sec. 11.05.030. - Definitions.

The following words, terms and phrases, when used in this chapter, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

Audio equipment means a television, stereo, radio, tape player, compact disc player, mp3 player, iPod 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 and 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 (Lmax)" means the maximum sound level measured on a sound level meter.

Governmental agency means the United States, the State of California, Riverside County, City of Jurupa Valley, 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 Jurupa Valley pursuant to Jurupa Valley Municipal Code or Title 9.

Motor vehicle means a vehicle that is self-propelled.

Motor vehicle sound system means a stereo, radio, tape player, compact disc player, mp3 player, iPod 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 Jurupa Valley General Plan, as applicable to the City of Jurupa Valley by Chapter 1.35, 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. No. 2012-01, § 1(11.10.040), 2-16-2012)

Sec. 11.05.040. - 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 of this section or that violates the special sound source standards set forth in Section 11.05.060.

Table 1
Sound Level Standards (Db Lmax)

<i>General Plan Foundation Component</i>	<i>General Plan Land Use Designation</i>	<i>General Plan Land Use Designation Name</i>	<i>Density</i>	<i>Maximum Decibel Level</i>	
				<i>7 a.m.— 10 p.m.</i>	<i>10 p.m.— 7 a.m.</i>
<i>Community Development</i>	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
	HTDR	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
	I	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
<i>Rural Community</i>	EDR	Estate density residential	2 AC	55	45
	VLDR	Very low density residential	AC	55	45
	LDR	Low density residential	1/2 AC	55	45
<i>Rural</i>	RR	Rural residential	5 AC	45	45
	RM	Rural mountainous	10 AC	45	45
	RD	Rural desert	0 AC	45	45
<i>Agriculture</i>	AG	Agriculture	10 AC	45	45
<i>Open Space</i>	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. No. 2012-01, § 1(11.10.040), 2-16-2012)

Sec. 11.05.050. - Sound level measurement methodology.

If the sound standard being applied is measured in decibels, then sound level measurements pursuant to this section shall be required to establish a violation of this chapter. If the sound standard being applied is not measured in decibels, then sound level measurements are not required to establish a violation of this chapter. 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 11.05.080. 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. No. 2012-01, § 1(11.10.050), 2-16-2012)

Sec. 11.05.060. - Special sound sources standards.

The general sound level standards set forth in Section 11.05.040 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 constitute separate violations of this chapter:

(1) *Motor vehicles.*

(a) *Off-highway vehicles.*

- (i) 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.
- (ii) 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 and 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.

- (b) *Sound systems.* No person shall operate a motor vehicle sound system, whether affixed to the vehicle or not, between the hours of ten (10:00) p.m. and eight (8:00) 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. Sound level measurements may be used, but are not required to establish a violation of this subsection.

- (2) *Power tools and equipment.* No person shall operate any power tools or equipment between the hours of ten (10:00) p.m. and eight (8:00) 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. Sound level measurements may be used, but are not required to establish a violation of this subsection.

- (3) *Audio equipment.* No person shall operate any audio equipment, whether portable or not, such that the equipment is audible to the human ear at a distance greater than one hundred (100) feet from the equipment. Sound level measurements may be used, but are not required to establish a violation of this subsection.
- (4) *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 if the sound emanating from sound-amplifying equipment or live music is audible to the human ear at a distance greater than one hundred (100) feet from the equipment or music. To the extent that these requirements conflict with any conditions of approval attached to an underlying land use permit, these requirements shall control. Sound level measurements may be used, but are not required to establish a violation of this subsection.

(Ord. No. 2012-01, § 1(11.10.060), 2-16-2012; Ord. No. 2015-08, § 1, 6-18-2015)

Sec. 11.05.070. - Exceptions.

Exceptions may be requested from the standards set forth in Section 11.10.040 or 11.10.060 of this chapter and may be characterized as construction-related or continuous-events exceptions.

- (1) *Application and processing.*
 - (a) *Construction-related exceptions.* An application for a construction-related exception shall be made to and considered by the Building Official of the city on forms provided by the Building and Safety Division and shall be accompanied by the appropriate filing fee. No public hearing is required.
 - (b) *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 9.240.250 of this Code. 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.
- (2) *Requirements for approval.* The appropriate decision-making 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 decision-making 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.
- (3) *Appeals.* The Building Official's decision on an application for a construction-related exception is considered final. After making a decision on an application for a continuous-events exception, the appropriate decision-making 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 interested person may appeal the decision pursuant to and in accordance with the provisions of Chapter 2.40 of this Code.

(Ord. No. 2012-01, § 1(11.10.070), 2-16-2012; Ord. No. 2015-08, § 2, 6-18-2015; Ord. No. 2016-04, § 11(11.10.070), 4-7-2016)

Sec. 11.05.080. - Violations and penalties.

- A. Violation of the provisions of this chapter may be enforced pursuant to the enforcement provisions set forth in Title 1 of this Code, including Chapter 1.10, Code Enforcement Generally, Chapter 1.15, Criminal Prosecution, Chapter 1.20, Administrative Penalties, or Chapter 1.25, Public Nuisance Injunctions.
- B. The fine schedule for a violation of this chapter enforced pursuant to Chapter 1.20, shall be in the amount of:
 - (1) Two hundred dollars (\$200) for the first violation occurring within a three hundred and sixty-six (366) day period;
 - (2) Five hundred dollars (\$500) for a second violation occurring within three hundred and sixty-six (366) days of the first violation;
 - (3) Seven hundred and fifty dollars (\$750) for a third violation occurring within three hundred and sixty-six (366) days of the first violation; or
 - (4) One thousand dollars (\$1,000) for a fourth violation and each subsequent violation occurring within three hundred and sixty-six (366) days of the first violation.
- C. The fines set forth in subsection (B) of this section may be modified by a resolution of the City Council establishing an administrative citation schedule not to exceed one thousand dollars (\$1,000) per violation and which may include increased fines for repeat violations and penalties.
- D. The City Manager or his designee may reduce the fines set forth in subsections (B) or (C) of this section in the event he or she finds that the violation is not likely to reoccur, the violator cooperated with Enforcement Officials in attempting to enforce the provisions of this chapter and resolve the issues giving rise to the violation, the actions of the violator giving rise to the violation were not malicious and were not taken in deliberate disregard of the provisions of this chapter, and the ends of justice would not be served by imposing the full fine.

(Ord. No. 2012-01, § 1(11.10.080), 2-16-2012)

Sec. 11.05.090. - Duty to cooperate.

No person shall refuse to cooperate with, or obstruct, the Enforcement Officials identified in Section 11.05.080 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. No. 2012-01, § 1(11.10.090), 2-16-2012)

APPENDIX 4.1:

CITY OF JURUPA VALLEY CEQA THRESHOLDS

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Noise Impact Analysis October 30, 2018		Comment
		increase and, if appropriate, the project's contribution to a potentially significant cumulative traffic noise increase.
2	Global	Sec. 11.05.010 of the Municipal Code states in part: "...This chapter is intended to establish city-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 (Pub. Resources Code Section 21000 et seq.) and no such thresholds are established..." Please use the following standards for CEQA significance thresholds and revise report throughout: • Construction Noise: For sensitive residential land uses nearby, the daytime and nighttime 8-hour standards are 80 dBA Leq and 70 dBA Leq, respectively (FTA Transit Noise and Vibration Impact Assessment). • Operational Noise (stationary): During operation of the Project, a significant noise-related impact would occur if Project operational noise at a noise-sensitive receptor exceeds: ○ 65 dBA Leq (10 minutes) between 7:00 a.m. and 10:00 p.m., or ○ 45 dBA Leq (10 min) between 10:00 p.m. and 7:00 a.m. • Operational Noise (traffic): Project-related traffic increases the noise level at a: ○ Residential land use by 3 dBA or more to 65 dBA CNEL or above; or ○ Commercial land use by 3 dBA or more to 70 dBA CNEL or above. • Vibration: A significant vibration-related impact would occur if the Project would expose a vibration-sensitive receptor to vibration levels that exceed 0.2 in/sec PPV during either long-term operation or construction of the Project <i>Note: The Municipal Code noise standards may be used for planning purposes only (i.e. to demonstrate that the project meets the City code requirements for site plan approval).</i>
3	Page 23	Construction exemptions for San Bernardino County are not discussed and are contained in Section 83.01.080(g) (3), i.e., 7 am – 7pm, except Sundays and federal holidays.
4	Page 24 and global	Policy NE 4.4 is intended for train operation but is being used to assess projects. Please convert this RMS level to VdB so that it can

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APPENDIX 5.1:

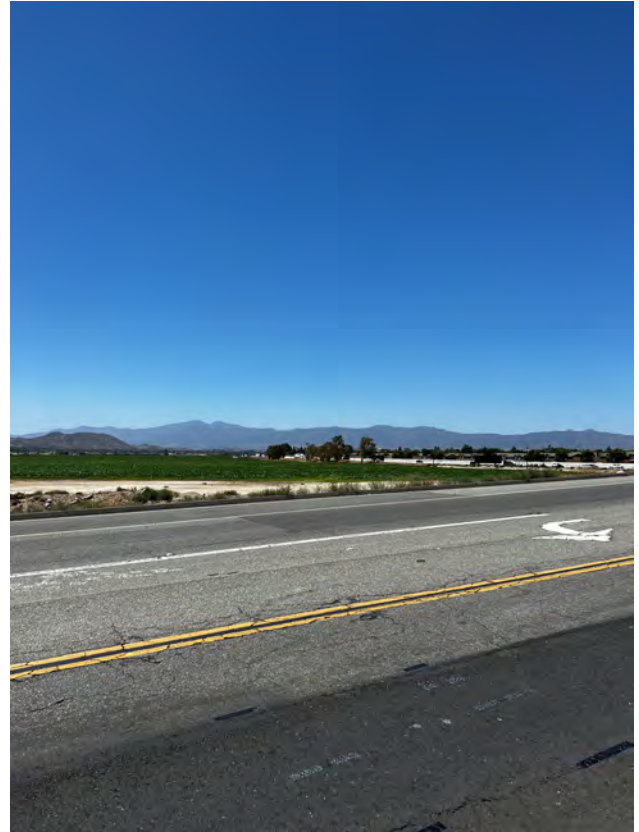
STUDY AREA PHOTOS

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JN: 14368 - Vernola



14368_L1_H_1.North
33, 59' 30.390000" 117, 32' 53.830000"



14368_L1_H_2.South
33, 59' 30.320000" 117, 32' 53.830000"



14368_L1_H_3.East
33, 59' 30.370000" 117, 32' 53.890000"



14368_L1_H_4.West
33, 59' 30.350000" 117, 32' 53.940000"

JN: 14368 - Vernola



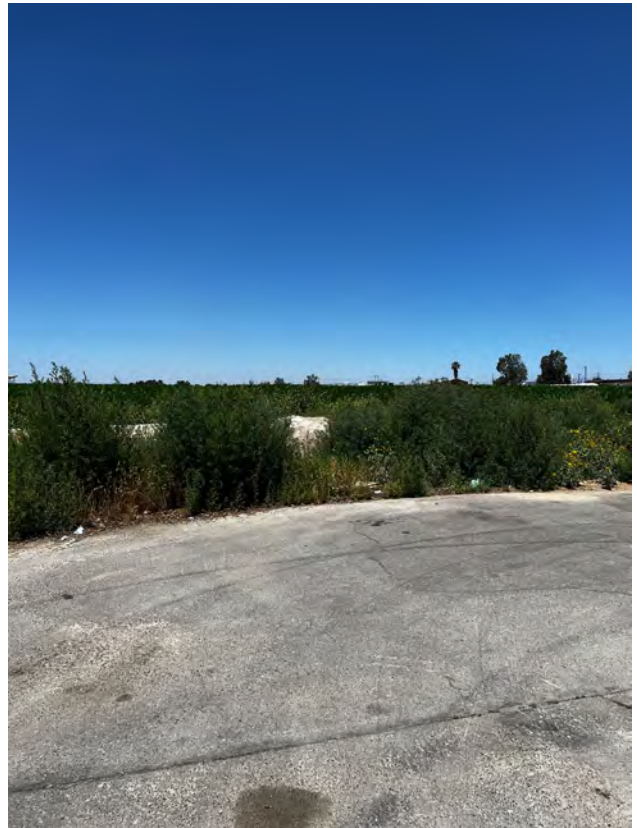
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14368_L2_I_2.South
33, 59' 24.500000"117, 32' 37.930000"



14368_L2_I_3.East
33, 59' 24.560000"117, 32' 37.850000"

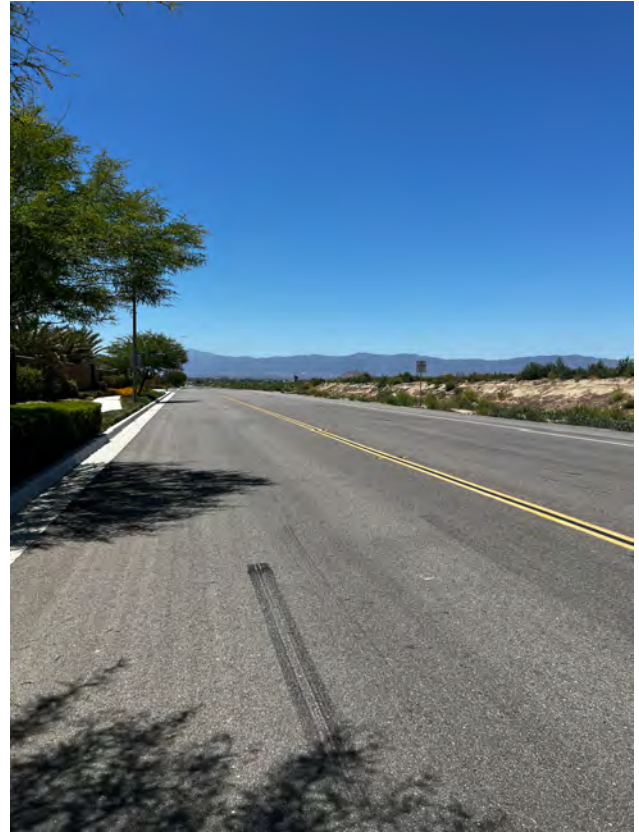


14368_L2_I_4.West
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JN: 14368 - Vernola



14368_L3_U_1.North
33, 59' 17.770000"117, 32' 37.380000"



14368_L3_U_2.South
33, 59' 17.730000"117, 32' 37.400000"



14368_L3_U_3.East
33, 59' 17.700000"117, 32' 37.380000"



14368_L3_U_4.West
33, 59' 17.800000"117, 32' 37.520000"

JN: 14368 - Vernola



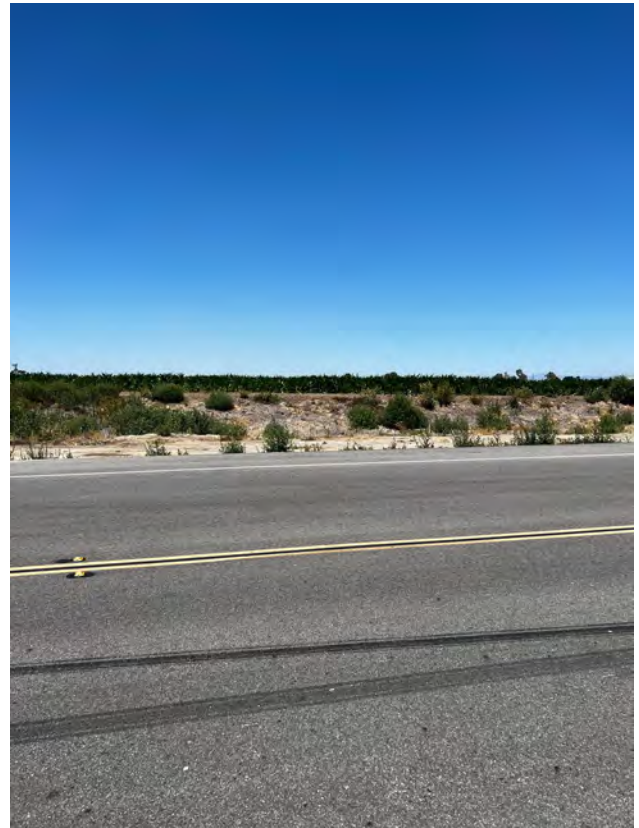
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14368_L4_X_2.South
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14368_L4_X_3.East
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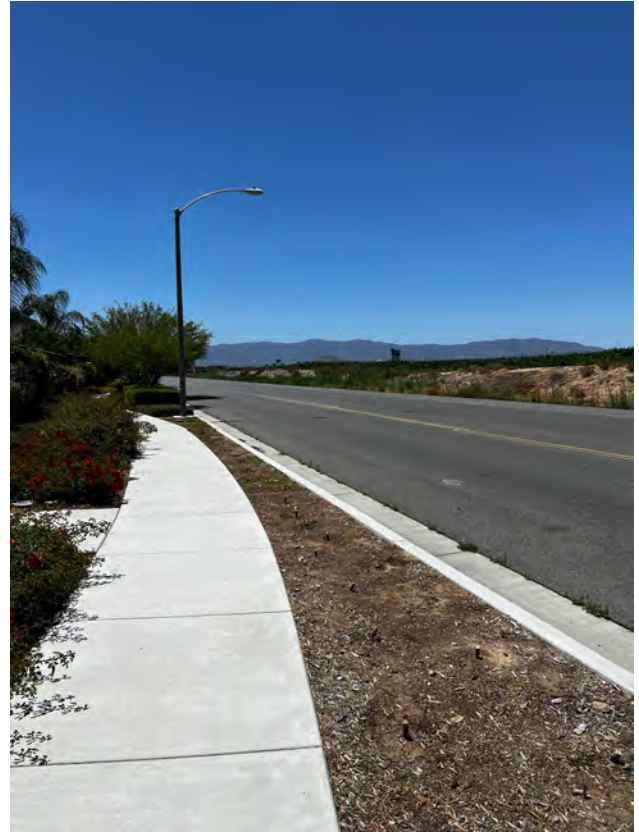


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JN: 14368 - Vernola



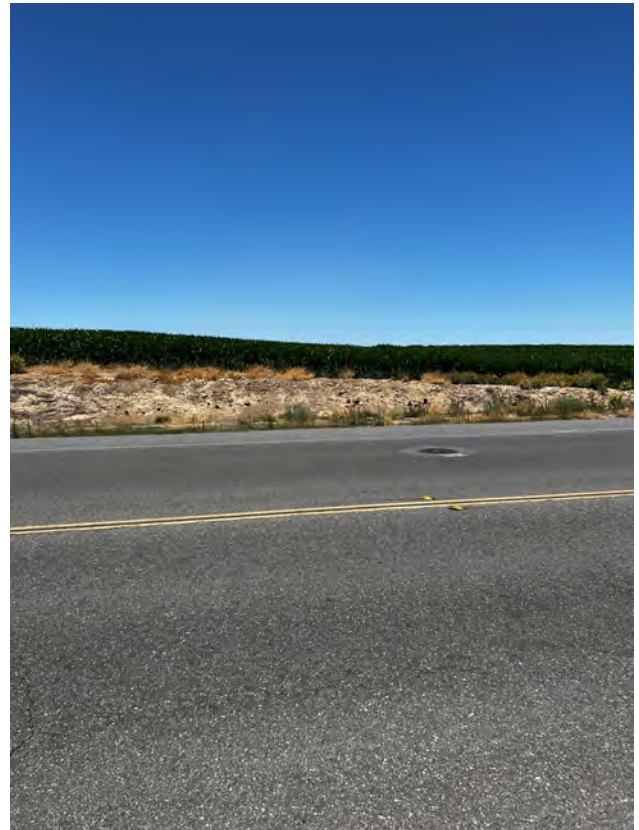
14368_L5_V_1.North
33, 58' 48.250000"117, 32' 36.940000"



14368_L5_V_2.South
33, 58' 48.230000"117, 32' 37.000000"



14368_L5_V_3.East
33, 58' 48.140000"117, 32' 37.000000"



14368_L5_V_4.West
33, 58' 48.200000"117, 32' 37.080000"

APPENDIX 5.2:

NOISE LEVEL MEASUREMENT WORKSHEETS

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24-Hour Noise Level Measurement Summary

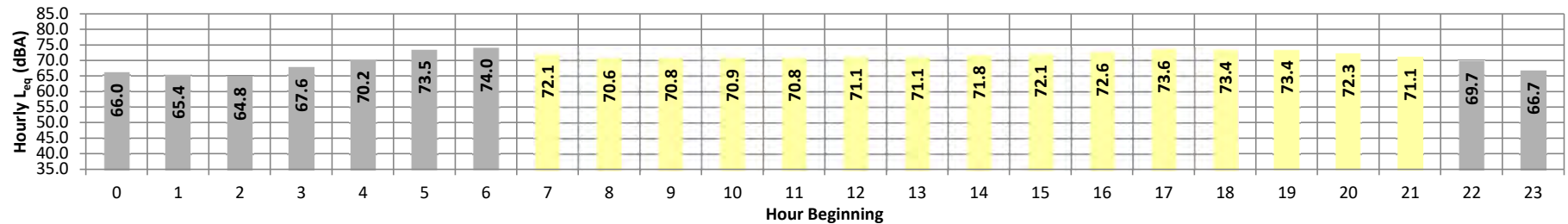
Date: Tuesday, June 21, 2022
Project: Vernola

Location: L1 - Located at the northwest corner of the Project Site near I-
Source: 15 and Bellegrave Ave.

Meter: Piccolo II

JN: 14368
Analyst: B. Maddux

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	66.0	74.8	60.8	74.5	73.7	70.9	69.5	65.8	64.0	61.8	61.4	60.9	66.0	10.0	76.0
	1	65.4	72.7	61.0	72.3	71.7	69.9	68.7	65.4	64.0	62.0	61.6	61.1	65.4	10.0	75.4
	2	64.8	72.3	60.7	71.9	71.3	69.0	67.3	65.0	63.6	61.6	61.2	60.8	64.8	10.0	74.8
	3	67.6	74.9	63.6	74.5	73.9	72.0	70.8	67.7	66.2	64.5	64.1	63.6	67.6	10.0	77.6
	4	70.2	79.1	64.9	78.7	78.0	75.5	73.9	69.9	67.9	65.9	65.5	65.0	70.2	10.0	80.2
	5	73.5	80.3	70.0	79.9	79.1	77.3	76.2	73.8	72.2	70.7	70.4	70.1	73.5	10.0	83.5
	6	74.0	82.0	69.6	81.6	80.5	78.3	77.1	74.5	72.2	70.3	70.0	69.7	74.0	10.0	84.0
Day	7	72.1	81.0	61.1	80.6	79.7	77.6	76.3	73.2	68.9	62.6	61.8	61.2	72.1	0.0	72.1
	8	70.6	79.5	62.0	78.9	77.9	75.7	74.8	71.7	67.8	63.1	62.6	62.1	70.6	0.0	70.6
	9	70.8	79.9	63.7	79.3	78.3	76.0	74.9	71.5	67.9	64.7	64.3	63.9	70.8	0.0	70.8
	10	70.9	79.2	64.1	78.6	77.8	75.8	74.9	71.8	68.4	65.2	64.7	64.2	70.9	0.0	70.9
	11	70.8	79.8	63.7	79.4	78.4	75.8	74.6	71.6	68.2	64.6	64.2	63.8	70.8	0.0	70.8
	12	71.1	79.5	62.9	79.1	78.2	76.0	74.9	72.1	69.0	64.2	63.6	63.0	71.1	0.0	71.1
	13	71.1	79.5	64.2	79.0	78.3	76.0	74.8	71.8	69.0	65.4	64.8	64.3	71.1	0.0	71.1
	14	71.8	79.5	66.2	78.9	78.0	76.0	75.1	72.6	70.3	67.2	66.8	66.3	71.8	0.0	71.8
	15	72.1	79.2	66.4	78.8	78.0	76.3	75.5	73.0	70.8	67.6	67.1	66.6	72.1	0.0	72.1
	16	72.6	79.5	67.6	79.0	78.3	76.6	75.6	73.5	71.5	68.6	68.2	67.8	72.6	0.0	72.6
	17	73.6	80.2	68.8	79.9	79.1	77.3	76.6	74.5	72.5	69.7	69.3	68.9	73.6	0.0	73.6
18	73.4	79.0	68.6	78.7	78.1	76.8	76.2	74.4	72.5	69.7	69.3	68.8	73.4	0.0	73.4	
19	73.4	81.3	68.0	80.9	80.2	77.8	76.7	73.9	71.8	69.0	68.5	68.1	73.4	5.0	78.4	
20	72.3	79.6	67.3	79.2	78.5	76.3	75.5	73.0	70.8	68.3	67.9	67.5	72.3	5.0	77.3	
21	71.1	79.0	66.5	78.5	77.7	75.5	74.5	71.6	69.4	67.3	66.9	66.6	71.1	5.0	76.1	
Night	22	69.7	79.6	64.9	79.0	77.8	74.9	73.0	69.1	67.1	65.5	65.3	65.0	69.7	10.0	79.7
	23	66.7	74.7	62.2	74.4	73.8	71.6	70.1	66.8	64.8	62.9	62.7	62.3	66.7	10.0	76.7
Timeframe	Hour	L _{eq}	L _{max}	L _{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	24-Hour L _{eq} (dBA) (7am-10pm)	Daytime (7am-10pm)	Nighttime (10pm-7am)
Day	Min	70.6	79.0	61.1	78.5	77.7	75.5	74.5	71.5	67.8	62.6	61.8	61.2			
	Max	73.6	81.3	68.8	80.9	80.2	77.8	76.7	74.5	72.5	69.7	69.3	68.9			
Energy Average		72.0	Average:		79.3	78.4	76.4	75.4	72.7	69.9	66.5	66.0	65.5			
Night	Min	64.8	72.3	60.7	71.9	71.3	69.0	67.3	65.0	63.6	61.6	61.2	60.8			
	Max	74.0	82.0	70.0	81.6	80.5	78.3	77.1	74.5	72.2	70.7	70.4	70.1			
Energy Average		69.9	Average:		76.3	75.5	73.3	71.9	68.7	66.9	65.0	64.7	64.3			

24-Hour Noise Level Measurement Summary

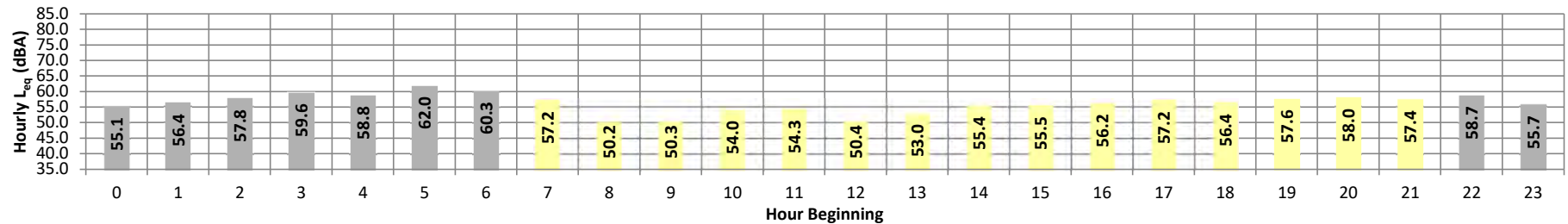
Date: Tuesday, June 21, 2022
Project: Vernola

Location: L2 - Located east of the Project Site on Pats Ranch Road near
Source: southwest corner of Vernola Park

Meter: Piccolo II

JN: 14368
Analyst: B. Maddux

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	55.1	57.4	53.5	57.2	57.0	56.5	56.2	55.5	55.0	54.1	53.9	53.6	55.1	10.0	65.1			
	1	56.4	59.1	54.4	58.9	58.6	58.2	57.9	56.8	56.2	55.2	55.0	54.6	56.4	10.0	66.4			
	2	57.8	61.5	55.4	61.4	61.2	60.9	60.6	58.1	56.9	56.1	55.9	55.6	57.8	10.0	67.8			
	3	59.6	62.6	57.8	62.3	62.2	61.9	61.5	60.1	59.0	58.3	58.1	57.9	59.6	10.0	69.6			
	4	58.8	60.4	57.7	60.1	60.0	59.6	59.4	59.0	58.7	58.1	58.0	57.8	58.8	10.0	68.8			
	5	62.0	65.7	59.9	65.5	65.3	65.0	64.6	62.4	61.1	60.3	60.2	60.0	62.0	10.0	72.0			
	6	60.3	63.7	58.7	63.5	63.3	62.8	62.3	60.7	59.7	59.1	58.9	58.8	60.3	10.0	70.3			
Day	7	57.2	66.7	51.9	66.3	65.3	64.1	62.9	54.7	53.7	52.5	52.3	52.0	57.2	0.0	57.2			
	8	50.2	56.8	48.0	55.8	55.1	52.5	51.5	50.5	49.7	48.6	48.4	48.1	50.2	0.0	50.2			
	9	50.3	54.5	48.2	54.1	53.8	52.6	52.1	50.6	49.9	48.9	48.7	48.4	50.3	0.0	50.3			
	10	54.0	56.6	51.6	56.4	56.1	55.7	55.4	54.6	53.8	52.2	52.0	51.7	54.0	0.0	54.0			
	11	54.3	57.8	52.3	57.5	57.2	56.5	56.2	54.8	53.7	52.8	52.7	52.4	54.3	0.0	54.3			
	12	50.4	53.0	48.9	52.6	52.3	51.7	51.5	50.7	50.2	49.5	49.3	49.1	50.4	0.0	50.4			
	13	53.0	56.2	51.1	55.8	55.6	55.0	54.6	53.4	52.6	51.6	51.5	51.2	53.0	0.0	53.0			
	14	55.4	60.1	53.3	59.9	59.6	58.8	57.4	55.4	54.7	53.8	53.7	53.4	55.4	0.0	55.4			
	15	55.5	57.4	54.0	57.2	57.1	56.8	56.6	55.9	55.4	54.5	54.3	54.1	55.5	0.0	55.5			
	16	56.2	58.4	54.6	58.1	57.9	57.5	57.2	56.6	56.0	55.2	55.0	54.7	56.2	0.0	56.2			
	17	57.2	61.1	55.0	60.8	60.4	59.6	59.3	57.5	56.6	55.6	55.3	55.1	57.2	0.0	57.2			
18	56.4	59.2	54.7	58.9	58.6	58.1	57.8	56.8	56.2	55.3	55.1	54.9	56.4	0.0	56.4				
	19	57.6	60.4	56.0	60.0	59.7	59.2	58.9	58.0	57.4	56.4	56.2	56.0	57.6	5.0	62.6			
	20	58.0	60.7	56.5	60.5	60.3	59.8	59.5	58.4	57.7	56.9	56.8	56.6	58.0	5.0	63.0			
	21	57.4	59.9	56.3	59.7	59.5	58.8	58.4	57.6	57.2	56.7	56.6	56.4	57.4	5.0	62.4			
Night	22	58.7	62.4	56.3	62.2	62.0	61.6	61.2	59.6	57.8	56.7	56.6	56.4	58.7	10.0	68.7			
	23	55.7	58.5	53.9	58.3	58.2	57.9	57.5	56.4	55.2	54.3	54.2	54.0	55.7	10.0	65.7			
Timeframe	Hour	L _{eq}	L _{max}	L _{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	24-Hour	L _{eq} (dBA)				
Day	Min	50.2	53.0	48.0	52.6	52.3	51.7	51.5	50.5	49.7	48.6	48.4	48.1		Daytime	57.1	55.6	58.8	
	Max	58.0	66.7	56.5	66.3	65.3	64.1	62.9	58.4	57.7	56.9	56.8	56.6 <th>Nighttime</th>		Nighttime				
Energy Average		55.6	Average:		58.2	57.9	57.1	56.6	55.0	54.3	53.4	53.2	52.9						
Night	Min	55.1	57.4	53.5	57.2	57.0	56.5	56.2	55.5	55.0	54.1	53.9	53.6						
	Max	62.0	65.7	59.9	65.5	65.3	65.0	64.6	62.4	61.1	60.3	60.2	60.0						
Energy Average		58.8	Average:		61.0	60.9	60.5	60.1	58.7	57.7	56.9	56.7	56.5						

24-Hour Noise Level Measurement Summary

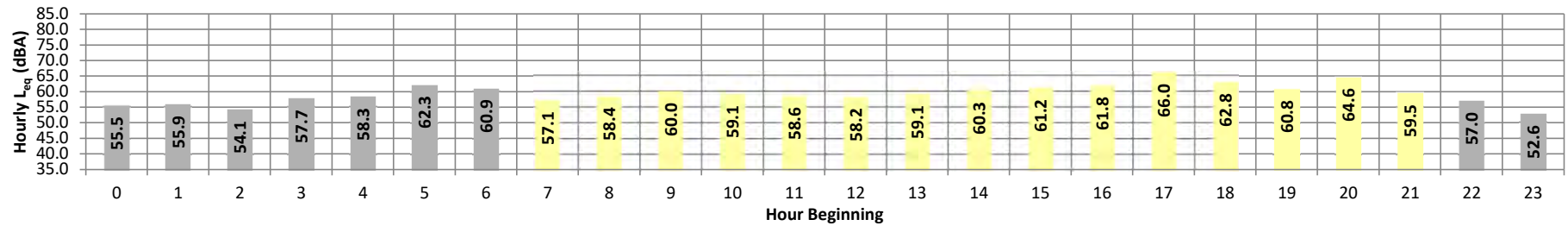
Date: Tuesday, June 21, 2022
Project: Vernola

Location: L3 - Located east of the Project Site on Pats Ranch Road near
Source: single-family residence at 5343 Cormorant Court.

Meter: Piccolo II

JN: 14368
Analyst: B. Maddux

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	55.5	60.5	53.8	60.2	59.6	57.7	56.8	55.5	55.0	54.3	54.1	53.9	55.5	10.0	65.5	
	1	55.9	59.3	53.7	59.1	58.8	58.0	57.5	56.4	55.5	54.4	54.1	53.8	55.9	10.0	65.9	
	2	54.1	58.6	51.7	58.4	58.1	57.4	56.9	54.3	53.2	52.2	52.0	51.8	54.1	10.0	64.1	
	3	57.7	61.4	55.6	61.2	61.0	60.4	59.8	58.0	57.2	56.2	55.9	55.7	57.7	10.0	67.7	
	4	58.3	63.3	56.5	63.0	62.5	60.7	59.8	58.5	57.9	56.9	56.7	56.5	58.3	10.0	68.3	
	5	62.3	68.5	60.2	68.0	67.4	65.2	64.2	62.3	61.4	60.6	60.4	60.3	62.3	10.0	72.3	
	6	60.9	67.8	59.0	67.4	66.4	64.1	62.7	60.7	60.0	59.4	59.3	59.1	60.9	10.0	70.9	
Day	7	57.1	68.9	49.6	68.4	67.5	64.1	61.6	54.5	51.6	50.0	49.8	49.7	57.1	0.0	57.1	
	8	58.4	71.1	47.7	70.6	69.6	65.9	63.3	54.1	49.3	48.1	48.0	47.8	58.4	0.0	58.4	
	9	60.0	72.9	51.3	72.2	71.0	67.0	64.3	55.8	53.2	51.8	51.6	51.4	60.0	0.0	60.0	
	10	59.1	70.4	53.2	69.9	69.0	65.6	63.2	56.7	54.9	53.8	53.6	53.3	59.1	0.0	59.1	
	11	58.6	69.1	53.1	68.7	67.7	64.8	62.5	57.1	55.1	53.7	53.5	53.2	58.6	0.0	58.6	
	12	58.2	70.2	51.7	69.6	68.6	64.8	62.2	55.0	53.5	52.3	52.0	51.8	58.2	0.0	58.2	
	13	59.1	69.1	53.5	68.8	68.0	65.5	63.4	57.5	55.5	54.2	53.9	53.6	59.1	0.0	59.1	
	14	60.3	70.7	55.7	70.2	69.3	66.4	64.1	58.7	57.4	56.2	56.0	55.8	60.3	0.0	60.3	
	15	61.2	71.1	56.4	70.5	69.5	66.8	65.0	60.2	58.3	57.0	56.8	56.5	61.2	0.0	61.2	
	16	61.8	72.3	56.7	71.9	71.1	67.9	65.6	60.1	58.5	57.2	57.1	56.8	61.8	0.0	61.8	
	17	66.0	78.7	56.9	78.2	77.3	73.3	69.8	61.5	58.8	57.5	57.3	57.0	66.0	0.0	66.0	
18	62.8	73.9	56.9	73.5	72.5	69.4	67.0	60.8	58.7	57.5	57.3	57.0	62.8	0.0	62.8		
	19	60.8	70.6	56.4	70.0	69.0	66.5	64.7	59.7	58.2	56.9	56.7	56.5	60.8	5.0	65.8	
	20	64.6	77.1	56.4	76.6	75.6	71.9	69.1	60.5	57.9	56.8	56.6	56.4	64.6	5.0	69.6	
	21	59.5	71.3	55.2	70.5	69.1	65.2	62.3	57.3	56.5	55.7	55.5	55.3	59.5	5.0	64.5	
Night	22	57.0	67.2	51.8	66.7	65.7	62.4	60.2	56.7	54.0	52.5	52.3	52.0	57.0	10.0	67.0	
	23	52.6	61.8	49.3	61.2	60.3	56.8	55.0	52.3	50.7	49.8	49.6	49.4	52.6	10.0	62.6	
Timeframe	Hour	L _{eq}	L _{max}	L _{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	24-Hour	L _{eq} (dBA)		
Day	Min	57.1	68.9	47.7	68.4	67.5	64.1	61.6	54.1	49.3	48.1	48.0	47.8		Daytime (7am-10pm)	60.3	61.2
	Max	66.0	78.7	56.9	78.2	77.3	73.3	69.8	61.5	58.8	57.5	57.3	57.0 <th rowspan="2">Nighttime (10pm-7am)</th>				
Energy Average		61.2	Average:		71.3	70.3	67.0	64.5	58.0	55.8	54.6	54.4	54.1				
Night	Min	52.6	58.6	49.3	58.4	58.1	56.8	55.0	52.3	50.7	49.8	49.6	49.4				
	Max	62.3	68.5	60.2	68.0	67.4	65.2	64.2	62.3	61.4	60.6	60.4	60.3				
Energy Average		58.1	Average:		62.8	62.2	60.3	59.2	57.2	56.1	55.1	54.9	54.7				

24-Hour Noise Level Measurement Summary

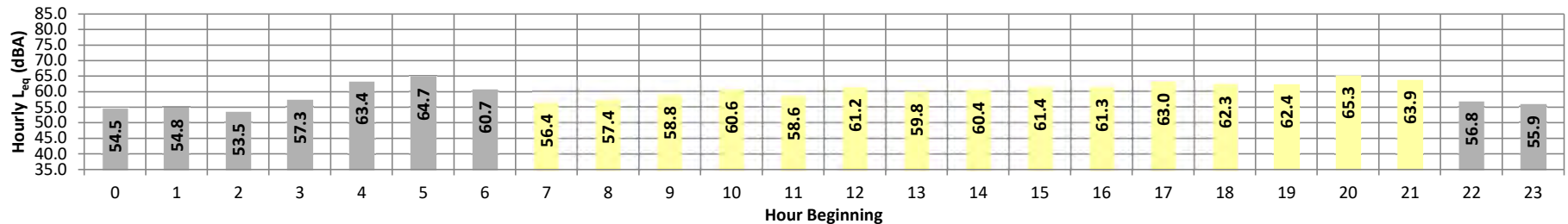
Date: Tuesday, June 21, 2022
Project: Vernola

Location: Located east of the Project Site on Pats Ranch Road and Park
Source: Center drive near single-family residence at 5487 Tree Sparrow Ct.

Meter: Piccolo II

JN: 14368
Analyst: B. Maddux

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	54.5	62.9	51.3	62.4	61.6	59.2	57.1	54.0	53.0	51.9	51.6	51.4	54.5	10.0	64.5
	1	54.8	59.7	51.9	59.3	58.9	57.6	56.8	55.3	54.2	52.6	52.3	52.0	54.8	10.0	64.8
	2	53.5	59.4	50.7	59.0	58.6	57.3	56.5	53.4	52.3	51.2	51.0	50.8	53.5	10.0	63.5
	3	57.3	60.2	55.2	60.0	59.9	59.5	59.2	57.8	56.8	55.8	55.6	55.3	57.3	10.0	67.3
	4	63.4	76.4	56.3	75.0	73.4	70.8	68.2	59.0	57.9	56.8	56.6	56.4	63.4	10.0	73.4
	5	64.7	71.9	59.9	71.5	71.1	70.0	69.1	65.2	61.9	60.4	60.2	60.0	64.7	10.0	74.7
	6	60.7	67.6	58.3	67.2	66.5	64.2	62.9	60.6	59.6	58.7	58.6	58.4	60.7	10.0	70.7
Day	7	56.4	67.1	48.9	66.7	65.9	63.2	61.5	54.7	51.3	49.4	49.2	49.0	56.4	0.0	56.4
	8	57.4	68.4	47.9	68.1	67.4	64.9	62.8	55.3	50.7	48.5	48.3	48.0	57.4	0.0	57.4
	9	58.8	70.1	51.9	69.7	68.9	65.6	62.8	56.6	54.0	52.4	52.2	51.9	58.8	0.0	58.8
	10	60.6	70.0	54.1	69.6	69.0	67.3	66.0	59.1	56.2	54.7	54.4	54.2	60.6	0.0	60.6
	11	58.6	68.7	53.9	68.2	67.4	64.6	62.5	57.3	55.7	54.4	54.2	54.0	58.6	0.0	58.6
	12	61.2	74.8	52.7	74.1	72.7	67.8	64.1	57.0	54.7	53.3	53.0	52.8	61.2	0.0	61.2
	13	59.8	69.9	54.4	69.4	68.6	65.8	64.2	58.6	56.4	55.0	54.8	54.5	59.8	0.0	59.8
	14	60.4	69.9	56.0	69.6	68.9	66.3	64.2	59.0	57.8	56.6	56.4	56.1	60.4	0.0	60.4
	15	61.4	70.8	56.7	70.4	69.7	67.3	65.5	60.3	58.5	57.3	57.0	56.7	61.4	0.0	61.4
	16	61.3	71.4	56.9	71.0	70.2	66.7	64.5	60.1	58.7	57.5	57.3	57.0	61.3	0.0	61.3
	17	63.0	73.9	57.3	73.3	72.4	69.3	66.9	61.4	59.3	57.8	57.6	57.4	63.0	0.0	63.0
	18	62.3	71.8	57.2	71.4	70.6	68.2	66.6	61.2	59.1	57.8	57.6	57.3	62.3	0.0	62.3
	19	62.4	73.5	57.0	73.0	72.2	69.1	66.1	60.1	58.6	57.5	57.3	57.1	62.4	5.0	67.4
	20	65.3	79.1	56.6	78.2	76.9	72.3	68.3	60.6	58.3	57.1	57.0	56.7	65.3	5.0	70.3
	21	63.9	76.9	54.8	76.1	75.5	71.9	67.1	57.8	56.3	55.3	55.1	54.9	63.9	5.0	68.9
Night	22	56.8	67.0	50.5	66.7	65.9	63.2	61.0	56.0	52.9	51.0	50.8	50.6	56.8	10.0	66.8
	23	55.9	66.8	48.1	66.3	65.8	64.2	60.5	52.9	49.9	48.6	48.4	48.2	55.9	10.0	65.9
Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq} (dBA)		
Day	Min	56.4	67.1	47.9	66.7	65.9	63.2	61.5	54.7	50.7	48.5	48.3	48.0	24-Hour	Daytime (7am-10pm)	Nighttime (10pm-7am)
	Max	65.3	79.1	57.3	78.2	76.9	72.3	68.3	61.4	59.3	57.8	57.6	57.4			
Energy Average		61.5	Average:		71.2	70.4	67.4	64.9	58.6	56.4	55.0	54.8	54.5	60.9	61.5	59.8
Night	Min	53.5	59.4	48.1	59.0	58.6	57.3	56.5	52.9	49.9	48.6	48.4	48.2			
	Max	64.7	76.4	59.9	75.0	73.4	70.8	69.1	65.2	61.9	60.4	60.2	60.0			
Energy Average		59.8	Average:		65.3	64.6	62.9	61.2	57.1	55.4	54.1	53.9	53.7			

24-Hour Noise Level Measurement Summary

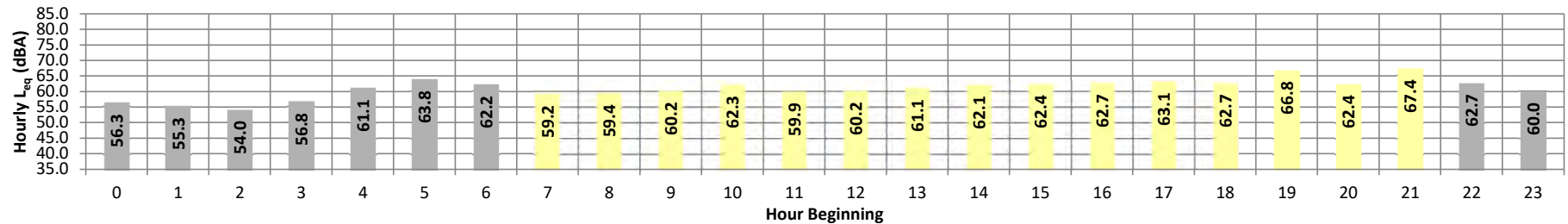
Date: Tuesday, June 21, 2022
Project: Vernola

Location: L5 - Located east of the Project Site on Pats Ranch Road and
Source: Park Center drive near single-family residence at 11981 Kestral Ct.

Meter: Piccolo II

JN: 14368
Analyst: B. Maddux

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	56.3	65.7	51.9	65.3	64.4	61.8	60.0	55.4	54.0	52.6	52.3	52.0	56.3	10.0	66.3
	1	55.3	62.8	51.6	62.4	61.7	59.6	58.1	55.2	54.1	52.4	52.1	51.7	55.3	10.0	65.3
	2	54.0	59.7	51.3	59.3	58.7	56.9	55.9	54.4	53.4	52.2	51.9	51.5	54.0	10.0	64.0
	3	56.8	63.2	54.1	62.9	62.4	60.4	59.1	56.7	55.7	54.7	54.5	54.2	56.8	10.0	66.8
	4	61.1	69.2	57.8	69.0	68.4	65.9	64.1	60.3	59.5	58.5	58.3	58.0	61.1	10.0	71.1
	5	63.8	70.0	61.0	69.7	69.2	67.4	66.3	63.9	62.8	61.7	61.5	61.2	63.8	10.0	73.8
	6	62.2	69.8	57.9	69.5	68.8	66.7	65.6	62.2	60.6	58.9	58.5	58.1	62.2	10.0	72.2
Day	7	59.2	69.2	51.0	68.8	68.1	65.9	64.2	58.2	54.9	52.5	52.0	51.4	59.2	0.0	59.2
	8	59.4	69.3	49.1	69.0	68.3	66.4	64.9	59.0	53.6	50.4	49.9	49.4	59.4	0.0	59.4
	9	60.2	71.1	51.8	70.7	69.8	66.8	65.0	58.9	55.4	52.8	52.5	52.0	60.2	0.0	60.2
	10	62.3	73.8	54.8	73.4	72.6	69.3	66.6	60.0	57.0	55.3	55.1	54.9	62.3	0.0	62.3
	11	59.9	69.1	54.1	68.8	68.1	65.9	64.6	59.2	56.3	54.7	54.5	54.2	59.9	0.0	59.9
	12	60.2	69.5	54.4	69.1	68.4	66.4	64.9	59.8	56.6	55.0	54.7	54.5	60.2	0.0	60.2
	13	61.1	70.3	55.6	70.0	69.3	67.0	65.5	60.7	57.9	56.2	56.0	55.7	61.1	0.0	61.1
	14	62.1	71.5	57.2	71.1	70.1	67.4	65.9	61.7	59.4	57.9	57.6	57.3	62.1	0.0	62.1
	15	62.4	71.1	57.6	70.7	69.9	67.6	66.3	62.3	59.8	58.2	58.0	57.7	62.4	0.0	62.4
	16	62.7	72.6	57.6	72.2	71.1	68.0	66.3	62.1	59.8	58.3	58.1	57.8	62.7	0.0	62.7
	17	63.1	72.3	57.9	71.8	71.0	68.4	67.0	63.2	60.2	58.5	58.3	58.0	63.1	0.0	63.1
	18	62.7	70.9	57.6	70.6	70.0	68.0	66.9	62.8	59.9	58.2	58.0	57.7	62.7	0.0	62.7
	19	66.8	79.7	57.1	79.2	78.7	74.0	69.9	62.4	59.7	57.9	57.6	57.2	66.8	5.0	71.8
	20	62.4	69.9	58.6	69.5	68.7	66.7	65.5	62.4	60.9	59.5	59.2	58.8	62.4	5.0	67.4
	21	67.4	80.4	61.8	79.7	78.3	73.0	69.0	63.9	63.1	62.4	62.2	62.0	67.4	5.0	72.4
	Night	22	62.7	68.7	60.2	68.4	67.7	66.0	64.9	62.7	61.9	61.0	60.8	60.5	62.7	10.0
23		60.0	65.9	57.1	65.6	65.0	63.0	61.7	60.1	59.4	58.3	58.0	57.6	60.0	10.0	70.0
Timeframe	Hour	L _{eq}	L _{max}	L _{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L _{eq} (dBA)		
Day	Min	59.2	69.1	49.1	68.8	68.1	65.9	64.2	58.2	53.6	50.4	49.9	49.4	24-Hour	Daytime (7am-10pm)	Nighttime (10pm-7am)
	Max	67.4	80.4	61.8	79.7	78.7	74.0	69.9	63.9	63.1	62.4	62.2	62.0			
Energy Average		62.9	Average:		71.6	70.8	68.0	66.2	61.1	58.3	56.5	56.3	55.9			
Night	Min	54.0	59.7	51.3	59.3	58.7	56.9	55.9	54.4	53.4	52.2	51.9	51.5	62.1	62.9	60.3
	Max	63.8	70.0	61.0	69.7	69.2	67.4	66.3	63.9	62.8	61.7	61.5	61.2			
Energy Average		60.3	Average:		65.8	65.2	63.1	61.7	59.0	57.9	56.7	56.4	56.1			

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APPENDIX 7.1:

ON-SITE TRAFFIC NOISE CALCULATIONS

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - v10/31/19

Scenario: Backyard No Wall
Road Name: Bellegrave Ave.
Lot No: PA-4

Project Name: Vernola Ranch Specific Plan
Job Number: 14368
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 27,300 vehicles		Autos: 15					
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15					
Peak Hour Volume: 2,730 vehicles		Heavy Trucks (3+ Axles): 15					
Vehicle Speed: 50 mph		Vehicle Mix					
Near/Far Lane Distance: 36 feet							
Site Data		VehicleType	Day	Evening	Night	Daily	
Barrier Height: 0.0 feet		Autos:	77.5%	12.9%	9.6%	97.42%	
Barrier Type (0-Wall, 1-Berm): 0.0		Medium Trucks:	84.8%	4.9%	10.3%	1.84%	
Centerline Dist. to Barrier: 55.0 feet		Heavy Trucks:	86.5%	2.7%	10.8%	0.74%	
Centerline Dist. to Observer: 59.0 feet		Noise Source Elevations (in feet)					
Barrier Distance to Observer: 4.0 feet		Autos:	0.00				
Observer Height (Above Pad): 5.0 feet		Medium Trucks:	2.30				
Pad Elevation: 0.0 feet		Heavy Trucks:	8.01	Grade Adjustment: 0.0			
Road Elevation: 0.0 feet		Lane Equivalent Distance (in feet)					
Barrier Elevation: 0.0 feet		Autos:	37.175				
Road Grade: 1.4%		Medium Trucks:	36.937				
		Heavy Trucks:	36.960				

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.12	1.95	1.83	-1.20	-2.05	0.000	0.000
Medium Trucks:	78.79	-15.29	1.87	-1.20	-2.33	0.000	0.000
Heavy Trucks:	83.02	-19.24	1.87	-1.20	-3.08	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:	73.7	71.8	70.0	64.0	72.6	73.2
Medium Trucks:	64.2	62.7	56.3	54.8	63.2	63.5
Heavy Trucks:	64.4	63.0	54.0	55.2	63.6	63.7
Vehicle Noise:	74.6	72.8	70.3	65.0	73.5	74.1

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	73.7	71.8	70.0	64.0	72.6	73.2
Medium Trucks:	64.2	62.7	56.3	54.8	63.2	63.5
Heavy Trucks:	64.4	63.0	54.0	55.2	63.6	63.7
Vehicle Noise:	74.6	72.8	70.3	65.0	73.5	74.1

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - v10/31/19

Scenario: Backyard No Wall
Road Name: Bellegrave Ave.
Lot No: PA-16

Project Name: Vernola Ranch Specific Plan
Job Number: 14368
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 27,300 vehicles		Autos: 15					
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15					
Peak Hour Volume: 2,730 vehicles		Heavy Trucks (3+ Axles): 15					
Vehicle Speed: 50 mph		Vehicle Mix					
Near/Far Lane Distance: 36 feet							
Site Data		VehicleType	Day	Evening	Night	Daily	
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 62.0 feet Barrier Distance to Observer: 2.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Barrier Elevation: 0.0 feet Road Grade: 1.4%		Autos:	77.5%	12.9%	9.6%	97.42%	
		Medium Trucks:	84.8%	4.9%	10.3%	1.84%	
		Heavy Trucks:	86.5%	2.7%	10.8%	0.74%	
		Noise Source Elevations (in feet)					
		Autos:	0.00				
		Medium Trucks:	2.30				
		Heavy Trucks:	8.01	Grade Adjustment: 0.0			
		Lane Equivalent Distance (in feet)					
		Autos:	40.460				
		Medium Trucks:	40.241				
		Heavy Trucks:	40.262				

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.12	1.95	1.28	-1.20	-3.04	0.000	0.000
Medium Trucks:	78.79	-15.29	1.31	-1.20	-3.29	0.000	0.000
Heavy Trucks:	83.02	-19.24	1.31	-1.20	-3.95	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:	73.1	71.3	69.5	63.4	72.1	72.7
Medium Trucks:	63.6	62.1	55.8	54.2	62.7	62.9
Heavy Trucks:	63.9	62.5	53.4	54.7	63.0	63.2
Vehicle Noise:	74.0	72.2	69.8	64.4	73.0	73.5

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	73.1	71.3	69.5	63.4	72.1	72.7
Medium Trucks:	63.6	62.1	55.8	54.2	62.7	62.9
Heavy Trucks:	63.9	62.5	53.4	54.7	63.0	63.2
Vehicle Noise:	74.0	72.2	69.8	64.4	73.0	73.5

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - v10/31/19

Scenario: Backyard No Wall
 Road Name: Pats Ranch Rd. (N. of Boca Pl.)
 Lot No: PA-16

Project Name: Vernola Ranch Specific Plan
 Job Number: 14368
 Analyst: B. Maddux

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 10,400 vehicles		Autos: 15					
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15					
Peak Hour Volume: 1,040 vehicles		Heavy Trucks (3+ Axles): 15					
Vehicle Speed: 40 mph		Vehicle Mix					
Near/Far Lane Distance: 12 feet							
Site Data		VehicleType	Day	Evening	Night	Daily	
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 85.0 feet Centerline Dist. to Observer: 90.0 feet Barrier Distance to Observer: 5.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Barrier Elevation: 0.0 feet Road Grade: 1.4%		Autos:	77.5%	12.9%	9.6%	97.42%	
		Medium Trucks:	84.8%	4.9%	10.3%	1.84%	
		Heavy Trucks:	86.5%	2.7%	10.8%	0.74%	
		Noise Source Elevations (in feet)					
		Autos:	0.00				
		Medium Trucks:	2.30				
		Heavy Trucks:	8.01	Grade Adjustment: 0.0			
		Lane Equivalent Distance (in feet)					
		Autos:	83.934				
Medium Trucks:	83.829						
Heavy Trucks:	83.839						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	67.36	-1.27	-3.48	-1.20	-1.88	0.000	0.000
Medium Trucks:	76.31	-18.51	-3.47	-1.20	-2.02	0.000	0.000
Heavy Trucks:	81.16	-22.46	-3.47	-1.20	-2.37	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:	61.4	59.5	57.7	51.7	60.3	60.9
Medium Trucks:	53.1	51.6	45.3	43.7	52.2	52.4
Heavy Trucks:	54.0	52.6	43.6	44.8	53.2	53.3
Vehicle Noise:	62.7	60.9	58.1	53.0	61.6	62.1

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.4	59.5	57.7	51.7	60.3	60.9
Medium Trucks:	53.1	51.6	45.3	43.7	52.2	52.4
Heavy Trucks:	54.0	52.6	43.6	44.8	53.2	53.3
Vehicle Noise:	62.7	60.9	58.1	53.0	61.6	62.1

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - v10/31/19

Scenario: Backyard No Wall
 Road Name: Pats Ranch Rd. (N. of Boca Pl.)
 Lot No: PA-20

Project Name: Vernola Ranch Specific Plan
 Job Number: 14368
 Analyst: B. Maddux

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 10,400 vehicles		Autos: 15					
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15					
Peak Hour Volume: 1,040 vehicles		Heavy Trucks (3+ Axles): 15					
Vehicle Speed: 40 mph		Vehicle Mix					
Near/Far Lane Distance: 12 feet							
Site Data		VehicleType	Day	Evening	Night	Daily	
Barrier Height: 0.0 feet <i>Barrier Type (0-Wall, 1-Berm):</i> 0.0 <i>Centerline Dist. to Barrier:</i> 85.0 feet <i>Centerline Dist. to Observer:</i> 90.0 feet <i>Barrier Distance to Observer:</i> 5.0 feet <i>Observer Height (Above Pad):</i> 5.0 feet <i>Pad Elevation:</i> 0.0 feet <i>Road Elevation:</i> 0.0 feet <i>Barrier Elevation:</i> 0.0 feet <i>Road Grade:</i> 1.4%		<i>Autos:</i>	77.5%	12.9%	9.6%	97.42%	
		<i>Medium Trucks:</i>	84.8%	4.9%	10.3%	1.84%	
		<i>Heavy Trucks:</i>	86.5%	2.7%	10.8%	0.74%	
		Noise Source Elevations (in feet)					
		<i>Autos:</i>	0.00				
		<i>Medium Trucks:</i>	2.30				
		<i>Heavy Trucks:</i>	8.01	<i>Grade Adjustment:</i> 0.0			
Lane Equivalent Distance (in feet)							
		<i>Autos:</i>	83.934				
		<i>Medium Trucks:</i>	83.829				
		<i>Heavy Trucks:</i>	83.839				

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	67.36	-1.27	-3.48	-1.20	-1.88	0.000	0.000
Medium Trucks:	76.31	-18.51	-3.47	-1.20	-2.02	0.000	0.000
Heavy Trucks:	81.16	-22.46	-3.47	-1.20	-2.37	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:	61.4	59.5	57.7	51.7	60.3	60.9
Medium Trucks:	53.1	51.6	45.3	43.7	52.2	52.4
Heavy Trucks:	54.0	52.6	43.6	44.8	53.2	53.3
Vehicle Noise:	62.7	60.9	58.1	53.0	61.6	62.1

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.4	59.5	57.7	51.7	60.3	60.9
Medium Trucks:	53.1	51.6	45.3	43.7	52.2	52.4
Heavy Trucks:	54.0	52.6	43.6	44.8	53.2	53.3
Vehicle Noise:	62.7	60.9	58.1	53.0	61.6	62.1

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - v10/31/19

Scenario: Backyard No Wall
 Road Name: Pats Ranch Rd. (N. of Boca Pl.)
 Lot No: PA-14

Project Name: Vernola Ranch Specific Plan
 Job Number: 14368
 Analyst: B. Maddux

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 10,400 vehicles		Autos: 15					
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15					
Peak Hour Volume: 1,040 vehicles		Heavy Trucks (3+ Axles): 15					
Vehicle Speed: 40 mph		Vehicle Mix					
Near/Far Lane Distance: 12 feet							
Site Data		VehicleType	Day	Evening	Night	Daily	
Barrier Height: 0.0 feet		Autos:	77.5%	12.9%	9.6%	97.42%	
Barrier Type (0-Wall, 1-Berm): 0.0		Medium Trucks:	84.8%	4.9%	10.3%	1.84%	
Centerline Dist. to Barrier: 70.0 feet		Heavy Trucks:	86.5%	2.7%	10.8%	0.74%	
Centerline Dist. to Observer: 75.0 feet		Noise Source Elevations (in feet)					
Barrier Distance to Observer: 5.0 feet		Autos:	0.00				
Observer Height (Above Pad): 5.0 feet		Medium Trucks:	2.30				
Pad Elevation: 0.0 feet		Heavy Trucks:	8.01	Grade Adjustment: 0.0			
Road Elevation: 0.0 feet		Lane Equivalent Distance (in feet)					
Barrier Elevation: 0.0 feet		Autos:	68.920				
Road Grade: 1.4%		Medium Trucks:	68.792				
		Heavy Trucks:	68.804				

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	67.36	-1.27	-2.19	-1.20	-1.85	0.000	0.000
Medium Trucks:	76.31	-18.51	-2.18	-1.20	-2.01	0.000	0.000
Heavy Trucks:	81.16	-22.46	-2.18	-1.20	-2.45	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	60.8	59.0	53.0	61.6	62.2
Medium Trucks:	54.4	52.9	46.6	45.0	53.5	53.7
Heavy Trucks:	55.3	53.9	44.9	46.1	54.5	54.6
Vehicle Noise:	63.9	62.2	59.4	54.3	62.9	63.4

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.7	60.8	59.0	53.0	61.6	62.2
Medium Trucks:	54.4	52.9	46.6	45.0	53.5	53.7
Heavy Trucks:	55.3	53.9	44.9	46.1	54.5	54.6
Vehicle Noise:	63.9	62.2	59.4	54.3	62.9	63.4

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - v10/31/19

Scenario: Backyard No Wall
 Road Name: Pats Ranch Rd. (N. of Boca Pl.)
 Lot No: PA-13

Project Name: Vernola Ranch Specific Plan
 Job Number: 14368
 Analyst: B. Maddux

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 10,400 vehicles		Autos: 15					
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15					
Peak Hour Volume: 1,040 vehicles		Heavy Trucks (3+ Axles): 15					
Vehicle Speed: 40 mph		Vehicle Mix					
Near/Far Lane Distance: 12 feet							
Site Data		VehicleType	Day	Evening	Night	Daily	
Barrier Height: 0.0 feet		Autos:	77.5%	12.9%	9.6%	97.42%	
Barrier Type (0-Wall, 1-Berm): 0.0		Medium Trucks:	84.8%	4.9%	10.3%	1.84%	
Centerline Dist. to Barrier: 80.0 feet		Heavy Trucks:	86.5%	2.7%	10.8%	0.74%	
Centerline Dist. to Observer: 85.0 feet		Noise Source Elevations (in feet)					
Barrier Distance to Observer: 5.0 feet		Autos:	0.00				
Observer Height (Above Pad): 5.0 feet		Medium Trucks:	2.30				
Pad Elevation: 0.0 feet		Heavy Trucks:	8.01	Grade Adjustment: 0.0			
Road Elevation: 0.0 feet		Lane Equivalent Distance (in feet)					
Barrier Elevation: 0.0 feet		Autos:	78.930				
Road Grade: 1.4%		Medium Trucks:	78.818				
		Heavy Trucks:	78.829				

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	67.36	-1.27	-3.08	-1.20	-1.87	0.000	0.000
Medium Trucks:	76.31	-18.51	-3.07	-1.20	-2.02	0.000	0.000
Heavy Trucks:	81.16	-22.46	-3.07	-1.20	-2.39	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	59.9	58.1	52.1	60.7	61.3
Medium Trucks:	53.5	52.0	45.7	44.1	52.6	52.8
Heavy Trucks:	54.4	53.0	44.0	45.2	53.6	53.7
Vehicle Noise:	63.1	61.3	58.5	53.4	62.0	62.5

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.8	59.9	58.1	52.1	60.7	61.3
Medium Trucks:	53.5	52.0	45.7	44.1	52.6	52.8
Heavy Trucks:	54.4	53.0	44.0	45.2	53.6	53.7
Vehicle Noise:	63.1	61.3	58.5	53.4	62.0	62.5

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - v10/31/19

Scenario: Backyard No Wall
 Road Name: Pats Ranch Rd. (S. of Boca Pl.)
 Lot No: PA-17

Project Name: Vernola Ranch Specific Plan
 Job Number: 14368
 Analyst: B. Maddux

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 15,400 vehicles		Autos: 15					
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15					
Peak Hour Volume: 1,540 vehicles		Heavy Trucks (3+ Axles): 15					
Vehicle Speed: 40 mph		Vehicle Mix					
Near/Far Lane Distance: 36 feet							
Site Data		VehicleType	Day	Evening	Night	Daily	
Barrier Height: 0.0 feet		Autos:	77.5%	12.9%	9.6%	97.42%	
Barrier Type (0-Wall, 1-Berm): 0.0		Medium Trucks:	84.8%	4.9%	10.3%	1.84%	
Centerline Dist. to Barrier: 100.0 feet		Heavy Trucks:	86.5%	2.7%	10.8%	0.74%	
Centerline Dist. to Observer: 115.0 feet		Noise Source Elevations (in feet)					
Barrier Distance to Observer: 15.0 feet		Autos:	0.00				
Observer Height (Above Pad): 5.0 feet		Medium Trucks:	2.30				
Pad Elevation: 0.0 feet		Heavy Trucks:	8.01	Grade Adjustment: 0.0			
Road Elevation: 0.0 feet		Lane Equivalent Distance (in feet)					
Barrier Elevation: 0.0 feet		Autos:	95.446				
Road Grade: 1.4%		Medium Trucks:	95.354				
		Heavy Trucks:	95.363				

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	67.36	0.44	-4.32	-1.20	-0.67	0.000	0.000
Medium Trucks:	76.31	-16.80	-4.31	-1.20	-0.79	0.000	0.000
Heavy Trucks:	81.16	-20.76	-4.31	-1.20	-1.13	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	60.4	58.6	52.6	61.2	61.8
Medium Trucks:	54.0	52.5	46.1	44.6	53.0	53.3
Heavy Trucks:	54.9	53.5	44.4	45.7	54.0	54.2
Vehicle Noise:	63.5	61.7	59.0	53.9	62.5	63.0

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.3	60.4	58.6	52.6	61.2	61.8
Medium Trucks:	54.0	52.5	46.1	44.6	53.0	53.3
Heavy Trucks:	54.9	53.5	44.4	45.7	54.0	54.2
Vehicle Noise:	63.5	61.7	59.0	53.9	62.5	63.0

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - v10/31/19

Scenario: Backyard No Wall
 Road Name: I-15
 Lot No: PA-3 and 4

Project Name: Vernola Ranch Specific Plan
 Job Number: 14368
 Analyst: B. Maddux

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 147,000 vehicles		Autos: 15					
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15					
Peak Hour Volume: 14,700 vehicles		Heavy Trucks (3+ Axles): 15					
Vehicle Speed: 65 mph		Vehicle Mix					
Near/Far Lane Distance: 128 feet							
Site Data		VehicleType	Day	Evening	Night	Daily	
Barrier Height: 0.0 feet		Autos:	77.5%	12.9%	9.6%	97.42%	
Barrier Type (0-Wall, 1-Berm): 0.0		Medium Trucks:	84.8%	4.9%	10.3%	1.84%	
Centerline Dist. to Barrier: 190.0 feet		Heavy Trucks:	86.5%	2.7%	10.8%	0.74%	
Centerline Dist. to Observer: 225.0 feet		Noise Source Elevations (in feet)					
Barrier Distance to Observer: 35.0 feet		Autos:	0.00				
Observer Height (Above Pad): 5.0 feet		Medium Trucks:	2.30				
Pad Elevation: 0.0 feet		Heavy Trucks:	8.01	Grade Adjustment: 0.0			
Road Elevation: 0.0 feet		Lane Equivalent Distance (in feet)					
Barrier Elevation: 0.0 feet		Autos:	147.817				
Road Grade: 0.0%		Medium Trucks:	147.758				
		Heavy Trucks:	147.763				

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	75.54	8.13	-7.16	-1.20	-0.27	0.000	0.000
Medium Trucks:	81.71	-9.11	-7.16	-1.20	-0.35	0.000	0.000
Heavy Trucks:	85.21	-13.07	-7.16	-1.20	-0.57	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:	75.3	73.4	71.6	65.6	74.2	74.8
Medium Trucks:	64.2	62.7	56.4	54.8	63.3	63.5
Heavy Trucks:	63.8	62.4	53.3	54.6	62.9	63.1
Vehicle Noise:	75.9	74.1	71.8	66.2	74.8	75.4

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	75.3	73.4	71.6	65.6	74.2	74.8
Medium Trucks:	64.2	62.7	56.4	54.8	63.3	63.5
Heavy Trucks:	63.8	62.4	53.3	54.6	62.9	63.1
Vehicle Noise:	75.9	74.1	71.8	66.2	74.8	75.4

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - v10/31/19

Scenario: Backyard No Wall
Road Name: I-15
Lot No: PA-2

Project Name: Vernola Ranch Specific Plan
Job Number: 14368
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 147,000 vehicles		Autos: 15					
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15					
Peak Hour Volume: 14,700 vehicles		Heavy Trucks (3+ Axles): 15					
Vehicle Speed: 65 mph		Vehicle Mix					
Near/Far Lane Distance: 128 feet							
Site Data		VehicleType	Day	Evening	Night	Daily	
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 190.0 feet Centerline Dist. to Observer: 220.0 feet Barrier Distance to Observer: 30.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Barrier Elevation: 0.0 feet Road Grade: 0.0%		Autos:	77.5%	12.9%	9.6%	97.42%	
		Medium Trucks:	84.8%	4.9%	10.3%	1.84%	
		Heavy Trucks:	86.5%	2.7%	10.8%	0.74%	
		Noise Source Elevations (in feet)					
		Autos:	0.00				
		Medium Trucks:	2.30				
		Heavy Trucks:	8.01	Grade Adjustment: 0.0			
		Lane Equivalent Distance (in feet)					
				Autos:	142.355		
		Medium Trucks:	142.293				
		Heavy Trucks:	142.299				

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	75.54	8.13	-6.92	-1.20	-0.33	0.000	0.000
Medium Trucks:	81.71	-9.11	-6.92	-1.20	-0.40	0.000	0.000
Heavy Trucks:	85.21	-13.07	-6.92	-1.20	-0.63	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:	75.5	73.6	71.9	65.8	74.4	75.1
Medium Trucks:	64.5	63.0	56.6	55.1	63.5	63.8
Heavy Trucks:	64.0	62.6	53.6	54.8	63.2	63.3
Vehicle Noise:	76.1	74.3	72.1	66.5	75.1	75.6

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	75.5	73.6	71.9	65.8	74.4	75.1
Medium Trucks:	64.5	63.0	56.6	55.1	63.5	63.8
Heavy Trucks:	64.0	62.6	53.6	54.8	63.2	63.3
Vehicle Noise:	76.1	74.3	72.1	66.5	75.1	75.6

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - v10/31/19

Scenario: Backyard No Wall
Road Name: I-15
Lot No: PA-17

Project Name: Vernola Ranch Specific Plan
Job Number: 14368
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 147,000 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 14,700 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 65 mph		Vehicle Mix				
Near/Far Lane Distance: 128 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos: 77.5% 12.9% 9.6% 97.42%				
Barrier Height: 0.0 feet		Medium Trucks: 84.8% 4.9% 10.3% 1.84%				
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks: 86.5% 2.7% 10.8% 0.74%				
Centerline Dist. to Barrier: 190.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 290.0 feet		Autos: 0.00				
Barrier Distance to Observer: 100.0 feet		Medium Trucks: 2.30				
Observer Height (Above Pad): 5.0 feet		Heavy Trucks: 8.01 Grade Adjustment: 0.0				
Pad Elevation: 0.0 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet		Autos: 216.806				
Barrier Elevation: 0.0 feet		Medium Trucks: 216.766				
Road Grade: 0.0%		Heavy Trucks: 216.770				

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	75.54	8.13	-9.66	-1.20	-0.07	0.000	0.000
Medium Trucks:	81.71	-9.11	-9.66	-1.20	-0.13	0.000	0.000
Heavy Trucks:	85.21	-13.07	-9.66	-1.20	-0.35	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:	72.8	70.9	69.1	63.1	71.7	72.3
Medium Trucks:	61.7	60.2	53.9	52.3	60.8	61.0
Heavy Trucks:	61.3	59.9	50.8	52.1	60.4	60.6
Vehicle Noise:	73.4	71.6	69.3	63.7	72.3	72.9

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	72.8	70.9	69.1	63.1	71.7	72.3
Medium Trucks:	61.7	60.2	53.9	52.3	60.8	61.0
Heavy Trucks:	61.3	59.9	50.8	52.1	60.4	60.6
Vehicle Noise:	73.4	71.6	69.3	63.7	72.3	72.9

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - v10/31/19

Scenario: Backyard With Wall
Road Name: Bellegrave Ave.
Lot No: PA-4

Project Name: Vernola Ranch Specific Plan
Job Number: 14368
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 27,300 vehicles		Autos: 15					
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15					
Peak Hour Volume: 2,730 vehicles		Heavy Trucks (3+ Axles): 15					
Vehicle Speed: 50 mph		Vehicle Mix					
Near/Far Lane Distance: 36 feet							
Site Data		VehicleType	Day	Evening	Night	Daily	
Barrier Height: 9.0 feet		Autos:	77.5%	12.9%	9.6%	97.42%	
Barrier Type (0-Wall, 1-Berm): 0.0		Medium Trucks:	84.8%	4.9%	10.3%	1.84%	
Centerline Dist. to Barrier: 55.0 feet		Heavy Trucks:	86.5%	2.7%	10.8%	0.74%	
Centerline Dist. to Observer: 59.0 feet		Noise Source Elevations (in feet)					
Barrier Distance to Observer: 4.0 feet		Autos:	0.00				
Observer Height (Above Pad): 5.0 feet		Medium Trucks:	2.30				
Pad Elevation: 0.0 feet		Heavy Trucks:	8.01	Grade Adjustment: 0.0			
Road Elevation: 0.0 feet		Lane Equivalent Distance (in feet)					
Barrier Elevation: 0.0 feet		Autos:	39.213				
Road Grade: 1.4%		Medium Trucks:	38.671				
		Heavy Trucks:	37.999				

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.12	1.95	1.48	-1.20	2.38	-12.794	-15.794
Medium Trucks:	78.79	-15.29	1.57	-1.20	2.12	-12.456	-15.456
Heavy Trucks:	83.02	-19.24	1.68	-1.20	1.53	-11.360	-14.360

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	73.4	71.5	69.7	63.6	72.3	72.9
Medium Trucks:	63.9	62.4	56.0	54.5	62.9	63.2
Heavy Trucks:	64.3	62.8	53.8	55.1	63.4	63.5
Vehicle Noise:	74.3	72.5	70.0	64.6	73.2	73.7

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	60.6	58.7	56.9	50.8	59.5	60.1
Medium Trucks:	51.4	49.9	43.6	42.0	50.5	50.7
Heavy Trucks:	52.9	51.5	42.4	43.7	52.1	52.2
Vehicle Noise:	61.7	59.9	57.2	52.1	60.6	61.1

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - v10/31/19

Scenario: Backyard With Wall
Road Name: Bellegrave Ave.
Lot No: PA-16

Project Name: Vernola Ranch Specific Plan
Job Number: 14368
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 27,300 vehicles		Autos: 15					
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15					
Peak Hour Volume: 2,730 vehicles		Heavy Trucks (3+ Axles): 15					
Vehicle Speed: 50 mph		Vehicle Mix					
Near/Far Lane Distance: 36 feet							
Site Data		VehicleType	Day	Evening	Night	Daily	
Barrier Height: 8.0 feet		Autos:	77.5%	12.9%	9.6%	97.42%	
Barrier Type (0-Wall, 1-Berm): 0.0		Medium Trucks:	84.8%	4.9%	10.3%	1.84%	
Centerline Dist. to Barrier: 60.0 feet		Heavy Trucks:	86.5%	2.7%	10.8%	0.74%	
Centerline Dist. to Observer: 62.0 feet		Noise Source Elevations (in feet)					
Barrier Distance to Observer: 2.0 feet		Autos:	0.00				
Observer Height (Above Pad): 5.0 feet		Medium Trucks:	2.30				
Pad Elevation: 0.0 feet		Heavy Trucks:	8.01	Grade Adjustment: 0.0			
Road Elevation: 0.0 feet		Lane Equivalent Distance (in feet)					
Barrier Elevation: 0.0 feet		Autos:	42.387				
Road Grade: 1.4%		Medium Trucks:	41.979				
		Heavy Trucks:	41.553				

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.12	1.95	0.97	-1.20	2.03	-12.339	-15.339
Medium Trucks:	78.79	-15.29	1.04	-1.20	1.87	-12.040	-15.040
Heavy Trucks:	83.02	-19.24	1.10	-1.20	1.47	-11.240	-14.240

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	72.8	70.9	69.2	63.1	71.7	72.4
Medium Trucks:	63.3	61.8	55.5	53.9	62.4	62.6
Heavy Trucks:	63.7	62.3	53.2	54.5	62.8	63.0
Vehicle Noise:	73.8	71.9	69.5	64.1	72.7	73.2

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	60.5	58.6	56.8	50.8	59.4	60.0
Medium Trucks:	51.3	49.8	43.4	41.9	50.4	50.6
Heavy Trucks:	52.4	51.0	42.0	43.2	51.6	51.7
Vehicle Noise:	61.6	59.8	57.2	51.9	60.5	61.0

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - v10/31/19

Scenario: Backyard With Wall
 Road Name: Pats Ranch Rd. (N. of Boca Pl.)
 Lot No: PA-16

Project Name: Vernola Ranch Specific Plan
 Job Number: 14368
 Analyst: B. Maddux

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 10,400 vehicles		Autos: 15					
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15					
Peak Hour Volume: 1,040 vehicles		Heavy Trucks (3+ Axles): 15					
Vehicle Speed: 40 mph		Vehicle Mix					
Near/Far Lane Distance: 12 feet							
Site Data		VehicleType	Day	Evening	Night	Daily	
Barrier Height: 0.0 feet		Autos:	77.5%	12.9%	9.6%	97.42%	
Barrier Type (0-Wall, 1-Berm): 0.0		Medium Trucks:	84.8%	4.9%	10.3%	1.84%	
Centerline Dist. to Barrier: 85.0 feet		Heavy Trucks:	86.5%	2.7%	10.8%	0.74%	
Centerline Dist. to Observer: 90.0 feet		Noise Source Elevations (in feet)					
Barrier Distance to Observer: 5.0 feet		Autos:	0.00				
Observer Height (Above Pad): 5.0 feet		Medium Trucks:	2.30				
Pad Elevation: 0.0 feet		Heavy Trucks:	8.01	Grade Adjustment: 0.0			
Road Elevation: 0.0 feet		Lane Equivalent Distance (in feet)					
Barrier Elevation: 0.0 feet		Autos:	83.934				
Road Grade: 1.4%		Medium Trucks:	83.829				
		Heavy Trucks:	83.839				

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	67.36	-1.27	-3.48	-1.20	-1.88	0.000	0.000
Medium Trucks:	76.31	-18.51	-3.47	-1.20	-2.02	0.000	0.000
Heavy Trucks:	81.16	-22.46	-3.47	-1.20	-2.37	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:	61.4	59.5	57.7	51.7	60.3	60.9
Medium Trucks:	53.1	51.6	45.3	43.7	52.2	52.4
Heavy Trucks:	54.0	52.6	43.6	44.8	53.2	53.3
Vehicle Noise:	62.7	60.9	58.1	53.0	61.6	62.1

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.4	59.5	57.7	51.7	60.3	60.9
Medium Trucks:	53.1	51.6	45.3	43.7	52.2	52.4
Heavy Trucks:	54.0	52.6	43.6	44.8	53.2	53.3
Vehicle Noise:	62.7	60.9	58.1	53.0	61.6	62.1

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - v10/31/19

Scenario: Backyard With Wall
 Road Name: Pats Ranch Rd. (N. of Boca Pl.)
 Lot No: PA-20

Project Name: Vernola Ranch Specific Plan
 Job Number: 14368
 Analyst: B. Maddux

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 10,400 vehicles		Autos: 15					
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15					
Peak Hour Volume: 1,040 vehicles		Heavy Trucks (3+ Axles): 15					
Vehicle Speed: 40 mph		Vehicle Mix					
Near/Far Lane Distance: 12 feet							
Site Data		VehicleType	Day	Evening	Night	Daily	
Barrier Height: 0.0 feet		Autos:	77.5%	12.9%	9.6%	97.42%	
Barrier Type (0-Wall, 1-Berm): 0.0		Medium Trucks:	84.8%	4.9%	10.3%	1.84%	
Centerline Dist. to Barrier: 85.0 feet		Heavy Trucks:	86.5%	2.7%	10.8%	0.74%	
Centerline Dist. to Observer: 90.0 feet		Noise Source Elevations (in feet)					
Barrier Distance to Observer: 5.0 feet		Autos:	0.00				
Observer Height (Above Pad): 5.0 feet		Medium Trucks:	2.30				
Pad Elevation: 0.0 feet		Heavy Trucks:	8.01	Grade Adjustment: 0.0			
Road Elevation: 0.0 feet		Lane Equivalent Distance (in feet)					
Barrier Elevation: 0.0 feet		Autos:	83.934				
Road Grade: 1.4%		Medium Trucks:	83.829				
		Heavy Trucks:	83.839				

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	67.36	-1.27	-3.48	-1.20	-1.88	0.000	0.000
Medium Trucks:	76.31	-18.51	-3.47	-1.20	-2.02	0.000	0.000
Heavy Trucks:	81.16	-22.46	-3.47	-1.20	-2.37	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:	61.4	59.5	57.7	51.7	60.3	60.9
Medium Trucks:	53.1	51.6	45.3	43.7	52.2	52.4
Heavy Trucks:	54.0	52.6	43.6	44.8	53.2	53.3
Vehicle Noise:	62.7	60.9	58.1	53.0	61.6	62.1

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.4	59.5	57.7	51.7	60.3	60.9
Medium Trucks:	53.1	51.6	45.3	43.7	52.2	52.4
Heavy Trucks:	54.0	52.6	43.6	44.8	53.2	53.3
Vehicle Noise:	62.7	60.9	58.1	53.0	61.6	62.1

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - v10/31/19

Scenario: Backyard With Wall
 Road Name: Pats Ranch Rd. (N. of Boca Pl.)
 Lot No: PA-14

Project Name: Vernola Ranch Specific Plan
 Job Number: 14368
 Analyst: B. Maddux

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 10,400 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 1,040 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 40 mph		Vehicle Mix				
Near/Far Lane Distance: 12 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos: 77.5% 12.9% 9.6% 97.42%				
Barrier Height: 0.0 feet		Medium Trucks: 84.8% 4.9% 10.3% 1.84%				
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks: 86.5% 2.7% 10.8% 0.74%				
Centerline Dist. to Barrier: 70.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 75.0 feet		Autos: 0.00				
Barrier Distance to Observer: 5.0 feet		Medium Trucks: 2.30				
Observer Height (Above Pad): 5.0 feet		Heavy Trucks: 8.01 Grade Adjustment: 0.0				
Pad Elevation: 0.0 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet		Autos: 68.920				
Barrier Elevation: 0.0 feet		Medium Trucks: 68.792				
Road Grade: 1.4%		Heavy Trucks: 68.804				

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	67.36	-1.27	-2.19	-1.20	-1.85	0.000	0.000
Medium Trucks:	76.31	-18.51	-2.18	-1.20	-2.01	0.000	0.000
Heavy Trucks:	81.16	-22.46	-2.18	-1.20	-2.45	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	60.8	59.0	53.0	61.6	62.2
Medium Trucks:	54.4	52.9	46.6	45.0	53.5	53.7
Heavy Trucks:	55.3	53.9	44.9	46.1	54.5	54.6
Vehicle Noise:	63.9	62.2	59.4	54.3	62.9	63.4

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.7	60.8	59.0	53.0	61.6	62.2
Medium Trucks:	54.4	52.9	46.6	45.0	53.5	53.7
Heavy Trucks:	55.3	53.9	44.9	46.1	54.5	54.6
Vehicle Noise:	63.9	62.2	59.4	54.3	62.9	63.4

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - v10/31/19

Scenario: Backyard With Wall
 Road Name: Pats Ranch Rd. (N. of Boca Pl.)
 Lot No: PA-13

Project Name: Vernola Ranch Specific Plan
 Job Number: 14368
 Analyst: B. Maddux

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 10,400 vehicles		Autos: 15					
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15					
Peak Hour Volume: 1,040 vehicles		Heavy Trucks (3+ Axles): 15					
Vehicle Speed: 40 mph		Vehicle Mix					
Near/Far Lane Distance: 12 feet							
Site Data		VehicleType	Day	Evening	Night	Daily	
Barrier Height: 0.0 feet		Autos:	77.5%	12.9%	9.6%	97.42%	
Barrier Type (0-Wall, 1-Berm): 0.0		Medium Trucks:	84.8%	4.9%	10.3%	1.84%	
Centerline Dist. to Barrier: 80.0 feet		Heavy Trucks:	86.5%	2.7%	10.8%	0.74%	
Centerline Dist. to Observer: 85.0 feet		Noise Source Elevations (in feet)					
Barrier Distance to Observer: 5.0 feet		Autos:	0.00				
Observer Height (Above Pad): 5.0 feet		Medium Trucks:	2.30				
Pad Elevation: 0.0 feet		Heavy Trucks:	8.01	Grade Adjustment: 0.0			
Road Elevation: 0.0 feet		Lane Equivalent Distance (in feet)					
Barrier Elevation: 0.0 feet		Autos:	78.930				
Road Grade: 1.4%		Medium Trucks:	78.818				
		Heavy Trucks:	78.829				

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	67.36	-1.27	-3.08	-1.20	-1.87	0.000	0.000
Medium Trucks:	76.31	-18.51	-3.07	-1.20	-2.02	0.000	0.000
Heavy Trucks:	81.16	-22.46	-3.07	-1.20	-2.39	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	59.9	58.1	52.1	60.7	61.3
Medium Trucks:	53.5	52.0	45.7	44.1	52.6	52.8
Heavy Trucks:	54.4	53.0	44.0	45.2	53.6	53.7
Vehicle Noise:	63.1	61.3	58.5	53.4	62.0	62.5

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.8	59.9	58.1	52.1	60.7	61.3
Medium Trucks:	53.5	52.0	45.7	44.1	52.6	52.8
Heavy Trucks:	54.4	53.0	44.0	45.2	53.6	53.7
Vehicle Noise:	63.1	61.3	58.5	53.4	62.0	62.5

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - v10/31/19

Scenario: Backyard With Wall
 Road Name: Pats Ranch Rd. (S. of Boca Pl.)
 Lot No: PA-17

Project Name: Vernola Ranch Specific Plan
 Job Number: 14368
 Analyst: B. Maddux

SITE SPECIFIC INPUT DATA	NOISE MODEL INPUTS				
Highway Data	Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 15,400 vehicles	Autos: 15				
Peak Hour Percentage: 10%	Medium Trucks (2 Axles): 15				
Peak Hour Volume: 1,540 vehicles	Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 40 mph	Vehicle Mix				
Near/Far Lane Distance: 36 feet	VehicleType	Day	Evening	Night	Daily
Site Data	Autos: 77.5% 12.9% 9.6% 97.42%				
Barrier Height: 0.0 feet	Medium Trucks: 84.8% 4.9% 10.3% 1.84%				
Barrier Type (0-Wall, 1-Berm): 0.0	Heavy Trucks: 86.5% 2.7% 10.8% 0.74%				
Centerline Dist. to Barrier: 100.0 feet	Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 115.0 feet	Autos: 0.00				
Barrier Distance to Observer: 15.0 feet	Medium Trucks: 2.30				
Observer Height (Above Pad): 5.0 feet	Heavy Trucks: 8.01 Grade Adjustment: 0.0				
Pad Elevation: 0.0 feet	Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet	Autos: 95.446				
Barrier Elevation: 0.0 feet	Medium Trucks: 95.354				
Road Grade: 1.4%	Heavy Trucks: 95.363				

FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	67.36	0.44	-4.32	-1.20	-0.67	0.000	0.000
Medium Trucks:	76.31	-16.80	-4.31	-1.20	-0.79	0.000	0.000
Heavy Trucks:	81.16	-20.76	-4.31	-1.20	-1.13	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	60.4	58.6	52.6	61.2	61.8
Medium Trucks:	54.0	52.5	46.1	44.6	53.0	53.3
Heavy Trucks:	54.9	53.5	44.4	45.7	54.0	54.2
Vehicle Noise:	63.5	61.7	59.0	53.9	62.5	63.0

Mitigated Noise Levels (with Topo and barrier attenuation)						
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.3	60.4	58.6	52.6	61.2	61.8
Medium Trucks:	54.0	52.5	46.1	44.6	53.0	53.3
Heavy Trucks:	54.9	53.5	44.4	45.7	54.0	54.2
Vehicle Noise:	63.5	61.7	59.0	53.9	62.5	63.0

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - v10/31/19

Scenario: Backyard With Wall
 Road Name: I-15
 Lot No: PA-3 and 4

Project Name: Vernola Ranch Specific Plan
 Job Number: 14368
 Analyst: B. Maddux

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 147,000 vehicles		Autos: 15					
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15					
Peak Hour Volume: 14,700 vehicles		Heavy Trucks (3+ Axles): 15					
Vehicle Speed: 65 mph		Vehicle Mix					
Near/Far Lane Distance: 128 feet		VehicleType	Day	Evening	Night	Daily	
Site Data		Autos: 77.5% 12.9% 9.6% 97.42%					
Barrier Height: 12.0 feet		Medium Trucks: 84.8% 4.9% 10.3% 1.84%					
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks: 86.5% 2.7% 10.8% 0.74%					
Centerline Dist. to Barrier: 190.0 feet		Noise Source Elevations (in feet)					
Centerline Dist. to Observer: 225.0 feet		Autos: 0.00					
Barrier Distance to Observer: 35.0 feet		Medium Trucks: 2.30					
Observer Height (Above Pad): 5.0 feet		Heavy Trucks: 8.01 Grade Adjustment: 0.0					
Pad Elevation: 0.0 feet		Lane Equivalent Distance (in feet)					
Road Elevation: 0.0 feet		Autos: 144.890					
Barrier Elevation: 0.0 feet		Medium Trucks: 144.662					
Road Grade: 0.0%		Heavy Trucks: 144.302					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	75.54	8.13	-7.03	-1.20	1.16	-10.620	-13.620
Medium Trucks:	81.71	-9.11	-7.02	-1.20	1.02	-10.340	-13.340
Heavy Trucks:	85.21	-13.07	-7.01	-1.20	0.71	-9.340	-12.340

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	75.4	73.5	71.8	65.7	74.3	74.9
Medium Trucks:	64.4	62.9	56.5	55.0	63.4	63.7
Heavy Trucks:	63.9	62.5	53.5	54.7	63.1	63.2
Vehicle Noise:	76.0	74.2	72.0	66.4	75.0	75.5

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.8	62.9	61.1	55.1	63.7	64.3
Medium Trucks:	54.0	52.5	46.2	44.6	53.1	53.3
Heavy Trucks:	54.6	53.2	44.1	45.4	53.7	53.9
Vehicle Noise:	65.5	63.7	61.4	55.9	64.5	65.0

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - v10/31/19

Scenario: Backyard With Wall
Road Name: I-15
Lot No: PA-2

Project Name: Vernola Ranch Specific Plan
Job Number: 14368
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA	NOISE MODEL INPUTS				
Highway Data	Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 147,000 vehicles	Autos: 15				
Peak Hour Percentage: 10%	Medium Trucks (2 Axles): 15				
Peak Hour Volume: 14,700 vehicles	Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 65 mph	Vehicle Mix				
Near/Far Lane Distance: 128 feet	VehicleType	Day	Evening	Night	Daily
Site Data	Autos: 77.5% 12.9% 9.6% 97.42%				
Barrier Height: 12.0 feet	Medium Trucks: 84.8% 4.9% 10.3% 1.84%				
Barrier Type (0-Wall, 1-Berm): 0.0	Heavy Trucks: 86.5% 2.7% 10.8% 0.74%				
Centerline Dist. to Barrier: 190.0 feet	Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 220.0 feet	Autos: 0.00				
Barrier Distance to Observer: 30.0 feet	Medium Trucks: 2.30				
Observer Height (Above Pad): 5.0 feet	Heavy Trucks: 8.01 Grade Adjustment: 0.0				
Pad Elevation: 0.0 feet	Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet	Autos: 140.003				
Barrier Elevation: 0.0 feet	Medium Trucks: 139.774				
Road Grade: 0.0%	Heavy Trucks: 139.415				

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	75.54	8.13	-6.81	-1.20	1.27	-10.840	-13.840
Medium Trucks:	81.71	-9.11	-6.80	-1.20	1.13	-10.560	-13.560
Heavy Trucks:	85.21	-13.07	-6.78	-1.20	0.82	-9.760	-12.760

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	75.7	73.8	72.0	65.9	74.6	75.2
Medium Trucks:	64.6	63.1	56.7	55.2	63.6	63.9
Heavy Trucks:	64.2	62.7	53.7	54.9	63.3	63.4
Vehicle Noise:	76.3	74.4	72.2	66.6	75.2	75.7

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.8	62.9	61.1	55.1	63.7	64.3
Medium Trucks:	54.0	52.5	46.2	44.6	53.1	53.3
Heavy Trucks:	54.4	53.0	43.9	45.2	53.5	53.7
Vehicle Noise:	65.5	63.7	61.4	55.9	64.4	65.0

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - v10/31/19

Scenario: Backyard With Wall
Road Name: I-15
Lot No: PA-17

Project Name: Vernola Ranch Specific Plan
Job Number: 14368
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 147,000 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 14,700 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 65 mph		Vehicle Mix				
Near/Far Lane Distance: 128 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos: 77.5% 12.9% 9.6% 97.42%				
Barrier Height: 10.0 feet		Medium Trucks: 84.8% 4.9% 10.3% 1.84%				
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks: 86.5% 2.7% 10.8% 0.74%				
Centerline Dist. to Barrier: 190.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 290.0 feet		Autos: 0.00				
Barrier Distance to Observer: 100.0 feet		Medium Trucks: 2.30				
Observer Height (Above Pad): 5.0 feet		Heavy Trucks: 8.01 Grade Adjustment: 0.0				
Pad Elevation: 0.0 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet		Autos: 209.120				
Barrier Elevation: 0.0 feet		Medium Trucks: 208.934				
Road Grade: 0.0%		Heavy Trucks: 208.679				

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	75.54	8.13	-9.42	-1.20	0.46	-8.300	-11.300
Medium Trucks:	81.71	-9.11	-9.42	-1.20	0.34	-7.700	-10.700
Heavy Trucks:	85.21	-13.07	-9.41	-1.20	0.12	-6.160	-9.160

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	73.0	71.1	69.4	63.3	71.9	72.5
Medium Trucks:	62.0	60.5	54.1	52.6	61.0	61.3
Heavy Trucks:	61.5	60.1	51.1	52.3	60.7	60.8
Vehicle Noise:	73.6	71.8	69.6	64.0	72.6	73.1

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.7	62.8	61.1	55.0	63.6	64.2
Medium Trucks:	54.3	52.8	46.4	44.9	53.3	53.6
Heavy Trucks:	55.4	53.9	44.9	46.2	54.5	54.6
Vehicle Noise:	65.6	63.7	61.3	55.9	64.5	65.0

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - v10/31/19

Scenario: First Floor With Wall
Road Name: Bellegrave Ave.
Lot No: PA-4

Project Name: Vernola Ranch Specific Plan
Job Number: 14368
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 27,300 vehicles		Autos: 15					
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15					
Peak Hour Volume: 2,730 vehicles		Heavy Trucks (3+ Axles): 15					
Vehicle Speed: 50 mph		Vehicle Mix					
Near/Far Lane Distance: 36 feet							
Site Data		VehicleType	Day	Evening	Night	Daily	
Barrier Height: 9.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 55.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 5.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Barrier Elevation: 0.0 feet Road Grade: 1.4%		Autos:	77.5%	12.9%	9.6%	97.42%	
		Medium Trucks:	84.8%	4.9%	10.3%	1.84%	
		Heavy Trucks:	86.5%	2.7%	10.8%	0.74%	
		Noise Source Elevations (in feet)					
		Autos:	0.00				
		Medium Trucks:	2.30				
		Heavy Trucks:	8.01	Grade Adjustment: 0.0			
		Lane Equivalent Distance (in feet)					
		Autos:	39.959				
Medium Trucks:	39.417						
Heavy Trucks:	38.745						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.12	1.95	1.36	-1.20	2.14	-12.482	-15.482
Medium Trucks:	78.79	-15.29	1.45	-1.20	1.88	-12.060	-15.060
Heavy Trucks:	83.02	-19.24	1.56	-1.20	1.28	-10.860	-13.860

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	73.2	71.3	69.6	63.5	72.1	72.7
Medium Trucks:	63.8	62.2	55.9	54.3	62.8	63.0
Heavy Trucks:	64.1	62.7	53.7	54.9	63.3	63.4
Vehicle Noise:	74.2	72.3	69.9	64.5	73.1	73.6

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	60.7	58.8	57.1	51.0	59.7	60.3
Medium Trucks:	51.7	50.2	43.8	42.3	50.7	51.0
Heavy Trucks:	53.3	51.9	42.8	44.1	52.4	52.6
Vehicle Noise:	61.9	60.1	57.4	52.3	60.8	61.4

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - v10/31/19

Scenario: First Floor With Wall
Road Name: Bellegrave Ave.
Lot No: PA-16

Project Name: Vernola Ranch Specific Plan
Job Number: 14368
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 27,300 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 2,730 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 50 mph		Vehicle Mix				
Near/Far Lane Distance: 36 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos: 77.5% 12.9% 9.6% 97.42%				
Barrier Height: 8.0 feet		Medium Trucks: 84.8% 4.9% 10.3% 1.84%				
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks: 86.5% 2.7% 10.8% 0.74%				
Centerline Dist. to Barrier: 60.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 65.0 feet		Autos: 0.00				
Barrier Distance to Observer: 5.0 feet		Medium Trucks: 2.30				
Observer Height (Above Pad): 5.0 feet		Heavy Trucks: 8.01 Grade Adjustment: 0.0				
Pad Elevation: 0.0 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet		Autos: 44.612				
Barrier Elevation: 0.0 feet		Medium Trucks: 44.204				
Road Grade: 1.4%		Heavy Trucks: 43.778				

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.12	1.95	0.64	-1.20	1.29	-10.880	-13.880
Medium Trucks:	78.79	-15.29	0.70	-1.20	1.11	-10.520	-13.520
Heavy Trucks:	83.02	-19.24	0.76	-1.20	0.72	-9.380	-12.380

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	72.5	70.6	68.8	62.8	71.4	72.0
Medium Trucks:	63.0	61.5	55.1	53.6	62.1	62.3
Heavy Trucks:	63.3	61.9	52.9	54.1	62.5	62.6
Vehicle Noise:	73.4	71.6	69.1	63.8	72.4	72.9

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.6	59.7	58.0	51.9	60.5	61.1
Medium Trucks:	52.5	51.0	44.6	43.1	51.5	51.8
Heavy Trucks:	54.0	52.5	43.5	44.8	53.1	53.2
Vehicle Noise:	62.7	61.0	58.3	53.1	61.7	62.2

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - v10/31/19

Scenario: First Floor With Wall
 Road Name: Pats Ranch Rd. (N. of Boca Pl.)
 Lot No: PA-16

Project Name: Vernola Ranch Specific Plan
 Job Number: 14368
 Analyst: B. Maddux

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 10,400 vehicles		Autos: 15					
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15					
Peak Hour Volume: 1,040 vehicles		Heavy Trucks (3+ Axles): 15					
Vehicle Speed: 40 mph		Vehicle Mix					
Near/Far Lane Distance: 12 feet							
Site Data		VehicleType	Day	Evening	Night	Daily	
Barrier Height: 0.0 feet		Autos:	77.5%	12.9%	9.6%	97.42%	
Barrier Type (0-Wall, 1-Berm): 0.0		Medium Trucks:	84.8%	4.9%	10.3%	1.84%	
Centerline Dist. to Barrier: 85.0 feet		Heavy Trucks:	86.5%	2.7%	10.8%	0.74%	
Centerline Dist. to Observer: 95.0 feet		Noise Source Elevations (in feet)					
Barrier Distance to Observer: 10.0 feet		Autos:	0.00				
Observer Height (Above Pad): 5.0 feet		Medium Trucks:	2.30				
Pad Elevation: 0.0 feet		Heavy Trucks:	8.01	Grade Adjustment: 0.0			
Road Elevation: 0.0 feet		Lane Equivalent Distance (in feet)					
Barrier Elevation: 0.0 feet		Autos:	88.938				
Road Grade: 1.4%		Medium Trucks:	88.839				
		Heavy Trucks:	88.848				

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	67.36	-1.27	-3.86	-1.20	-1.02	0.000	0.000
Medium Trucks:	76.31	-18.51	-3.85	-1.20	-1.15	0.000	0.000
Heavy Trucks:	81.16	-22.46	-3.85	-1.20	-1.50	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	59.1	57.4	51.3	59.9	60.5
Medium Trucks:	52.8	51.2	44.9	43.3	51.8	52.0
Heavy Trucks:	53.6	52.2	43.2	44.4	52.8	52.9
Vehicle Noise:	62.3	60.5	57.8	52.7	61.2	61.7

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.0	59.1	57.4	51.3	59.9	60.5
Medium Trucks:	52.8	51.2	44.9	43.3	51.8	52.0
Heavy Trucks:	53.6	52.2	43.2	44.4	52.8	52.9
Vehicle Noise:	62.3	60.5	57.8	52.7	61.2	61.7

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - v10/31/19

Scenario: First Floor With Wall
 Road Name: Pats Ranch Rd. (N. of Boca Pl.)
 Lot No: PA-20

Project Name: Vernola Ranch Specific Plan
 Job Number: 14368
 Analyst: B. Maddux

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 10,400 vehicles		Autos: 15					
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15					
Peak Hour Volume: 1,040 vehicles		Heavy Trucks (3+ Axles): 15					
Vehicle Speed: 40 mph		Vehicle Mix					
Near/Far Lane Distance: 12 feet							
Site Data		VehicleType	Day	Evening	Night	Daily	
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 85.0 feet Centerline Dist. to Observer: 95.0 feet Barrier Distance to Observer: 10.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Barrier Elevation: 0.0 feet Road Grade: 1.4%		Autos:	77.5%	12.9%	9.6%	97.42%	
		Medium Trucks:	84.8%	4.9%	10.3%	1.84%	
		Heavy Trucks:	86.5%	2.7%	10.8%	0.74%	
		Noise Source Elevations (in feet)					
		Autos:	0.00				
		Medium Trucks:	2.30				
		Heavy Trucks:	8.01	Grade Adjustment: 0.0			
		Lane Equivalent Distance (in feet)					
		Autos:	88.938				
		Medium Trucks:	88.839				
		Heavy Trucks:	88.848				

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	67.36	-1.27	-3.86	-1.20	-1.02	0.000	0.000
Medium Trucks:	76.31	-18.51	-3.85	-1.20	-1.15	0.000	0.000
Heavy Trucks:	81.16	-22.46	-3.85	-1.20	-1.50	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	59.1	57.4	51.3	59.9	60.5
Medium Trucks:	52.8	51.2	44.9	43.3	51.8	52.0
Heavy Trucks:	53.6	52.2	43.2	44.4	52.8	52.9
Vehicle Noise:	62.3	60.5	57.8	52.7	61.2	61.7

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.0	59.1	57.4	51.3	59.9	60.5
Medium Trucks:	52.8	51.2	44.9	43.3	51.8	52.0
Heavy Trucks:	53.6	52.2	43.2	44.4	52.8	52.9
Vehicle Noise:	62.3	60.5	57.8	52.7	61.2	61.7

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - v10/31/19

Scenario: First Floor With Wall
 Road Name: Pats Ranch Rd. (N. of Boca Pl.)
 Lot No: PA-14

Project Name: Vernola Ranch Specific Plan
 Job Number: 14368
 Analyst: B. Maddux

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 10,400 vehicles		Autos: 15					
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15					
Peak Hour Volume: 1,040 vehicles		Heavy Trucks (3+ Axles): 15					
Vehicle Speed: 40 mph		Vehicle Mix					
Near/Far Lane Distance: 12 feet							
Site Data		VehicleType	Day	Evening	Night	Daily	
Barrier Height: 0.0 feet		Autos:	77.5%	12.9%	9.6%	97.42%	
Barrier Type (0-Wall, 1-Berm): 0.0		Medium Trucks:	84.8%	4.9%	10.3%	1.84%	
Centerline Dist. to Barrier: 70.0 feet		Heavy Trucks:	86.5%	2.7%	10.8%	0.74%	
Centerline Dist. to Observer: 80.0 feet		Noise Source Elevations (in feet)					
Barrier Distance to Observer: 10.0 feet		Autos:	0.00				
Observer Height (Above Pad): 5.0 feet		Medium Trucks:	2.30				
Pad Elevation: 0.0 feet		Heavy Trucks:	8.01	Grade Adjustment: 0.0			
Road Elevation: 0.0 feet		Lane Equivalent Distance (in feet)					
Barrier Elevation: 0.0 feet		Autos:	73.926				
Road Grade: 1.4%		Medium Trucks:	73.806				
		Heavy Trucks:	73.818				

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	67.36	-1.27	-2.65	-1.20	-0.99	0.000	0.000
Medium Trucks:	76.31	-18.51	-2.64	-1.20	-1.15	0.000	0.000
Heavy Trucks:	81.16	-22.46	-2.64	-1.20	-1.58	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	60.3	58.6	52.5	61.1	61.7
Medium Trucks:	54.0	52.5	46.1	44.6	53.0	53.2
Heavy Trucks:	54.9	53.4	44.4	45.6	54.0	54.1
Vehicle Noise:	63.5	61.7	59.0	53.9	62.4	62.9

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.2	60.3	58.6	52.5	61.1	61.7
Medium Trucks:	54.0	52.5	46.1	44.6	53.0	53.2
Heavy Trucks:	54.9	53.4	44.4	45.6	54.0	54.1
Vehicle Noise:	63.5	61.7	59.0	53.9	62.4	62.9

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - v10/31/19

Scenario: First Floor With Wall
 Road Name: Pats Ranch Rd. (N. of Boca Pl.)
 Lot No: PA-13

Project Name: Vernola Ranch Specific Plan
 Job Number: 14368
 Analyst: B. Maddux

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 10,400 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 1,040 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 40 mph		Vehicle Mix				
Near/Far Lane Distance: 12 feet						
Site Data		VehicleType	Day	Evening	Night	Daily
Barrier Height: 0.0 feet		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Type (0-Wall, 1-Berm): 0.0		Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Centerline Dist. to Barrier: 80.0 feet		Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Observer: 90.0 feet		Noise Source Elevations (in feet)				
Barrier Distance to Observer: 10.0 feet		Autos:	0.00			
Observer Height (Above Pad): 5.0 feet		Medium Trucks:	2.30			
Pad Elevation: 0.0 feet		Heavy Trucks:	8.01	Grade Adjustment: 0.0		
Road Elevation: 0.0 feet		Lane Equivalent Distance (in feet)				
Barrier Elevation: 0.0 feet		Autos:	83.934			
Road Grade: 1.4%		Medium Trucks:	83.829			
		Heavy Trucks:	83.839			

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	67.36	-1.27	-3.48	-1.20	-1.01	0.000	0.000
Medium Trucks:	76.31	-18.51	-3.47	-1.20	-1.15	0.000	0.000
Heavy Trucks:	81.16	-22.46	-3.47	-1.20	-1.52	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:	61.4	59.5	57.7	51.7	60.3	60.9
Medium Trucks:	53.1	51.6	45.3	43.7	52.2	52.4
Heavy Trucks:	54.0	52.6	43.6	44.8	53.2	53.3
Vehicle Noise:	62.7	60.9	58.1	53.0	61.6	62.1

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.4	59.5	57.7	51.7	60.3	60.9
Medium Trucks:	53.1	51.6	45.3	43.7	52.2	52.4
Heavy Trucks:	54.0	52.6	43.6	44.8	53.2	53.3
Vehicle Noise:	62.7	60.9	58.1	53.0	61.6	62.1

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - v10/31/19

Scenario: First Floor With Wall
 Road Name: Pats Ranch Rd. (S. of Boca Pl.)
 Lot No: PA-17

Project Name: Vernola Ranch Specific Plan
 Job Number: 14368
 Analyst: B. Maddux

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 15,400 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 1,540 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 40 mph		Vehicle Mix				
Near/Far Lane Distance: 36 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos: 77.5% 12.9% 9.6% 97.42%				
Barrier Height: 0.0 feet		Medium Trucks: 84.8% 4.9% 10.3% 1.84%				
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks: 86.5% 2.7% 10.8% 0.74%				
Centerline Dist. to Barrier: 100.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 120.0 feet		Autos: 0.00				
Barrier Distance to Observer: 20.0 feet		Medium Trucks: 2.30				
Observer Height (Above Pad): 5.0 feet		Heavy Trucks: 8.01 Grade Adjustment: 0.0				
Pad Elevation: 0.0 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet		Autos: 100.524				
Barrier Elevation: 0.0 feet		Medium Trucks: 100.436				
Road Grade: 1.4%		Heavy Trucks: 100.444				

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	67.36	0.44	-4.65	-1.20	-0.48	0.000	0.000
Medium Trucks:	76.31	-16.80	-4.65	-1.20	-0.60	0.000	0.000
Heavy Trucks:	81.16	-20.76	-4.65	-1.20	-0.94	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	60.0	58.3	52.2	60.8	61.5
Medium Trucks:	53.7	52.2	45.8	44.2	52.7	52.9
Heavy Trucks:	54.6	53.1	44.1	45.3	53.7	53.8
Vehicle Noise:	63.2	61.4	58.7	53.6	62.1	62.6

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.9	60.0	58.3	52.2	60.8	61.5
Medium Trucks:	53.7	52.2	45.8	44.2	52.7	52.9
Heavy Trucks:	54.6	53.1	44.1	45.3	53.7	53.8
Vehicle Noise:	63.2	61.4	58.7	53.6	62.1	62.6

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - v10/31/19

Scenario: First Floor With Wall
 Road Name: I-15
 Lot No: PA-3 and 4

Project Name: Vernola Ranch Specific Plan
 Job Number: 14368
 Analyst: B. Maddux

SITE SPECIFIC INPUT DATA	NOISE MODEL INPUTS				
Highway Data	Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 147,000 vehicles	Autos: 15				
Peak Hour Percentage: 10%	Medium Trucks (2 Axles): 15				
Peak Hour Volume: 14,700 vehicles	Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 65 mph	Vehicle Mix				
Near/Far Lane Distance: 128 feet	VehicleType	Day	Evening	Night	Daily
Site Data	Autos: 77.5% 12.9% 9.6% 97.42%				
Barrier Height: 12.0 feet	Medium Trucks: 84.8% 4.9% 10.3% 1.84%				
Barrier Type (0-Wall, 1-Berm): 0.0	Heavy Trucks: 86.5% 2.7% 10.8% 0.74%				
Centerline Dist. to Barrier: 190.0 feet	Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 235.0 feet	Autos: 0.00				
Barrier Distance to Observer: 45.0 feet	Medium Trucks: 2.30				
Observer Height (Above Pad): 5.0 feet	Heavy Trucks: 8.01 Grade Adjustment: 0.0				
Pad Elevation: 0.0 feet	Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet	Autos: 154.738				
Barrier Elevation: 0.0 feet	Medium Trucks: 154.510				
Road Grade: 0.0%	Heavy Trucks: 154.150				

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	75.54	8.13	-7.46	-1.20	1.02	-10.340	-13.340
Medium Trucks:	81.71	-9.11	-7.45	-1.20	0.87	-9.910	-12.910
Heavy Trucks:	85.21	-13.07	-7.44	-1.20	0.57	-8.850	-11.850

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	75.0	73.1	71.3	65.3	73.9	74.5
Medium Trucks:	63.9	62.4	56.1	54.5	63.0	63.2
Heavy Trucks:	63.5	62.1	53.0	54.3	62.6	62.8
Vehicle Noise:	75.6	73.8	71.5	65.9	74.5	75.1

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.7	62.8	61.0	54.9	63.6	64.2
Medium Trucks:	54.0	52.5	46.2	44.6	53.1	53.3
Heavy Trucks:	54.7	53.2	44.2	45.4	53.8	53.9
Vehicle Noise:	65.4	63.6	61.2	55.8	64.3	64.9

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - v10/31/19

Scenario: First Floor With Wall
Road Name: I-15
Lot No: PA-2

Project Name: Vernola Ranch Specific Plan
Job Number: 14368
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 147,000 vehicles		Autos: 15					
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15					
Peak Hour Volume: 14,700 vehicles		Heavy Trucks (3+ Axles): 15					
Vehicle Speed: 65 mph		Vehicle Mix					
Near/Far Lane Distance: 128 feet		VehicleType	Day	Evening	Night	Daily	
Site Data		Autos: 77.5% 12.9% 9.6% 97.42%					
Barrier Height: 12.0 feet		Medium Trucks: 84.8% 4.9% 10.3% 1.84%					
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks: 86.5% 2.7% 10.8% 0.74%					
Centerline Dist. to Barrier: 190.0 feet		Noise Source Elevations (in feet)					
Centerline Dist. to Observer: 210.0 feet		Autos: 0.00					
Barrier Distance to Observer: 20.0 feet		Medium Trucks: 2.30					
Observer Height (Above Pad): 5.0 feet		Heavy Trucks: 8.01 Grade Adjustment: 0.0					
Pad Elevation: 0.0 feet		Lane Equivalent Distance (in feet)					
Road Elevation: 0.0 feet		Autos: 130.387					
Barrier Elevation: 0.0 feet		Medium Trucks: 130.158					
Road Grade: 0.0%		Heavy Trucks: 129.799					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	75.54	8.13	-6.35	-1.20	1.64	-11.580	-14.580
Medium Trucks:	81.71	-9.11	-6.34	-1.20	1.50	-11.300	-14.300
Heavy Trucks:	85.21	-13.07	-6.32	-1.20	1.20	-10.700	-13.700

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	76.1	74.2	72.5	66.4	75.0	75.6
Medium Trucks:	65.1	63.6	57.2	55.6	64.1	64.3
Heavy Trucks:	64.6	63.2	54.2	55.4	63.8	63.9
Vehicle Noise:	76.7	74.9	72.6	67.1	75.7	76.2

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.5	62.6	60.9	54.8	63.4	64.0
Medium Trucks:	53.8	52.3	45.9	44.3	52.8	53.0
Heavy Trucks:	53.9	52.5	43.5	44.7	53.1	53.2
Vehicle Noise:	65.2	63.4	61.1	55.6	64.2	64.7

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - v10/31/19

Scenario: First Floor With Wall
Road Name: I-15
Lot No: PA-17

Project Name: Vernola Ranch Specific Plan
Job Number: 14368
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 147,000 vehicles		Autos: 15					
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15					
Peak Hour Volume: 14,700 vehicles		Heavy Trucks (3+ Axles): 15					
Vehicle Speed: 65 mph		Vehicle Mix					
Near/Far Lane Distance: 128 feet		VehicleType	Day	Evening	Night	Daily	
Site Data		Autos: 77.5% 12.9% 9.6% 97.42%					
Barrier Height: 10.0 feet		Medium Trucks: 84.8% 4.9% 10.3% 1.84%					
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks: 86.5% 2.7% 10.8% 0.74%					
Centerline Dist. to Barrier: 190.0 feet		Noise Source Elevations (in feet)					
Centerline Dist. to Observer: 295.0 feet		Autos: 0.00					
Barrier Distance to Observer: 105.0 feet		Medium Trucks: 2.30					
Observer Height (Above Pad): 5.0 feet		Heavy Trucks: 8.01 Grade Adjustment: 0.0					
Pad Elevation: 0.0 feet		Lane Equivalent Distance (in feet)					
Road Elevation: 0.0 feet		Autos: 214.114					
Barrier Elevation: 0.0 feet		Medium Trucks: 213.928					
Road Grade: 0.0%		Heavy Trucks: 213.673					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	75.54	8.13	-9.58	-1.20	0.45	-8.250	-11.250
Medium Trucks:	81.71	-9.11	-9.57	-1.20	0.33	-7.650	-10.650
Heavy Trucks:	85.21	-13.07	-9.57	-1.20	0.11	-6.080	-9.080

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	72.9	71.0	69.2	63.2	71.8	72.4
Medium Trucks:	61.8	60.3	54.0	52.4	60.9	61.1
Heavy Trucks:	61.4	60.0	50.9	52.2	60.5	60.6
Vehicle Noise:	73.5	71.6	69.4	63.8	72.4	73.0

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.6	62.7	61.0	54.9	63.5	64.1
Medium Trucks:	54.2	52.7	46.3	44.8	53.2	53.5
Heavy Trucks:	55.3	53.9	44.8	46.1	54.4	54.6
Vehicle Noise:	65.5	63.6	61.2	55.8	64.4	64.9

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - v10/31/19

Scenario: Second Floor With Wall
Road Name: Bellegrave Ave.
Lot No: PA-4

Project Name: Vernola Ranch Specific Plan
Job Number: 14368
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 27,300 vehicles		Autos: 15					
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15					
Peak Hour Volume: 2,730 vehicles		Heavy Trucks (3+ Axles): 15					
Vehicle Speed: 50 mph		Vehicle Mix					
Near/Far Lane Distance: 36 feet							
Site Data		VehicleType	Day	Evening	Night	Daily	
Barrier Height: 9.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 55.0 feet Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 5.0 feet Observer Height (Above Pad): 14.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Barrier Elevation: 0.0 feet Road Grade: 1.4%		Autos:	77.5%	12.9%	9.6%	97.42%	
		Medium Trucks:	84.8%	4.9%	10.3%	1.84%	
		Heavy Trucks:	86.5%	2.7%	10.8%	0.74%	
		Noise Source Elevations (in feet)					
		Autos:	0.00				
		Medium Trucks:	2.30				
		Heavy Trucks:	8.01	Grade Adjustment: 0.0			
		Lane Equivalent Distance (in feet)					
		Autos:	40.447				
Medium Trucks:	39.711						
Heavy Trucks:	38.418						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.12	1.95	1.28	-1.20	-0.86	0.000	0.000
Medium Trucks:	78.79	-15.29	1.40	-1.20	-1.05	0.000	0.000
Heavy Trucks:	83.02	-19.24	1.61	-1.20	-1.62	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:	73.2	71.3	69.5	63.4	72.1	72.7
Medium Trucks:	63.7	62.2	55.8	54.3	62.8	63.0
Heavy Trucks:	64.2	62.8	53.7	55.0	63.3	63.5
Vehicle Noise:	74.1	72.3	69.8	64.5	73.0	73.6

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	73.2	71.3	69.5	63.4	72.1	72.7
Medium Trucks:	63.7	62.2	55.8	54.3	62.8	63.0
Heavy Trucks:	64.2	62.8	53.7	55.0	63.3	63.5
Vehicle Noise:	74.1	72.3	69.8	64.5	73.0	73.6

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - v10/31/19

Scenario: Second Floor With Wall
Road Name: Bellegrave Ave.
Lot No: PA-16

Project Name: Vernola Ranch Specific Plan
Job Number: 14368
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 27,300 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 2,730 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 50 mph		Vehicle Mix				
Near/Far Lane Distance: 36 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos: 77.5% 12.9% 9.6% 97.42%				
Barrier Height: 8.0 feet		Medium Trucks: 84.8% 4.9% 10.3% 1.84%				
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks: 86.5% 2.7% 10.8% 0.74%				
Centerline Dist. to Barrier: 60.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 65.0 feet		Autos: 0.00				
Barrier Distance to Observer: 5.0 feet		Medium Trucks: 2.30				
Observer Height (Above Pad): 14.0 feet		Heavy Trucks: 8.01 Grade Adjustment: 0.0				
Pad Elevation: 0.0 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet		Autos: 45.618				
Barrier Elevation: 0.0 feet		Medium Trucks: 44.966				
Road Grade: 1.4%		Heavy Trucks: 43.828				

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.12	1.95	0.49	-1.20	-1.49	0.000	0.000
Medium Trucks:	78.79	-15.29	0.59	-1.20	-1.72	0.000	0.000
Heavy Trucks:	83.02	-19.24	0.75	-1.20	-2.38	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:	72.4	70.5	68.7	62.6	71.3	71.9
Medium Trucks:	62.9	61.4	55.0	53.5	61.9	62.2
Heavy Trucks:	63.3	61.9	52.9	54.1	62.5	62.6
Vehicle Noise:	73.3	71.5	69.0	63.7	72.2	72.8

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	72.4	70.5	68.7	62.6	71.3	71.9
Medium Trucks:	62.9	61.4	55.0	53.5	61.9	62.2
Heavy Trucks:	63.3	61.9	52.9	54.1	62.5	62.6
Vehicle Noise:	73.3	71.5	69.0	63.7	72.2	72.8

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - v10/31/19

Scenario: Second Floor With Wall
 Road Name: Pats Ranch Rd. (N. of Boca Pl.)
 Lot No: PA-16

Project Name: Vernola Ranch Specific Plan
 Job Number: 14368
 Analyst: B. Maddux

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 10,400 vehicles		Autos: 15					
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15					
Peak Hour Volume: 1,040 vehicles		Heavy Trucks (3+ Axles): 15					
Vehicle Speed: 40 mph		Vehicle Mix					
Near/Far Lane Distance: 12 feet							
Site Data		VehicleType	Day	Evening	Night	Daily	
Barrier Height: 0.0 feet		Autos:	77.5%	12.9%	9.6%	97.42%	
Barrier Type (0-Wall, 1-Berm): 0.0		Medium Trucks:	84.8%	4.9%	10.3%	1.84%	
Centerline Dist. to Barrier: 85.0 feet		Heavy Trucks:	86.5%	2.7%	10.8%	0.74%	
Centerline Dist. to Observer: 95.0 feet		Noise Source Elevations (in feet)					
Barrier Distance to Observer: 10.0 feet		Autos:	0.00				
Observer Height (Above Pad): 14.0 feet		Medium Trucks:	2.30				
Pad Elevation: 0.0 feet		Heavy Trucks:	8.01	Grade Adjustment: 0.0			
Road Elevation: 0.0 feet		Lane Equivalent Distance (in feet)					
Barrier Elevation: 0.0 feet		Autos:	89.894				
Road Grade: 1.4%		Medium Trucks:	89.565				
		Heavy Trucks:	89.000				

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	67.36	-1.27	-3.92	-1.20	-5.98	0.000	0.000
Medium Trucks:	76.31	-18.51	-3.90	-1.20	-6.33	0.000	0.000
Heavy Trucks:	81.16	-22.46	-3.86	-1.20	-7.25	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	59.1	57.3	51.2	59.9	60.5
Medium Trucks:	52.7	51.2	44.8	43.3	51.8	52.0
Heavy Trucks:	53.6	52.2	43.2	44.4	52.8	52.9
Vehicle Noise:	62.2	60.4	57.7	52.6	61.2	61.7

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.0	59.1	57.3	51.2	59.9	60.5
Medium Trucks:	52.7	51.2	44.8	43.3	51.8	52.0
Heavy Trucks:	53.6	52.2	43.2	44.4	52.8	52.9
Vehicle Noise:	62.2	60.4	57.7	52.6	61.2	61.7

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - v10/31/19

Scenario: Second Floor With Wall
 Road Name: Pats Ranch Rd. (N. of Boca Pl.)
 Lot No: PA-20

Project Name: Vernola Ranch Specific Plan
 Job Number: 14368
 Analyst: B. Maddux

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 10,400 vehicles		Autos: 15					
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15					
Peak Hour Volume: 1,040 vehicles		Heavy Trucks (3+ Axles): 15					
Vehicle Speed: 40 mph		Vehicle Mix					
Near/Far Lane Distance: 12 feet							
Site Data		VehicleType	Day	Evening	Night	Daily	
Barrier Height: 0.0 feet		Autos:	77.5%	12.9%	9.6%	97.42%	
Barrier Type (0-Wall, 1-Berm): 0.0		Medium Trucks:	84.8%	4.9%	10.3%	1.84%	
Centerline Dist. to Barrier: 85.0 feet		Heavy Trucks:	86.5%	2.7%	10.8%	0.74%	
Centerline Dist. to Observer: 95.0 feet		Noise Source Elevations (in feet)					
Barrier Distance to Observer: 10.0 feet		Autos:	0.00				
Observer Height (Above Pad): 14.0 feet		Medium Trucks:	2.30				
Pad Elevation: 0.0 feet		Heavy Trucks:	8.01	Grade Adjustment: 0.0			
Road Elevation: 0.0 feet		Lane Equivalent Distance (in feet)					
Barrier Elevation: 0.0 feet		Autos:	89.894				
Road Grade: 1.4%		Medium Trucks:	89.565				
		Heavy Trucks:	89.000				

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	67.36	-1.27	-3.92	-1.20	-5.98	0.000	0.000
Medium Trucks:	76.31	-18.51	-3.90	-1.20	-6.33	0.000	0.000
Heavy Trucks:	81.16	-22.46	-3.86	-1.20	-7.25	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	59.1	57.3	51.2	59.9	60.5
Medium Trucks:	52.7	51.2	44.8	43.3	51.8	52.0
Heavy Trucks:	53.6	52.2	43.2	44.4	52.8	52.9
Vehicle Noise:	62.2	60.4	57.7	52.6	61.2	61.7

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.0	59.1	57.3	51.2	59.9	60.5
Medium Trucks:	52.7	51.2	44.8	43.3	51.8	52.0
Heavy Trucks:	53.6	52.2	43.2	44.4	52.8	52.9
Vehicle Noise:	62.2	60.4	57.7	52.6	61.2	61.7

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - v10/31/19

Scenario: Second Floor With Wall
 Road Name: Pats Ranch Rd. (N. of Boca Pl.)
 Lot No: PA-14

Project Name: Vernola Ranch Specific Plan
 Job Number: 14368
 Analyst: B. Maddux

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 10,400 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 1,040 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 40 mph		Vehicle Mix				
Near/Far Lane Distance: 12 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos: 77.5% 12.9% 9.6% 97.42%				
Barrier Height: 0.0 feet		Medium Trucks: 84.8% 4.9% 10.3% 1.84%				
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks: 86.5% 2.7% 10.8% 0.74%				
Centerline Dist. to Barrier: 70.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 80.0 feet		Autos: 0.00				
Barrier Distance to Observer: 10.0 feet		Medium Trucks: 2.30				
Observer Height (Above Pad): 14.0 feet		Heavy Trucks: 8.01 Grade Adjustment: 0.0				
Pad Elevation: 0.0 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet		Autos: 75.073				
Barrier Elevation: 0.0 feet		Medium Trucks: 74.679				
Road Grade: 1.4%		Heavy Trucks: 74.000				

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	67.36	-1.27	-2.75	-1.20	-5.76	0.000	0.000
Medium Trucks:	76.31	-18.51	-2.72	-1.20	-6.19	0.000	0.000
Heavy Trucks:	81.16	-22.46	-2.66	-1.20	-7.30	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	60.2	58.5	52.4	61.0	61.6
Medium Trucks:	53.9	52.4	46.0	44.5	52.9	53.2
Heavy Trucks:	54.8	53.4	44.4	45.6	54.0	54.1
Vehicle Noise:	63.4	61.6	58.9	53.8	62.4	62.8

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.1	60.2	58.5	52.4	61.0	61.6
Medium Trucks:	53.9	52.4	46.0	44.5	52.9	53.2
Heavy Trucks:	54.8	53.4	44.4	45.6	54.0	54.1
Vehicle Noise:	63.4	61.6	58.9	53.8	62.4	62.8

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - v10/31/19

Scenario: Second Floor With Wall
 Road Name: Pats Ranch Rd. (N. of Boca Pl.)
 Lot No: PA-13

Project Name: Vernola Ranch Specific Plan
 Job Number: 14368
 Analyst: B. Maddux

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 10,400 vehicles		Autos: 15					
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15					
Peak Hour Volume: 1,040 vehicles		Heavy Trucks (3+ Axles): 15					
Vehicle Speed: 40 mph		Vehicle Mix					
Near/Far Lane Distance: 12 feet		VehicleType	Day	Evening	Night	Daily	
Site Data		Autos: 77.5% 12.9% 9.6% 97.42%					
Barrier Height: 0.0 feet		Medium Trucks: 84.8% 4.9% 10.3% 1.84%					
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks: 86.5% 2.7% 10.8% 0.74%					
Centerline Dist. to Barrier: 80.0 feet		Noise Source Elevations (in feet)					
Centerline Dist. to Observer: 90.0 feet		Autos: 0.00					
Barrier Distance to Observer: 10.0 feet		Medium Trucks: 2.30					
Observer Height (Above Pad): 14.0 feet		Heavy Trucks: 8.01 Grade Adjustment: 0.0					
Pad Elevation: 0.0 feet		Lane Equivalent Distance (in feet)					
Road Elevation: 0.0 feet		Autos: 84.947					
Barrier Elevation: 0.0 feet		Medium Trucks: 84.599					
Road Grade: 1.4%		Heavy Trucks: 84.000					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	67.36	-1.27	-3.56	-1.20	-5.92	0.000	0.000
Medium Trucks:	76.31	-18.51	-3.53	-1.20	-6.29	0.000	0.000
Heavy Trucks:	81.16	-22.46	-3.48	-1.20	-7.26	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	59.4	57.7	51.6	60.2	60.8
Medium Trucks:	53.1	51.6	45.2	43.7	52.1	52.4
Heavy Trucks:	54.0	52.6	43.6	44.8	53.2	53.3
Vehicle Noise:	62.6	60.8	58.1	53.0	61.5	62.0

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.3	59.4	57.7	51.6	60.2	60.8
Medium Trucks:	53.1	51.6	45.2	43.7	52.1	52.4
Heavy Trucks:	54.0	52.6	43.6	44.8	53.2	53.3
Vehicle Noise:	62.6	60.8	58.1	53.0	61.5	62.0

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - v10/31/19

Scenario: Second Floor With Wall
 Road Name: Pats Ranch Rd. (S. of Boca Pl.)
 Lot No: PA-17

Project Name: Vernola Ranch Specific Plan
 Job Number: 14368
 Analyst: B. Maddux

SITE SPECIFIC INPUT DATA	NOISE MODEL INPUTS				
Highway Data	Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 15,400 vehicles	Autos: 15				
Peak Hour Percentage: 10%	Medium Trucks (2 Axles): 15				
Peak Hour Volume: 1,540 vehicles	Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 40 mph	Vehicle Mix				
Near/Far Lane Distance: 36 feet	VehicleType	Day	Evening	Night	Daily
Site Data	Autos: 77.5% 12.9% 9.6% 97.42%				
Barrier Height: 0.0 feet	Medium Trucks: 84.8% 4.9% 10.3% 1.84%				
Barrier Type (0-Wall, 1-Berm): 0.0	Heavy Trucks: 86.5% 2.7% 10.8% 0.74%				
Centerline Dist. to Barrier: 100.0 feet	Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 120.0 feet	Autos: 0.00				
Barrier Distance to Observer: 20.0 feet	Medium Trucks: 2.30				
Observer Height (Above Pad): 14.0 feet	Heavy Trucks: 8.01 Grade Adjustment: 0.0				
Pad Elevation: 0.0 feet	Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet	Autos: 101.371				
Barrier Elevation: 0.0 feet	Medium Trucks: 101.079				
Road Grade: 1.4%	Heavy Trucks: 100.578				

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	67.36	0.44	-4.71	-1.20	-3.38	0.000	0.000
Medium Trucks:	76.31	-16.80	-4.69	-1.20	-3.69	0.000	0.000
Heavy Trucks:	81.16	-20.76	-4.66	-1.20	-4.53	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	60.0	58.2	52.2	60.8	61.4
Medium Trucks:	53.6	52.1	45.8	44.2	52.7	52.9
Heavy Trucks:	54.5	53.1	44.1	45.3	53.7	53.8
Vehicle Noise:	63.1	61.4	58.6	53.5	62.1	62.6

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.9	60.0	58.2	52.2	60.8	61.4
Medium Trucks:	53.6	52.1	45.8	44.2	52.7	52.9
Heavy Trucks:	54.5	53.1	44.1	45.3	53.7	53.8
Vehicle Noise:	63.1	61.4	58.6	53.5	62.1	62.6

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - v10/31/19

Scenario: Second Floor With Wall
 Road Name: I-15
 Lot No: PA-3 and 4

Project Name: Vernola Ranch Specific Plan
 Job Number: 14368
 Analyst: B. Maddux

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 147,000 vehicles		Autos: 15					
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15					
Peak Hour Volume: 14,700 vehicles		Heavy Trucks (3+ Axles): 15					
Vehicle Speed: 65 mph		Vehicle Mix					
Near/Far Lane Distance: 128 feet							
Site Data		VehicleType	Day	Evening	Night	Daily	
Barrier Height: 12.0 feet		Autos:	77.5%	12.9%	9.6%	97.42%	
Barrier Type (0-Wall, 1-Berm): 0.0		Medium Trucks:	84.8%	4.9%	10.3%	1.84%	
Centerline Dist. to Barrier: 190.0 feet		Heavy Trucks:	86.5%	2.7%	10.8%	0.74%	
Centerline Dist. to Observer: 235.0 feet		Noise Source Elevations (in feet)					
Barrier Distance to Observer: 45.0 feet		Autos:	0.00				
Observer Height (Above Pad): 14.0 feet		Medium Trucks:	2.30				
Pad Elevation: 0.0 feet		Heavy Trucks:	8.01	Grade Adjustment: 0.0			
Road Elevation: 0.0 feet		Lane Equivalent Distance (in feet)					
Barrier Elevation: 0.0 feet		Autos:	154.241				
Road Grade: 0.0%		Medium Trucks:	154.013				
		Heavy Trucks:	158.685				

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	75.54	8.13	-7.44	-1.20	0.04	-5.400	-8.400
Medium Trucks:	81.71	-9.11	-7.43	-1.20	0.02	-5.200	-8.200
Heavy Trucks:	85.21	-13.07	-7.63	-1.20	0.00	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:	75.0	73.1	71.4	65.3	73.9	74.5
Medium Trucks:	64.0	62.5	56.1	54.6	63.0	63.2
Heavy Trucks:	63.3	61.9	52.9	54.1	62.5	62.6
Vehicle Noise:	75.6	73.8	71.5	65.9	74.5	75.1

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.6	67.7	66.0	59.9	68.5	69.1
Medium Trucks:	58.8	57.3	50.9	49.4	57.8	58.0
Heavy Trucks:	63.3	61.9	52.9	54.1	62.5	62.6
Vehicle Noise:	70.8	69.0	66.3	61.2	69.8	70.3

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - v10/31/19

Scenario: Second Floor With Wall
Road Name: I-15
Lot No: PA-2

Project Name: Vernola Ranch Specific Plan
Job Number: 14368
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 147,000 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 14,700 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 65 mph		Vehicle Mix				
Near/Far Lane Distance: 128 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos: 77.5% 12.9% 9.6% 97.42%				
Barrier Height: 12.0 feet		Medium Trucks: 84.8% 4.9% 10.3% 1.84%				
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks: 86.5% 2.7% 10.8% 0.74%				
Centerline Dist. to Barrier: 190.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 210.0 feet		Autos: 0.00				
Barrier Distance to Observer: 20.0 feet		Medium Trucks: 2.30				
Observer Height (Above Pad): 14.0 feet		Heavy Trucks: 8.01 Grade Adjustment: 0.0				
Pad Elevation: 0.0 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet		Autos: 131.970				
Barrier Elevation: 0.0 feet		Medium Trucks: 131.746				
Road Grade: 0.0%		Heavy Trucks: 131.362				

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	75.54	8.13	-6.43	-1.20	0.00	0.000	0.000
Medium Trucks:	81.71	-9.11	-6.41	-1.20	0.00	0.000	0.000
Heavy Trucks:	85.21	-13.07	-6.40	-1.20	-0.04	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:	76.0	74.1	72.4	66.3	74.9	75.5
Medium Trucks:	65.0	63.5	57.1	55.6	64.0	64.3
Heavy Trucks:	64.5	63.1	54.1	55.3	63.7	63.8
Vehicle Noise:	76.6	74.8	72.6	67.0	75.6	76.1

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	76.0	74.1	72.4	66.3	74.9	75.5
Medium Trucks:	65.0	63.5	57.1	55.6	64.0	64.3
Heavy Trucks:	64.5	63.1	54.1	55.3	63.7	63.8
Vehicle Noise:	76.6	74.8	72.6	67.0	75.6	76.1

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - v10/31/19

Scenario: Second Floor With Wall
Road Name: I-15
Lot No: PA-17

Project Name: Vernola Ranch Specific Plan
Job Number: 14368
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA	NOISE MODEL INPUTS				
Highway Data	Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 147,000 vehicles	Autos: 15				
Peak Hour Percentage: 10%	Medium Trucks (2 Axles): 15				
Peak Hour Volume: 14,700 vehicles	Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 65 mph	Vehicle Mix				
Near/Far Lane Distance: 128 feet	VehicleType	Day	Evening	Night	Daily
Site Data	Autos: 77.5% 12.9% 9.6% 97.42%				
Barrier Height: 10.0 feet	Medium Trucks: 84.8% 4.9% 10.3% 1.84%				
Barrier Type (0-Wall, 1-Berm): 0.0	Heavy Trucks: 86.5% 2.7% 10.8% 0.74%				
Centerline Dist. to Barrier: 190.0 feet	Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 295.0 feet	Autos: 0.00				
Barrier Distance to Observer: 105.0 feet	Medium Trucks: 2.30				
Observer Height (Above Pad): 14.0 feet	Heavy Trucks: 8.01 Grade Adjustment: 0.0				
Pad Elevation: 0.0 feet	Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet	Autos: 214.072				
Barrier Elevation: 0.0 feet	Medium Trucks: 213.885				
Road Grade: 0.0%	Heavy Trucks: 222.038				

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	75.54	8.13	-9.58	-1.20	0.05	-5.500	-8.500
Medium Trucks:	81.71	-9.11	-9.57	-1.20	0.01	-5.100	-8.100
Heavy Trucks:	85.21	-13.07	-9.82	-1.20	-0.01	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:	72.9	71.0	69.2	63.2	71.8	72.4
Medium Trucks:	61.8	60.3	54.0	52.4	60.9	61.1
Heavy Trucks:	61.1	59.7	50.7	51.9	60.3	60.4
Vehicle Noise:	73.5	71.6	69.4	63.8	72.4	73.0

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.4	65.5	63.7	57.7	66.3	66.9
Medium Trucks:	56.7	55.2	48.9	47.3	55.8	56.0
Heavy Trucks:	61.1	59.7	50.7	51.9	60.3	60.4
Vehicle Noise:	68.6	66.8	64.1	59.0	67.6	68.1

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - v10/31/19

Scenario: Third Floor With Wall
Road Name: Bellegrave Ave.
Lot No: PA-4

Project Name: Vernola Ranch Specific Plan
Job Number: 14368
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 27,300 vehicles		Autos: 15					
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15					
Peak Hour Volume: 2,730 vehicles		Heavy Trucks (3+ Axles): 15					
Vehicle Speed: 50 mph		Vehicle Mix					
Near/Far Lane Distance: 36 feet							
Site Data		VehicleType	Day	Evening	Night	Daily	
Barrier Height: 9.0 feet		Autos:	77.5%	12.9%	9.6%	97.42%	
Barrier Type (0-Wall, 1-Berm): 0.0		Medium Trucks:	84.8%	4.9%	10.3%	1.84%	
Centerline Dist. to Barrier: 55.0 feet		Heavy Trucks:	86.5%	2.7%	10.8%	0.74%	
Centerline Dist. to Observer: 60.0 feet		Noise Source Elevations (in feet)					
Barrier Distance to Observer: 5.0 feet		Autos:	0.00				
Observer Height (Above Pad): 23.0 feet		Medium Trucks:	2.30				
Pad Elevation: 0.0 feet		Heavy Trucks:	8.01	Grade Adjustment: 0.0			
Road Elevation: 0.0 feet		Lane Equivalent Distance (in feet)					
Barrier Elevation: 0.0 feet		Autos:	44.373				
Road Grade: 1.4%		Medium Trucks:	43.227				
		Heavy Trucks:	40.802				

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.12	1.95	0.67	-1.20	-4.95	0.000	0.000
Medium Trucks:	78.79	-15.29	0.84	-1.20	-5.52	0.000	0.000
Heavy Trucks:	83.02	-19.24	1.22	-1.20	-7.13	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:	72.5	70.6	68.9	62.8	71.4	72.1
Medium Trucks:	63.2	61.6	55.3	53.7	62.2	62.4
Heavy Trucks:	63.8	62.4	53.3	54.6	62.9	63.1
Vehicle Noise:	73.5	71.7	69.2	63.9	72.5	73.0

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	72.5	70.6	68.9	62.8	71.4	72.1
Medium Trucks:	63.2	61.6	55.3	53.7	62.2	62.4
Heavy Trucks:	63.8	62.4	53.3	54.6	62.9	63.1
Vehicle Noise:	73.5	71.7	69.2	63.9	72.5	73.0

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - v10/31/19

Scenario: Third Floor With Wall
Road Name: Bellegrave Ave.
Lot No: PA-16

Project Name: Vernola Ranch Specific Plan
Job Number: 14368
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 27,300 vehicles		Autos: 15					
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15					
Peak Hour Volume: 2,730 vehicles		Heavy Trucks (3+ Axles): 15					
Vehicle Speed: 50 mph		Vehicle Mix					
Near/Far Lane Distance: 36 feet							
Site Data		VehicleType	Day	Evening	Night	Daily	
Barrier Height: 8.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 60.0 feet Centerline Dist. to Observer: 65.0 feet Barrier Distance to Observer: 5.0 feet Observer Height (Above Pad): 23.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Barrier Elevation: 0.0 feet Road Grade: 1.4%		Autos:	77.5%	12.9%	9.6%	97.42%	
		Medium Trucks:	84.8%	4.9%	10.3%	1.84%	
		Heavy Trucks:	86.5%	2.7%	10.8%	0.74%	
		Noise Source Elevations (in feet)					
		Autos:	0.00				
		Medium Trucks:	2.30				
		Heavy Trucks:	8.01 Grade Adjustment: 0.0				
		Lane Equivalent Distance (in feet)					
		Autos:	49.132				
Medium Trucks:	48.100						
Heavy Trucks:	45.933						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.12	1.95	0.01	-1.20	-6.11	0.000	0.000
Medium Trucks:	78.79	-15.29	0.15	-1.20	-6.69	0.000	0.000
Heavy Trucks:	83.02	-19.24	0.45	-1.20	-8.29	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:	71.9	70.0	68.2	62.2	70.8	71.4
Medium Trucks:	62.5	60.9	54.6	53.0	61.5	61.7
Heavy Trucks:	63.0	61.6	52.6	53.8	62.2	62.3
Vehicle Noise:	72.8	71.0	68.5	63.2	71.8	72.3

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	71.9	70.0	68.2	62.2	70.8	71.4
Medium Trucks:	62.5	60.9	54.6	53.0	61.5	61.7
Heavy Trucks:	63.0	61.6	52.6	53.8	62.2	62.3
Vehicle Noise:	72.8	71.0	68.5	63.2	71.8	72.3

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - v10/31/19

Scenario: Third Floor With Wall
 Road Name: Pats Ranch Rd. (N. of Boca Pl.)
 Lot No: PA-16

Project Name: Vernola Ranch Specific Plan
 Job Number: 14368
 Analyst: B. Maddux

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 10,400 vehicles		Autos: 15					
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15					
Peak Hour Volume: 1,040 vehicles		Heavy Trucks (3+ Axles): 15					
Vehicle Speed: 40 mph		Vehicle Mix					
Near/Far Lane Distance: 12 feet							
Site Data		VehicleType	Day	Evening	Night	Daily	
Barrier Height: 0.0 feet		Autos:	77.5%	12.9%	9.6%	97.42%	
Barrier Type (0-Wall, 1-Berm): 0.0		Medium Trucks:	84.8%	4.9%	10.3%	1.84%	
Centerline Dist. to Barrier: 85.0 feet		Heavy Trucks:	86.5%	2.7%	10.8%	0.74%	
Centerline Dist. to Observer: 95.0 feet		Noise Source Elevations (in feet)					
Barrier Distance to Observer: 10.0 feet		Autos:	0.00				
Observer Height (Above Pad): 23.0 feet		Medium Trucks:	2.30				
Pad Elevation: 0.0 feet		Heavy Trucks:	8.01	Grade Adjustment: 0.0			
Road Elevation: 0.0 feet		Lane Equivalent Distance (in feet)					
Barrier Elevation: 0.0 feet		Autos:	91.728				
Road Grade: 1.4%		Medium Trucks:	91.179				
		Heavy Trucks:	90.055				

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	67.36	-1.27	-4.06	-1.20	-11.89	0.000	0.000
Medium Trucks:	76.31	-18.51	-4.02	-1.20	-12.46	0.000	0.000
Heavy Trucks:	81.16	-22.46	-3.94	-1.20	-13.92	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:	60.8	58.9	57.2	51.1	59.7	60.3
Medium Trucks:	52.6	51.1	44.7	43.2	51.6	51.9
Heavy Trucks:	53.6	52.1	43.1	44.4	52.7	52.8
Vehicle Noise:	62.1	60.3	57.6	52.5	61.0	61.5

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	60.8	58.9	57.2	51.1	59.7	60.3
Medium Trucks:	52.6	51.1	44.7	43.2	51.6	51.9
Heavy Trucks:	53.6	52.1	43.1	44.4	52.7	52.8
Vehicle Noise:	62.1	60.3	57.6	52.5	61.0	61.5

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - v10/31/19

Scenario: Third Floor With Wall
 Road Name: Pats Ranch Rd. (N. of Boca Pl.)
 Lot No: PA-20

Project Name: Vernola Ranch Specific Plan
 Job Number: 14368
 Analyst: B. Maddux

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 10,400 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 1,040 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 40 mph		Vehicle Mix				
Near/Far Lane Distance: 12 feet						
Site Data		VehicleType	Day	Evening	Night	Daily
Barrier Height: 0.0 feet		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Type (0-Wall, 1-Berm): 0.0		Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Centerline Dist. to Barrier: 85.0 feet		Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Observer: 95.0 feet		Noise Source Elevations (in feet)				
Barrier Distance to Observer: 10.0 feet		Autos:	0.00			
Observer Height (Above Pad): 23.0 feet		Medium Trucks:	2.30			
Pad Elevation: 0.0 feet		Heavy Trucks:	8.01	Grade Adjustment: 0.0		
Road Elevation: 0.0 feet		Lane Equivalent Distance (in feet)				
Barrier Elevation: 0.0 feet		Autos:	91.728			
Road Grade: 1.4%		Medium Trucks:	91.179			
		Heavy Trucks:	90.055			

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	67.36	-1.27	-4.06	-1.20	-11.89	0.000	0.000
Medium Trucks:	76.31	-18.51	-4.02	-1.20	-12.46	0.000	0.000
Heavy Trucks:	81.16	-22.46	-3.94	-1.20	-13.92	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:	60.8	58.9	57.2	51.1	59.7	60.3
Medium Trucks:	52.6	51.1	44.7	43.2	51.6	51.9
Heavy Trucks:	53.6	52.1	43.1	44.4	52.7	52.8
Vehicle Noise:	62.1	60.3	57.6	52.5	61.0	61.5

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	60.8	58.9	57.2	51.1	59.7	60.3
Medium Trucks:	52.6	51.1	44.7	43.2	51.6	51.9
Heavy Trucks:	53.6	52.1	43.1	44.4	52.7	52.8
Vehicle Noise:	62.1	60.3	57.6	52.5	61.0	61.5

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - v10/31/19

Scenario: Third Floor With Wall
 Road Name: Pats Ranch Rd. (N. of Boca Pl.)
 Lot No: PA-14

Project Name: Vernola Ranch Specific Plan
 Job Number: 14368
 Analyst: B. Maddux

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 10,400 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 1,040 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 40 mph		Vehicle Mix				
Near/Far Lane Distance: 12 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos: 77.5% 12.9% 9.6% 97.42%				
Barrier Height: 0.0 feet		Medium Trucks: 84.8% 4.9% 10.3% 1.84%				
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks: 86.5% 2.7% 10.8% 0.74%				
Centerline Dist. to Barrier: 70.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 80.0 feet		Autos: 0.00				
Barrier Distance to Observer: 10.0 feet		Medium Trucks: 2.30				
Observer Height (Above Pad): 23.0 feet		Heavy Trucks: 8.01 Grade Adjustment: 0.0				
Pad Elevation: 0.0 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet		Autos: 77.259				
Barrier Elevation: 0.0 feet		Medium Trucks: 76.607				
Road Grade: 1.4%		Heavy Trucks: 75.265				

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	67.36	-1.27	-2.94	-1.20	-11.34	0.000	0.000
Medium Trucks:	76.31	-18.51	-2.88	-1.20	-12.01	0.000	0.000
Heavy Trucks:	81.16	-22.46	-2.77	-1.20	-13.77	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	60.1	58.3	52.2	60.9	61.5
Medium Trucks:	53.7	52.2	45.9	44.3	52.8	53.0
Heavy Trucks:	54.7	53.3	44.3	45.5	53.9	54.0
Vehicle Noise:	63.2	61.4	58.7	53.6	62.2	62.7

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.0	60.1	58.3	52.2	60.9	61.5
Medium Trucks:	53.7	52.2	45.9	44.3	52.8	53.0
Heavy Trucks:	54.7	53.3	44.3	45.5	53.9	54.0
Vehicle Noise:	63.2	61.4	58.7	53.6	62.2	62.7

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - v10/31/19

Scenario: Third Floor With Wall
 Road Name: Pats Ranch Rd. (N. of Boca Pl.)
 Lot No: PA-13

Project Name: Vernola Ranch Specific Plan
 Job Number: 14368
 Analyst: B. Maddux

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 10,400 vehicles		Autos: 15					
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15					
Peak Hour Volume: 1,040 vehicles		Heavy Trucks (3+ Axles): 15					
Vehicle Speed: 40 mph		Vehicle Mix					
Near/Far Lane Distance: 12 feet							
Site Data		VehicleType	Day	Evening	Night	Daily	
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 80.0 feet Centerline Dist. to Observer: 90.0 feet Barrier Distance to Observer: 10.0 feet Observer Height (Above Pad): 23.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Barrier Elevation: 0.0 feet Road Grade: 1.4%		Autos:	77.5%	12.9%	9.6%	97.42%	
		Medium Trucks:	84.8%	4.9%	10.3%	1.84%	
		Heavy Trucks:	86.5%	2.7%	10.8%	0.74%	
		Noise Source Elevations (in feet)					
		Autos:	0.00				
		Medium Trucks:	2.30				
		Heavy Trucks:	8.01	Grade Adjustment: 0.0			
		Lane Equivalent Distance (in feet)					
		Autos:	86.885				
		Medium Trucks:	86.305				
		Heavy Trucks:	85.117				

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	67.36	-1.27	-3.70	-1.20	-11.73	0.000	0.000
Medium Trucks:	76.31	-18.51	-3.66	-1.20	-12.33	0.000	0.000
Heavy Trucks:	81.16	-22.46	-3.57	-1.20	-13.88	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	59.3	57.5	51.5	60.1	60.7
Medium Trucks:	52.9	51.4	45.1	43.5	52.0	52.2
Heavy Trucks:	53.9	52.5	43.5	44.7	53.1	53.2
Vehicle Noise:	62.5	60.7	57.9	52.8	61.4	61.9

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.2	59.3	57.5	51.5	60.1	60.7
Medium Trucks:	52.9	51.4	45.1	43.5	52.0	52.2
Heavy Trucks:	53.9	52.5	43.5	44.7	53.1	53.2
Vehicle Noise:	62.5	60.7	57.9	52.8	61.4	61.9

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - v10/31/19

Scenario: Third Floor With Wall
Road Name: Pats Ranch Rd. (S. of Boca Pl.)
Lot No: PA-17

Project Name: Vernola Ranch Specific Plan
Job Number: 14368
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 15,400 vehicles		Autos: 15					
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15					
Peak Hour Volume: 1,540 vehicles		Heavy Trucks (3+ Axles): 15					
Vehicle Speed: 40 mph		Vehicle Mix					
Near/Far Lane Distance: 36 feet		VehicleType	Day	Evening	Night	Daily	
Site Data		Autos: 77.5% 12.9% 9.6% 97.42%					
Barrier Height: 0.0 feet		Medium Trucks: 84.8% 4.9% 10.3% 1.84%					
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks: 86.5% 2.7% 10.8% 0.74%					
Centerline Dist. to Barrier: 100.0 feet		Noise Source Elevations (in feet)					
Centerline Dist. to Observer: 120.0 feet		Autos: 0.00					
Barrier Distance to Observer: 20.0 feet		Medium Trucks: 2.30					
Observer Height (Above Pad): 23.0 feet		Heavy Trucks: 8.01 Grade Adjustment: 0.0					
Pad Elevation: 0.0 feet		Lane Equivalent Distance (in feet)					
Road Elevation: 0.0 feet		Autos: 103.000					
Barrier Elevation: 0.0 feet		Medium Trucks: 102.512					
Road Grade: 1.4%		Heavy Trucks: 101.513					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	67.36	0.44	-4.81	-1.20	-7.75	0.000	0.000
Medium Trucks:	76.31	-16.80	-4.78	-1.20	-8.25	0.000	0.000
Heavy Trucks:	81.16	-20.76	-4.72	-1.20	-9.56	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	59.9	58.1	52.1	60.7	61.3
Medium Trucks:	53.5	52.0	45.7	44.1	52.6	52.8
Heavy Trucks:	54.5	53.1	44.0	45.3	53.6	53.8
Vehicle Noise:	63.0	61.3	58.5	53.4	62.0	62.5

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.8	59.9	58.1	52.1	60.7	61.3
Medium Trucks:	53.5	52.0	45.7	44.1	52.6	52.8
Heavy Trucks:	54.5	53.1	44.0	45.3	53.6	53.8
Vehicle Noise:	63.0	61.3	58.5	53.4	62.0	62.5

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - v10/31/19

Scenario: Third Floor With Wall
 Road Name: I-15
 Lot No: PA-3 and 4

Project Name: Vernola Ranch Specific Plan
 Job Number: 14368
 Analyst: B. Maddux

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 147,000 vehicles		Autos: 15					
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15					
Peak Hour Volume: 14,700 vehicles		Heavy Trucks (3+ Axles): 15					
Vehicle Speed: 65 mph		Vehicle Mix					
Near/Far Lane Distance: 128 feet							
Site Data		VehicleType	Day	Evening	Night	Daily	
Barrier Height: 12.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 190.0 feet Centerline Dist. to Observer: 235.0 feet Barrier Distance to Observer: 45.0 feet Observer Height (Above Pad): 23.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Barrier Elevation: 0.0 feet Road Grade: 0.0%		Autos:	77.5%	12.9%	9.6%	97.42%	
		Medium Trucks:	84.8%	4.9%	10.3%	1.84%	
		Heavy Trucks:	86.5%	2.7%	10.8%	0.74%	
		Noise Source Elevations (in feet)					
		Autos:	0.00				
		Medium Trucks:	2.30				
		Heavy Trucks:	8.01	Grade Adjustment: 0.0			
		Lane Equivalent Distance (in feet)					
		Autos:	160.231				
Medium Trucks:	159.918						
Heavy Trucks:	159.279						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	75.54	8.13	-7.69	-1.20	-0.35	0.000	0.000
Medium Trucks:	81.71	-9.11	-7.68	-1.20	-0.44	0.000	0.000
Heavy Trucks:	85.21	-13.07	-7.65	-1.20	-0.72	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:	74.8	72.9	71.1	65.1	73.7	74.3
Medium Trucks:	63.7	62.2	55.9	54.3	62.8	63.0
Heavy Trucks:	63.3	61.9	52.8	54.1	62.4	62.6
Vehicle Noise:	75.4	73.5	71.3	65.7	74.3	74.9

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	74.8	72.9	71.1	65.1	73.7	74.3
Medium Trucks:	63.7	62.2	55.9	54.3	62.8	63.0
Heavy Trucks:	63.3	61.9	52.8	54.1	62.4	62.6
Vehicle Noise:	75.4	73.5	71.3	65.7	74.3	74.9

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - v10/31/19

Scenario: Third Floor With Wall
Road Name: I-15
Lot No: PA-2

Project Name: Vernola Ranch Specific Plan
Job Number: 14368
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 147,000 vehicles		Autos: 15					
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15					
Peak Hour Volume: 14,700 vehicles		Heavy Trucks (3+ Axles): 15					
Vehicle Speed: 65 mph		Vehicle Mix					
Near/Far Lane Distance: 128 feet		VehicleType	Day	Evening	Night	Daily	
Site Data		Autos: 77.5% 12.9% 9.6% 97.42%					
Barrier Height: 12.0 feet		Medium Trucks: 84.8% 4.9% 10.3% 1.84%					
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks: 86.5% 2.7% 10.8% 0.74%					
Centerline Dist. to Barrier: 190.0 feet		Noise Source Elevations (in feet)					
Centerline Dist. to Observer: 210.0 feet		Autos: 0.00					
Barrier Distance to Observer: 20.0 feet		Medium Trucks: 2.30					
Observer Height (Above Pad): 23.0 feet		Heavy Trucks: 8.01 Grade Adjustment: 0.0					
Pad Elevation: 0.0 feet		Lane Equivalent Distance (in feet)					
Road Elevation: 0.0 feet		Autos: 133.225					
Barrier Elevation: 0.0 feet		Medium Trucks: 132.848					
Road Grade: 0.0%		Heavy Trucks: 132.079					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	75.54	8.13	-6.49	-1.20	-1.56	0.000	0.000
Medium Trucks:	81.71	-9.11	-6.47	-1.20	-1.70	0.000	0.000
Heavy Trucks:	85.21	-13.07	-6.43	-1.20	-2.08	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:	76.0	74.1	72.3	66.3	74.9	75.5
Medium Trucks:	64.9	63.4	57.1	55.5	64.0	64.2
Heavy Trucks:	64.5	63.1	54.0	55.3	63.7	63.8
Vehicle Noise:	76.6	74.7	72.5	66.9	75.5	76.1

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	76.0	74.1	72.3	66.3	74.9	75.5
Medium Trucks:	64.9	63.4	57.1	55.5	64.0	64.2
Heavy Trucks:	64.5	63.1	54.0	55.3	63.7	63.8
Vehicle Noise:	76.6	74.7	72.5	66.9	75.5	76.1

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - v10/31/19

Scenario: Third Floor With Wall
Road Name: I-15
Lot No: PA-17

Project Name: Vernola Ranch Specific Plan
Job Number: 14368
Analyst: B. Maddux

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 147,000 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 14,700 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 65 mph		Vehicle Mix				
Near/Far Lane Distance: 128 feet						
Site Data		VehicleType	Day	Evening	Night	Daily
Barrier Height: 10.0 feet		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Type (0-Wall, 1-Berm): 0.0		Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Centerline Dist. to Barrier: 190.0 feet		Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Observer: 295.0 feet		Noise Source Elevations (in feet)				
Barrier Distance to Observer: 105.0 feet		Autos:	0.00			
Observer Height (Above Pad): 23.0 feet		Medium Trucks:	2.30			
Pad Elevation: 0.0 feet		Heavy Trucks:	8.01	Grade Adjustment: 0.0		
Road Elevation: 0.0 feet		Lane Equivalent Distance (in feet)				
Barrier Elevation: 0.0 feet		Autos:	223.146			
Road Grade: 0.0%		Medium Trucks:	222.921			
		Heavy Trucks:	222.463			

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	75.54	8.13	-9.85	-1.20	-0.05	0.000	0.000
Medium Trucks:	81.71	-9.11	-9.84	-1.20	-0.11	0.000	0.000
Heavy Trucks:	85.21	-13.07	-9.83	-1.20	-0.32	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:	72.6	70.7	69.0	62.9	71.5	72.1
Medium Trucks:	61.6	60.0	53.7	52.1	60.6	60.8
Heavy Trucks:	61.1	59.7	50.7	51.9	60.3	60.4
Vehicle Noise:	73.2	71.4	69.1	63.6	72.1	72.7

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	72.6	70.7	69.0	62.9	71.5	72.1
Medium Trucks:	61.6	60.0	53.7	52.1	60.6	60.8
Heavy Trucks:	61.1	59.7	50.7	51.9	60.3	60.4
Vehicle Noise:	73.2	71.4	69.1	63.6	72.1	72.7

APPENDIX 8.1:

OFF-SITE TRAFFIC NOISE LEVEL CALCULATIONS

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Phase 1
 Road Name: Bellegrave Ave.
 Road Segment: w/o Pats Ranch Rd.

Project Name: Vernola Ranch Specific PI
 Job Number: 14368

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 12,634 vehicles		Autos: 15				
Peak Hour Percentage: 10.00%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 1,263 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 50 mph		Vehicle Mix				
Near/Far Lane Distance: 50 feet						
Site Data		VehicleType	Day	Evening	Night	Daily
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		Autos:	77.5%	12.9%	9.6%	97.42%
		Medium Trucks:	84.8%	4.9%	10.3%	1.84%
		Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
		Noise Source Elevations (in feet)				
		Autos:	0.000			
		Medium Trucks:	2.297			
		Heavy Trucks:	8.006	Grade Adjustment: 0.0		
		Lane Equivalent Distance (in feet)				
		Autos:	53.675			
		Medium Trucks:	53.510			
		Heavy Trucks:	53.526			

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.39	-0.57	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-18.63	-0.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-22.59	-0.55	-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:	67.0	65.1	63.4	57.3	65.9	66.6
Medium Trucks:	60.6	59.1	52.8	51.2	59.7	59.9
Heavy Trucks:	61.0	59.6	50.6	51.8	60.2	60.3
Vehicle Noise:	68.7	67.0	63.9	59.2	67.7	68.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	42	89	193	415
CNEL:	45	96	207	446

Tuesday, November 29, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Phase 1
 Road Name: Bellegrave Ave.
 Road Segment: e/o Pats Ranch Rd.

Project Name: Vernola Ranch Specific PI
 Job Number: 14368

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 12,634 vehicles		Autos: 15					
Peak Hour Percentage: 10.00%		Medium Trucks (2 Axles): 15					
Peak Hour Volume: 1,263 vehicles		Heavy Trucks (3+ Axles): 15					
Vehicle Speed: 50 mph		Vehicle Mix					
Near/Far Lane Distance: 50 feet							
Site Data		VehicleType	Day	Evening	Night	Daily	
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		Autos:	77.5%	12.9%	9.6%	97.42%	
		Medium Trucks:	84.8%	4.9%	10.3%	1.84%	
		Heavy Trucks:	86.5%	2.7%	10.8%	0.74%	
		Noise Source Elevations (in feet)					
		Autos:	0.000				
		Medium Trucks:	2.297				
		Heavy Trucks:	8.006	Grade Adjustment: 0.0			
		Lane Equivalent Distance (in feet)					
		Autos:	53.675				
		Medium Trucks:	53.510				
		Heavy Trucks:	53.526				

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.39	-0.57	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-18.63	-0.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-22.59	-0.55	-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:	67.0	65.1	63.4	57.3	65.9	66.6
Medium Trucks:	60.6	59.1	52.8	51.2	59.7	59.9
Heavy Trucks:	61.0	59.6	50.6	51.8	60.2	60.3
Vehicle Noise:	68.7	67.0	63.9	59.2	67.7	68.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	42	89	193	415
CNEL:	45	96	207	446

Tuesday, November 29, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Phase 1
 Road Name: Bellegrave Ave.
 Road Segment: e/o Wineville Ave.

Project Name: Vernola Ranch Specific PI
 Job Number: 14368

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS							
Highway Data		Site Conditions (Hard = 10, Soft = 15)							
Average Daily Traffic (Adt):	11,312 vehicles	Autos:		15					
Peak Hour Percentage:	10.00%	Medium Trucks (2 Axles):		15					
Peak Hour Volume:	1,131 vehicles	Heavy Trucks (3+ Axles):		15					
Vehicle Speed:	50 mph	Vehicle Mix							
Near/Far Lane Distance:	50 feet	VehicleType	Day	Evening	Night	Daily			
Site Data		Autos:		77.5%	12.9%	9.6%	97.42%		
Barrier Height:		0.0 feet		Medium Trucks:		84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):		0.0		Heavy Trucks:		86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:		59.0 feet		Noise Source Elevations (in feet)					
Centerline Dist. to Observer:		59.0 feet		Autos:		0.000			
Barrier Distance to Observer:		0.0 feet		Medium Trucks:		2.297			
Observer Height (Above Pad):		5.0 feet		Heavy Trucks:		8.006	Grade Adjustment:		0.0
Pad Elevation:		0.0 feet		Lane Equivalent Distance (in feet)					
Road Elevation:		0.0 feet		Autos:		53.675			
Road Grade:		0.0%		Medium Trucks:		53.510			
Left View:		-90.0 degrees		Heavy Trucks:		53.526			
Right View:		90.0 degrees							

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.87	-0.57	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-19.11	-0.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-23.07	-0.55	-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:	66.6	64.7	62.9	56.8	65.5	66.1
Medium Trucks:	60.1	58.6	52.3	50.7	59.2	59.4
Heavy Trucks:	60.6	59.1	50.1	51.4	59.7	59.8
Vehicle Noise:	68.3	66.5	63.5	58.7	67.2	67.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	39	83	179	386
CNEL:	41	89	192	414

Tuesday, November 29, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Phase 1
 Road Name: Wineville Ave.
 Road Segment: n/o Bellegrave Ave.

Project Name: Vernola Ranch Specific PI
 Job Number: 14368

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt):	7,266 vehicles	Autos: 15				
Peak Hour Percentage:	10.00%	Medium Trucks (2 Axles): 15				
Peak Hour Volume:	727 vehicles	Heavy Trucks (3+ Axles): 15				
Vehicle Speed:	45 mph	Vehicle Mix				
Near/Far Lane Distance:	50 feet					
Site Data		VehicleType	Day	Evening	Night	Daily
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		Autos: 77.5% 12.9% 9.6% 97.42%				
		Medium Trucks: 84.8% 4.9% 10.3% 1.84%				
		Heavy Trucks: 86.5% 2.7% 10.8% 0.74%				
		Noise Source Elevations (in feet)				
		Autos: 0.000				
		Medium Trucks: 2.297				
		Heavy Trucks: 8.006 Grade Adjustment: 0.0				
		Lane Equivalent Distance (in feet)				
		Autos: 53.675				
		Medium Trucks: 53.510				
Heavy Trucks: 53.526						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-3.34	-0.57	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-20.58	-0.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-24.53	-0.55	-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:	63.4	61.5	59.7	53.6	62.3	62.9
Medium Trucks:	57.1	55.6	49.3	47.7	56.2	56.4
Heavy Trucks:	58.0	56.6	47.5	48.8	57.1	57.2
Vehicle Noise:	65.2	63.5	60.3	55.6	64.2	64.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	24	52	112	241
CNEL:	26	56	120	259

Tuesday, November 29, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Phase 1
Road Name: Wineville Ave.
Road Segment: s/o Bellegrave Ave.

Project Name: Vernola Ranch Specific PI
Job Number: 14368

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS							
Highway Data		Site Conditions (Hard = 10, Soft = 15)							
Average Daily Traffic (Adt):	9,242 vehicles	Autos:		15					
Peak Hour Percentage:	10.00%	Medium Trucks (2 Axles):		15					
Peak Hour Volume:	924 vehicles	Heavy Trucks (3+ Axles):		15					
Vehicle Speed:	45 mph	Vehicle Mix							
Near/Far Lane Distance:	50 feet	VehicleType	Day	Evening	Night	Daily			
Site Data		Autos:		77.5%	12.9%	9.6%	97.42%		
Barrier Height:	0.0 feet	Medium Trucks:		84.8%	4.9%	10.3%	1.84%		
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:		86.5%	2.7%	10.8%	0.74%		
Centerline Dist. to Barrier:	59.0 feet	Noise Source Elevations (in feet)							
Centerline Dist. to Observer:	59.0 feet	Autos:		0.000					
Barrier Distance to Observer:	0.0 feet	Medium Trucks:		2.297					
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:		8.006	Grade Adjustment:		0.0		
Pad Elevation:	0.0 feet	Lane Equivalent Distance (in feet)							
Road Elevation:	0.0 feet	Autos:		53.675					
Road Grade:	0.0%	Medium Trucks:		53.510					
Left View:	-90.0 degrees	Heavy Trucks:		53.526					
Right View:	90.0 degrees								

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-2.29	-0.57	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-19.53	-0.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-23.49	-0.55	-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:	64.4	62.5	60.7	54.7	63.3	63.9
Medium Trucks:	58.2	56.7	50.3	48.8	57.2	57.5
Heavy Trucks:	59.0	57.6	48.6	49.8	58.2	58.3
Vehicle Noise:	66.2	64.5	61.3	56.7	65.2	65.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	28	61	131	283
CNEL:	30	65	141	304

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Phase 1
 Road Name: Limonite Ave
 Road Segment: e/o Pats Ranch Rd.

Project Name: Vernola Ranch Specific PI
 Job Number: 14368

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 34,862 vehicles		Autos: 15				
Peak Hour Percentage: 10.00%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 3,486 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 50 mph		Vehicle Mix				
Near/Far Lane Distance: 86 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos: 77.5% 12.9% 9.6% 97.42%				
Barrier Height: 0.0 feet		Medium Trucks: 84.8% 4.9% 10.3% 1.84%				
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks: 86.5% 2.7% 10.8% 0.74%				
Centerline Dist. to Barrier: 81.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 81.0 feet		Autos: 0.000				
Barrier Distance to Observer: 0.0 feet		Medium Trucks: 2.297				
Observer Height (Above Pad): 5.0 feet		Heavy Trucks: 8.006 Grade Adjustment: 0.0				
Pad Elevation: 0.0 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet		Autos: 68.826				
Road Grade: 0.0%		Medium Trucks: 68.697				
Left View: -90.0 degrees		Heavy Trucks: 68.710				
Right View: 90.0 degrees						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	3.01	-2.19	-1.20	-4.74	0.000	0.000
Medium Trucks:	81.00	-14.22	-2.17	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-18.18	-2.17	-1.20	-5.22	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:	69.8	67.9	66.2	60.1	68.7	69.3
Medium Trucks:	63.4	61.9	55.5	54.0	62.5	62.7
Heavy Trucks:	63.8	62.4	53.4	54.6	63.0	63.1
Vehicle Noise:	71.5	69.8	66.7	62.0	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	87	188	406	874
CNEL:	94	202	436	939

Tuesday, November 29, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Phase 1
 Road Name: Pats Ranch Rd.
 Road Segment: n/o Boca Pl

Project Name: Vernola Ranch Specific PI
 Job Number: 14368

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt):	1,232 vehicles	Autos: 15				
Peak Hour Percentage:	10.00%	Medium Trucks (2 Axles): 15				
Peak Hour Volume:	123 vehicles	Heavy Trucks (3+ Axles): 15				
Vehicle Speed:	40 mph					
Near/Far Lane Distance:	21 feet					
Site Data		Vehicle Mix				
		VehicleType	Day	Evening	Night	Daily
		Autos: 77.5% 12.9% 9.6% 97.42%				
		Medium Trucks: 84.8% 4.9% 10.3% 1.84%				
		Heavy Trucks: 86.5% 2.7% 10.8% 0.74%				
		Noise Source Elevations (in feet)				
		Autos: 0.000				
		Medium Trucks: 2.297				
		Heavy Trucks: 8.006 Grade Adjustment: 0.0				
		Lane Equivalent Distance (in feet)				
		Autos: 35.829				
		Medium Trucks: 35.582				
		Heavy Trucks: 35.606				

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-10.53	2.07	-1.20	-4.56	0.000	0.000
Medium Trucks:	77.72	-27.77	2.11	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-31.73	2.11	-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:	56.8	54.9	53.2	47.1	55.7	56.4
Medium Trucks:	50.9	49.3	43.0	41.4	49.9	50.1
Heavy Trucks:	52.2	50.8	41.7	43.0	51.3	51.4
Vehicle Noise:	58.9	57.1	53.9	49.3	57.8	58.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	6	12	27	57
CNEL:	6	13	28	61

Tuesday, November 29, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Phase 1
Road Name: Pats Ranch Rd.
Road Segment: s/o Boca Pl

Project Name: Vernola Ranch Specific PI
Job Number: 14368

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS						
Highway Data		Site Conditions (Hard = 10, Soft = 15)						
Average Daily Traffic (Adt):	3,209 vehicles	Autos:					15	
Peak Hour Percentage:	10.00%	Medium Trucks (2 Axles):					15	
Peak Hour Volume:	321 vehicles	Heavy Trucks (3+ Axles):					15	
Vehicle Speed:	40 mph	Vehicle Mix						
Near/Far Lane Distance:	50 feet							
Site Data		VehicleType	Day	Evening	Night	Daily		
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		Autos:		77.5%	12.9%	9.6%	97.42%	
		Medium Trucks:		84.8%	4.9%	10.3%	1.84%	
		Heavy Trucks:		86.5%	2.7%	10.8%	0.74%	
		Noise Source Elevations (in feet)						
		Autos:		0.000				
		Medium Trucks:		2.297				
		Heavy Trucks:		8.006	Grade Adjustment: 0.0			
		Lane Equivalent Distance (in feet)						
		Autos:		53.675				
		Medium Trucks:		53.510				
Heavy Trucks:		53.526						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-6.38	-0.57	-1.20	-4.69	0.000	0.000
Medium Trucks:	77.72	-23.61	-0.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-27.57	-0.55	-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:	58.4	56.5	54.7	48.7	57.3	57.9
Medium Trucks:	52.4	50.8	44.5	42.9	51.4	51.6
Heavy Trucks:	53.7	52.3	43.2	44.5	52.8	53.0
Vehicle Noise:	60.4	58.7	55.4	50.8	59.4	59.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	12	25	53	115
CNEL:	12	27	57	123

Tuesday, November 29, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Phase 1 + P
 Road Name: Bellegrave Ave.
 Road Segment: w/o Pats Ranch Rd.

Project Name: Vernola Ranch Specific PI
 Job Number: 14368

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 14,582 vehicles		Autos: 15					
Peak Hour Percentage: 10.00%		Medium Trucks (2 Axles): 15					
Peak Hour Volume: 1,458 vehicles		Heavy Trucks (3+ Axles): 15					
Vehicle Speed: 50 mph		Vehicle Mix					
Near/Far Lane Distance: 50 feet		VehicleType	Day	Evening	Night	Daily	
Site Data		Autos: 77.5% 12.9% 9.6% 97.42%					
Barrier Height: 0.0 feet		Medium Trucks: 84.8% 4.9% 10.3% 1.84%					
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks: 86.5% 2.7% 10.8% 0.74%					
Centerline Dist. to Barrier: 59.0 feet		Noise Source Elevations (in feet)					
Centerline Dist. to Observer: 59.0 feet		Autos: 0.000					
Barrier Distance to Observer: 0.0 feet		Medium Trucks: 2.297					
Observer Height (Above Pad): 5.0 feet		Heavy Trucks: 8.006 Grade Adjustment: 0.0					
Pad Elevation: 0.0 feet		Lane Equivalent Distance (in feet)					
Road Elevation: 0.0 feet		Autos: 53.675					
Road Grade: 0.0%		Medium Trucks: 53.510					
Left View: -90.0 degrees		Heavy Trucks: 53.526					
Right View: 90.0 degrees							

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-0.77	-0.57	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-18.01	-0.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-21.96	-0.55	-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:	67.7	65.8	64.0	57.9	66.6	67.2
Medium Trucks:	61.2	59.7	53.4	51.8	60.3	60.5
Heavy Trucks:	61.7	60.2	51.2	52.5	60.8	60.9
Vehicle Noise:	69.4	67.6	64.6	59.8	68.3	68.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	46	98	212	457
CNEL:	49	106	228	491

Tuesday, November 29, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Phase 1 + P
 Road Name: Bellegrave Ave.
 Road Segment: e/o Pats Ranch Rd.

Project Name: Vernola Ranch Specific PI
 Job Number: 14368

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 14,582 vehicles		Autos: 15				
Peak Hour Percentage: 10.00%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 1,458 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 50 mph		Vehicle Mix				
Near/Far Lane Distance: 50 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos: 77.5% 12.9% 9.6% 97.42%				
Barrier Height: 0.0 feet		Medium Trucks: 84.8% 4.9% 10.3% 1.84%				
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks: 86.5% 2.7% 10.8% 0.74%				
Centerline Dist. to Barrier: 59.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 59.0 feet		Autos: 0.000				
Barrier Distance to Observer: 0.0 feet		Medium Trucks: 2.297				
Observer Height (Above Pad): 5.0 feet		Heavy Trucks: 8.006 Grade Adjustment: 0.0				
Pad Elevation: 0.0 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet		Autos: 53.675				
Road Grade: 0.0%		Medium Trucks: 53.510				
Left View: -90.0 degrees		Heavy Trucks: 53.526				
Right View: 90.0 degrees						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-0.77	-0.57	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-18.01	-0.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-21.96	-0.55	-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:	67.7	65.8	64.0	57.9	66.6	67.2
Medium Trucks:	61.2	59.7	53.4	51.8	60.3	60.5
Heavy Trucks:	61.7	60.2	51.2	52.5	60.8	60.9
Vehicle Noise:	69.4	67.6	64.6	59.8	68.3	68.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	46	98	212	457
CNEL:	49	106	228	491

Tuesday, November 29, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Phase 1 + P
 Road Name: Bellegrave Ave.
 Road Segment: e/o Wineville Ave.

Project Name: Vernola Ranch Specific PI
 Job Number: 14368

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 13,225 vehicles		Autos: 15					
Peak Hour Percentage: 10.00%		Medium Trucks (2 Axles): 15					
Peak Hour Volume: 1,323 vehicles		Heavy Trucks (3+ Axles): 15					
Vehicle Speed: 50 mph		Vehicle Mix					
Near/Far Lane Distance: 50 feet							
Site Data		VehicleType	Day	Evening	Night	Daily	
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		Autos:	77.5%	12.9%	9.6%	97.42%	
		Medium Trucks:	84.8%	4.9%	10.3%	1.84%	
		Heavy Trucks:	86.5%	2.7%	10.8%	0.74%	
		Noise Source Elevations (in feet)					
		Autos:	0.000				
		Medium Trucks:	2.297				
		Heavy Trucks:	8.006	Grade Adjustment: 0.0			
		Lane Equivalent Distance (in feet)					
		Autos:	53.675				
		Medium Trucks:	53.510				
Heavy Trucks:	53.526						

FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.19	-0.57	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-18.43	-0.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-22.39	-0.55	-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:	67.2	65.3	63.6	57.5	66.1	66.8
Medium Trucks:	60.8	59.3	53.0	51.4	59.9	60.1
Heavy Trucks:	61.2	59.8	50.8	52.0	60.4	60.5
Vehicle Noise:	68.9	67.2	64.1	59.4	67.9	68.4

Centerline Distance to Noise Contour (in feet)				
	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	43	92	199	428
CNEL:	46	99	213	460

Tuesday, November 29, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Phase 1 + P
 Road Name: Wineville Ave.
 Road Segment: n/o Bellegrave Ave.

Project Name: Vernola Ranch Specific PI
 Job Number: 14368

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt):	7,910 vehicles	Autos: 15				
Peak Hour Percentage:	10.00%	Medium Trucks (2 Axles): 15				
Peak Hour Volume:	791 vehicles	Heavy Trucks (3+ Axles): 15				
Vehicle Speed:	45 mph	Vehicle Mix				
Near/Far Lane Distance:	50 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos: 77.5% 12.9% 9.6% 97.42%				
Barrier Height: 0.0 feet		Medium Trucks: 84.8% 4.9% 10.3% 1.84%				
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks: 86.5% 2.7% 10.8% 0.74%				
Centerline Dist. to Barrier: 59.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 59.0 feet		Autos: 0.000				
Barrier Distance to Observer: 0.0 feet		Medium Trucks: 2.297				
Observer Height (Above Pad): 5.0 feet		Heavy Trucks: 8.006 Grade Adjustment: 0.0				
Pad Elevation: 0.0 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet		Autos: 53.675				
Road Grade: 0.0%		Medium Trucks: 53.510				
Left View: -90.0 degrees		Heavy Trucks: 53.526				
Right View: 90.0 degrees						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-2.97	-0.57	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-20.21	-0.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-24.16	-0.55	-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:	63.7	61.8	60.1	54.0	62.6	63.2
Medium Trucks:	57.5	56.0	49.6	48.1	56.5	56.8
Heavy Trucks:	58.3	56.9	47.9	49.1	57.5	57.6
Vehicle Noise:	65.6	63.8	60.7	56.0	64.5	65.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	26	55	118	255
CNEL:	27	59	127	274

Tuesday, November 29, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Phase 1 + P
 Road Name: Wineville Ave.
 Road Segment: s/o Bellegrave Ave.

Project Name: Vernola Ranch Specific PI
 Job Number: 14368

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 11,795 vehicles		Autos: 15				
Peak Hour Percentage: 10.00%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 1,180 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 45 mph		Vehicle Mix				
Near/Far Lane Distance: 50 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos: 77.5% 12.9% 9.6% 97.42%				
Barrier Height: 0.0 feet		Medium Trucks: 84.8% 4.9% 10.3% 1.84%				
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks: 86.5% 2.7% 10.8% 0.74%				
Centerline Dist. to Barrier: 59.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 59.0 feet		Autos: 0.000				
Barrier Distance to Observer: 0.0 feet		Medium Trucks: 2.297				
Observer Height (Above Pad): 5.0 feet		Heavy Trucks: 8.006 Grade Adjustment: 0.0				
Pad Elevation: 0.0 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet		Autos: 53.675				
Road Grade: 0.0%		Medium Trucks: 53.510				
Left View: -90.0 degrees		Heavy Trucks: 53.526				
Right View: 90.0 degrees						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-1.23	-0.57	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-18.47	-0.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-22.43	-0.55	-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:	65.5	63.6	61.8	55.7	64.4	65.0
Medium Trucks:	59.2	57.7	51.4	49.8	58.3	58.5
Heavy Trucks:	60.1	58.7	49.6	50.9	59.2	59.4
Vehicle Noise:	67.3	65.6	62.4	57.7	66.3	66.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	33	72	155	333
CNEL:	36	77	166	357

Tuesday, November 29, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Phase 1 + P
 Road Name: Limonite Ave
 Road Segment: e/o Pats Ranch Rd.

Project Name: Vernola Ranch Specific PI
 Job Number: 14368

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS							
Highway Data		Site Conditions (Hard = 10, Soft = 15)							
Average Daily Traffic (Adt):	36,567 vehicles	Autos:		15					
Peak Hour Percentage:	10.00%	Medium Trucks (2 Axles):		15					
Peak Hour Volume:	3,657 vehicles	Heavy Trucks (3+ Axles):		15					
Vehicle Speed:	50 mph	Vehicle Mix							
Near/Far Lane Distance:	86 feet	VehicleType	Day	Evening	Night	Daily			
Site Data		Autos:		77.5%	12.9%	9.6%	97.42%		
Barrier Height:	0.0 feet	Medium Trucks:		84.8%	4.9%	10.3%	1.84%		
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:		86.5%	2.7%	10.8%	0.74%		
Centerline Dist. to Barrier:	81.0 feet	Noise Source Elevations (in feet)							
Centerline Dist. to Observer:	81.0 feet	Autos:		0.000					
Barrier Distance to Observer:	0.0 feet	Medium Trucks:		2.297					
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:		8.006	Grade Adjustment:		0.0		
Pad Elevation:	0.0 feet	Lane Equivalent Distance (in feet)							
Road Elevation:	0.0 feet	Autos:		68.826					
Road Grade:	0.0%	Medium Trucks:		68.697					
Left View:	-90.0 degrees	Heavy Trucks:		68.710					
Right View:	90.0 degrees								

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	3.22	-2.19	-1.20	-4.74	0.000	0.000
Medium Trucks:	81.00	-14.02	-2.17	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-17.97	-2.17	-1.20	-5.22	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:	70.0	68.1	66.4	60.3	68.9	69.5
Medium Trucks:	63.6	62.1	55.7	54.2	62.7	62.9
Heavy Trucks:	64.0	62.6	53.6	54.8	63.2	63.3
Vehicle Noise:	71.7	70.0	66.9	62.2	70.7	71.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	90	194	419	903
CNEL:	97	209	450	970

Tuesday, November 29, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Phase 1 + P
Road Name: Pats Ranch Rd.
Road Segment: n/o Boca Pl

Project Name: Vernola Ranch Specific PI
Job Number: 14368

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS							
Highway Data		Site Conditions (Hard = 10, Soft = 15)							
Average Daily Traffic (Adt):	5,107 vehicles	Autos:		15					
Peak Hour Percentage:	10.00%	Medium Trucks (2 Axles):		15					
Peak Hour Volume:	511 vehicles	Heavy Trucks (3+ Axles):		15					
Vehicle Speed:	40 mph	Vehicle Mix							
Near/Far Lane Distance:	21 feet	VehicleType	Day	Evening	Night	Daily			
Site Data		Autos:		77.5%	12.9%	9.6%	97.42%		
Barrier Height:	0.0 feet	Medium Trucks:		84.8%	4.9%	10.3%	1.84%		
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:		86.5%	2.7%	10.8%	0.74%		
Centerline Dist. to Barrier:	37.0 feet	Noise Source Elevations (in feet)							
Centerline Dist. to Observer:	37.0 feet	Autos:		0.000					
Barrier Distance to Observer:	0.0 feet	Medium Trucks:		2.297					
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:		8.006	Grade Adjustment:		0.0		
Pad Elevation:	0.0 feet	Lane Equivalent Distance (in feet)							
Road Elevation:	0.0 feet	Autos:		35.829					
Road Grade:	0.0%	Medium Trucks:		35.582					
Left View:	-90.0 degrees	Heavy Trucks:		35.606					
Right View:	90.0 degrees								

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-4.36	2.07	-1.20	-4.56	0.000	0.000
Medium Trucks:	77.72	-21.60	2.11	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-25.55	2.11	-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	61.1	59.4	53.3	61.9	62.5
Medium Trucks:	57.0	55.5	49.2	47.6	56.1	56.3
Heavy Trucks:	58.4	56.9	47.9	49.1	57.5	57.6
Vehicle Noise:	65.0	63.3	60.0	55.5	64.0	64.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	15	32	69	148
CNEL:	16	34	73	158

Tuesday, November 29, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Phase 1 + P
 Road Name: Pats Ranch Rd.
 Road Segment: s/o Boca PI

Project Name: Vernola Ranch Specific PI
 Job Number: 14368

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt):	9,547 vehicles	Autos: 15				
Peak Hour Percentage:	10.00%	Medium Trucks (2 Axles): 15				
Peak Hour Volume:	955 vehicles	Heavy Trucks (3+ Axles): 15				
Vehicle Speed:	40 mph					
Near/Far Lane Distance:	50 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					
		Vehicle Mix				
		VehicleType	Day	Evening	Night	Daily
		Autos: 77.5% 12.9% 9.6% 97.42%				
		Medium Trucks: 84.8% 4.9% 10.3% 1.84%				
		Heavy Trucks: 86.5% 2.7% 10.8% 0.74%				
		Noise Source Elevations (in feet)				
		Autos: 0.000				
		Medium Trucks: 2.297				
		Heavy Trucks: 8.006 Grade Adjustment: 0.0				
		Lane Equivalent Distance (in feet)				
		Autos: 53.675				
		Medium Trucks: 53.510				
		Heavy Trucks: 53.526				

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-1.64	-0.57	-1.20	-4.69	0.000	0.000
Medium Trucks:	77.72	-18.88	-0.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-22.83	-0.55	-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	61.2	59.4	53.4	62.0	62.6
Medium Trucks:	57.1	55.6	49.2	47.7	56.1	56.4
Heavy Trucks:	58.4	57.0	48.0	49.2	57.6	57.7
Vehicle Noise:	65.1	63.4	60.1	55.6	64.1	64.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	24	51	111	238
CNEL:	26	55	118	255

Tuesday, November 29, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Phase 2
 Road Name: Bellegrave Ave.
 Road Segment: w/o Pats Ranch Rd.

Project Name: Vernola Ranch Specific PI
 Job Number: 14368

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 13,498 vehicles		Autos: 15					
Peak Hour Percentage: 10.00%		Medium Trucks (2 Axles): 15					
Peak Hour Volume: 1,350 vehicles		Heavy Trucks (3+ Axles): 15					
Vehicle Speed: 50 mph		Vehicle Mix					
Near/Far Lane Distance: 50 feet		VehicleType	Day	Evening	Night	Daily	
Site Data		Autos: 77.5% 12.9% 9.6% 97.42%					
Barrier Height: 0.0 feet		Medium Trucks: 84.8% 4.9% 10.3% 1.84%					
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks: 86.5% 2.7% 10.8% 0.74%					
Centerline Dist. to Barrier: 59.0 feet		Noise Source Elevations (in feet)					
Centerline Dist. to Observer: 59.0 feet		Autos: 0.000					
Barrier Distance to Observer: 0.0 feet		Medium Trucks: 2.297					
Observer Height (Above Pad): 5.0 feet		Heavy Trucks: 8.006 Grade Adjustment: 0.0					
Pad Elevation: 0.0 feet		Lane Equivalent Distance (in feet)					
Road Elevation: 0.0 feet		Autos: 53.675					
Road Grade: 0.0%		Medium Trucks: 53.510					
Left View: -90.0 degrees		Heavy Trucks: 53.526					
Right View: 90.0 degrees							

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.11	-0.57	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-18.34	-0.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-22.30	-0.55	-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:	67.3	65.4	63.7	57.6	66.2	66.8
Medium Trucks:	60.9	59.4	53.0	51.5	60.0	60.2
Heavy Trucks:	61.3	59.9	50.9	52.1	60.5	60.6
Vehicle Noise:	69.0	67.3	64.2	59.5	68.0	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	43	94	201	434
CNEL:	47	100	216	466

Tuesday, November 29, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Phase 2
 Road Name: Bellegrave Ave.
 Road Segment: e/o Pats Ranch Rd.

Project Name: Vernola Ranch Specific PI
 Job Number: 14368

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS						
Highway Data		Site Conditions (Hard = 10, Soft = 15)						
Average Daily Traffic (Adt):	13,498 vehicles	Autos:		15				
Peak Hour Percentage:	10.00%	Medium Trucks (2 Axles):		15				
Peak Hour Volume:	1,350 vehicles	Heavy Trucks (3+ Axles):		15				
Vehicle Speed:	50 mph	Vehicle Mix						
Near/Far Lane Distance:	50 feet							VehicleType
Site Data		Autos:		77.5%	12.9%	9.6%	97.42%	
Barrier Height:	0.0 feet	Medium Trucks:		84.8%	4.9%	10.3%	1.84%	
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:		86.5%	2.7%	10.8%	0.74%	
Centerline Dist. to Barrier:	59.0 feet	Noise Source Elevations (in feet)						
Centerline Dist. to Observer:	59.0 feet							Autos:
Barrier Distance to Observer:	0.0 feet	Medium Trucks:		2.297				
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:		8.006	Grade Adjustment: 0.0			
Pad Elevation:	0.0 feet	Lane Equivalent Distance (in feet)						
Road Elevation:	0.0 feet							Autos:
Road Grade:	0.0%	Medium Trucks:		53.510				
Left View:	-90.0 degrees	Heavy Trucks:		53.526				
Right View:	90.0 degrees							

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.11	-0.57	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-18.34	-0.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-22.30	-0.55	-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:	67.3	65.4	63.7	57.6	66.2	66.8
Medium Trucks:	60.9	59.4	53.0	51.5	60.0	60.2
Heavy Trucks:	61.3	59.9	50.9	52.1	60.5	60.6
Vehicle Noise:	69.0	67.3	64.2	59.5	68.0	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	43	94	201	434
CNEL:	47	100	216	466

Tuesday, November 29, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Phase 2
 Road Name: Bellegrave Ave.
 Road Segment: e/o Wineville Ave.

Project Name: Vernola Ranch Specific PI
 Job Number: 14368

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 12,009 vehicles		Autos: 15					
Peak Hour Percentage: 10.00%		Medium Trucks (2 Axles): 15					
Peak Hour Volume: 1,201 vehicles		Heavy Trucks (3+ Axles): 15					
Vehicle Speed: 50 mph		Vehicle Mix					
Near/Far Lane Distance: 50 feet							
Site Data		VehicleType	Day	Evening	Night	Daily	
		Autos:	77.5%	12.9%	9.6%	97.42%	
		Medium Trucks:	84.8%	4.9%	10.3%	1.84%	
		Heavy Trucks:	86.5%	2.7%	10.8%	0.74%	
		Noise Source Elevations (in feet)					
		Autos:	0.000				
Barrier Height: 0.0 feet		Medium Trucks:	2.297				
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks:	8.006	Grade Adjustment: 0.0			
Centerline Dist. to Barrier: 59.0 feet		Lane Equivalent Distance (in feet)					
Centerline Dist. to Observer: 59.0 feet							
Barrier Distance to Observer: 0.0 feet		Autos:	53.675				
Observer Height (Above Pad): 5.0 feet		Medium Trucks:	53.510				
Pad Elevation: 0.0 feet		Heavy Trucks:	53.526				
Road Elevation: 0.0 feet							
Road Grade: 0.0%							
Left View: -90.0 degrees							
Right View: 90.0 degrees							

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.61	-0.57	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-18.85	-0.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-22.81	-0.55	-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:	66.8	64.9	63.2	57.1	65.7	66.3
Medium Trucks:	60.4	58.9	52.5	51.0	59.4	59.7
Heavy Trucks:	60.8	59.4	50.4	51.6	60.0	60.1
Vehicle Noise:	68.5	66.8	63.7	58.9	67.5	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	40	86	186	401
CNEL:	43	93	200	431

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Phase 2
 Road Name: Wineville Ave.
 Road Segment: n/o Bellegrave Ave.

Project Name: Vernola Ranch Specific PI
 Job Number: 14368

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt):	7,433 vehicles	Autos: 15				
Peak Hour Percentage:	10.00%	Medium Trucks (2 Axles): 15				
Peak Hour Volume:	743 vehicles	Heavy Trucks (3+ Axles): 15				
Vehicle Speed:	45 mph	Vehicle Mix				
Near/Far Lane Distance:	50 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos: 77.5% 12.9% 9.6% 97.42%				
Barrier Height:	0.0 feet	Medium Trucks: 84.8% 4.9% 10.3% 1.84%				
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks: 86.5% 2.7% 10.8% 0.74%				
Centerline Dist. to Barrier:	59.0 feet	Noise Source Elevations (in feet)				
Centerline Dist. to Observer:	59.0 feet	Autos: 0.000				
Barrier Distance to Observer:	0.0 feet	Medium Trucks: 2.297				
Observer Height (Above Pad):	5.0 feet	Heavy Trucks: 8.006 Grade Adjustment: 0.0				
Pad Elevation:	0.0 feet	Lane Equivalent Distance (in feet)				
Road Elevation:	0.0 feet	Autos: 53.675				
Road Grade:	0.0%	Medium Trucks: 53.510				
Left View:	-90.0 degrees	Heavy Trucks: 53.526				
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-3.24	-0.57	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-20.48	-0.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-24.43	-0.55	-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:	63.5	61.6	59.8	53.7	62.4	63.0
Medium Trucks:	57.2	55.7	49.4	47.8	56.3	56.5
Heavy Trucks:	58.1	56.7	47.6	48.9	57.2	57.3
Vehicle Noise:	65.3	63.6	60.4	55.7	64.3	64.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	24	53	114	245
CNEL:	26	57	122	263

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Phase 2
 Road Name: Wineville Ave.
 Road Segment: s/o Bellegrave Ave.

Project Name: Vernola Ranch Specific PI
 Job Number: 14368

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt):	9,409 vehicles	Autos: 15					
Peak Hour Percentage:	10.00%	Medium Trucks (2 Axles): 15					
Peak Hour Volume:	941 vehicles	Heavy Trucks (3+ Axles): 15					
Vehicle Speed:	45 mph	Vehicle Mix					
Near/Far Lane Distance:	50 feet						
Site Data		VehicleType	Day	Evening	Night	Daily	
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		Autos: 77.5% 12.9% 9.6% 97.42%					
		Medium Trucks: 84.8% 4.9% 10.3% 1.84%					
		Heavy Trucks: 86.5% 2.7% 10.8% 0.74%					
		Noise Source Elevations (in feet)					
		Autos: 0.000					
		Medium Trucks: 2.297					
		Heavy Trucks: 8.006 Grade Adjustment: 0.0					
		Lane Equivalent Distance (in feet)					
		Autos: 53.675					
		Medium Trucks: 53.510					
Heavy Trucks: 53.526							

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-2.22	-0.57	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-19.45	-0.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-23.41	-0.55	-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:	64.5	62.6	60.8	54.8	63.4	64.0
Medium Trucks:	58.3	56.7	50.4	48.8	57.3	57.5
Heavy Trucks:	59.1	57.7	48.6	49.9	58.2	58.4
Vehicle Noise:	66.3	64.6	61.4	56.8	65.3	65.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	29	62	133	286
CNEL:	31	66	143	307

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Phase 2
 Road Name: Limonite Ave
 Road Segment: e/o Pats Ranch Rd.

Project Name: Vernola Ranch Specific PI
 Job Number: 14368

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 35,243 vehicles		Autos: 15					
Peak Hour Percentage: 10.00%		Medium Trucks (2 Axles): 15					
Peak Hour Volume: 3,524 vehicles		Heavy Trucks (3+ Axles): 15					
Vehicle Speed: 50 mph		Vehicle Mix					
Near/Far Lane Distance: 86 feet		VehicleType		Day	Evening	Night	Daily
Site Data		Autos: 77.5% 12.9% 9.6% 97.42%					
Barrier Height: 0.0 feet		Medium Trucks: 84.8% 4.9% 10.3% 1.84%					
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks: 86.5% 2.7% 10.8% 0.74%					
Centerline Dist. to Barrier: 81.0 feet		Noise Source Elevations (in feet)					
Centerline Dist. to Observer: 81.0 feet		Autos: 0.000					
Barrier Distance to Observer: 0.0 feet		Medium Trucks: 2.297					
Observer Height (Above Pad): 5.0 feet		Heavy Trucks: 8.006 Grade Adjustment: 0.0					
Pad Elevation: 0.0 feet		Lane Equivalent Distance (in feet)					
Road Elevation: 0.0 feet		Autos: 68.826					
Road Grade: 0.0%		Medium Trucks: 68.697					
Left View: -90.0 degrees		Heavy Trucks: 68.710					
Right View: 90.0 degrees							

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	3.06	-2.19	-1.20	-4.74	0.000	0.000
Medium Trucks:	81.00	-14.18	-2.17	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-18.13	-2.17	-1.20	-5.22	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:	69.9	68.0	66.2	60.2	68.8	69.4
Medium Trucks:	63.5	61.9	55.6	54.0	62.5	62.7
Heavy Trucks:	63.9	62.5	53.4	54.7	63.0	63.1
Vehicle Noise:	71.6	69.8	66.8	62.0	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	88	190	409	881
CNEL:	95	204	439	946

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Phase 2
Road Name: Pats Ranch Rd.
Road Segment: n/o Boca Pl

Project Name: Vernola Ranch Specific PI
Job Number: 14368

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt):	1,232 vehicles	Autos: 15					
Peak Hour Percentage:	10.00%	Medium Trucks (2 Axles): 15					
Peak Hour Volume:	123 vehicles	Heavy Trucks (3+ Axles): 15					
Vehicle Speed:	40 mph	Vehicle Mix					
Near/Far Lane Distance:	21 feet						
Site Data		VehicleType	Day	Evening	Night	Daily	
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		Autos:	77.5%	12.9%	9.6%	97.42%	
		Medium Trucks:	84.8%	4.9%	10.3%	1.84%	
		Heavy Trucks:	86.5%	2.7%	10.8%	0.74%	
		Noise Source Elevations (in feet)					
		Autos:	0.000				
		Medium Trucks:	2.297				
		Heavy Trucks:	8.006	Grade Adjustment: 0.0			
		Lane Equivalent Distance (in feet)					
		Autos:	35.829				
		Medium Trucks:	35.582				
		Heavy Trucks:	35.606				

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-10.53	2.07	-1.20	-4.56	0.000	0.000
Medium Trucks:	77.72	-27.77	2.11	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-31.73	2.11	-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:	56.8	54.9	53.2	47.1	55.7	56.4
Medium Trucks:	50.9	49.3	43.0	41.4	49.9	50.1
Heavy Trucks:	52.2	50.8	41.7	43.0	51.3	51.4
Vehicle Noise:	58.9	57.1	53.9	49.3	57.8	58.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	6	12	27	57
CNEL:	6	13	28	61

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Phase 2
Road Name: Pats Ranch Rd.
Road Segment: s/o Boca Pl

Project Name: Vernola Ranch Specific PI
Job Number: 14368

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt):	3,209 vehicles	Autos: 15					
Peak Hour Percentage:	10.00%	Medium Trucks (2 Axles): 15					
Peak Hour Volume:	321 vehicles	Heavy Trucks (3+ Axles): 15					
Vehicle Speed:	40 mph	Vehicle Mix					
Near/Far Lane Distance:	50 feet	VehicleType	Day	Evening	Night	Daily	
Site Data		Autos: 77.5% 12.9% 9.6% 97.42%					
Barrier Height: 0.0 feet		Medium Trucks: 84.8% 4.9% 10.3% 1.84%					
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks: 86.5% 2.7% 10.8% 0.74%					
Centerline Dist. to Barrier: 59.0 feet		Noise Source Elevations (in feet)					
Centerline Dist. to Observer: 59.0 feet		Autos: 0.000					
Barrier Distance to Observer: 0.0 feet		Medium Trucks: 2.297					
Observer Height (Above Pad): 5.0 feet		Heavy Trucks: 8.006 Grade Adjustment: 0.0					
Pad Elevation: 0.0 feet		Lane Equivalent Distance (in feet)					
Road Elevation: 0.0 feet		Autos: 53.675					
Road Grade: 0.0%		Medium Trucks: 53.510					
Left View: -90.0 degrees		Heavy Trucks: 53.526					
Right View: 90.0 degrees							

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-6.38	-0.57	-1.20	-4.69	0.000	0.000
Medium Trucks:	77.72	-23.61	-0.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-27.57	-0.55	-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:	58.4	56.5	54.7	48.7	57.3	57.9
Medium Trucks:	52.4	50.8	44.5	42.9	51.4	51.6
Heavy Trucks:	53.7	52.3	43.2	44.5	52.8	53.0
Vehicle Noise:	60.4	58.7	55.4	50.8	59.4	59.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	12	25	53	115
CNEL:	12	27	57	123

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Phase 2 + P
 Road Name: Bellegrave Ave.
 Road Segment: w/o Pats Ranch Rd.

Project Name: Vernola Ranch Specific PI
 Job Number: 14368

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 14,685 vehicles		Autos: 15					
Peak Hour Percentage: 10.00%		Medium Trucks (2 Axles): 15					
Peak Hour Volume: 1,469 vehicles		Heavy Trucks (3+ Axles): 15					
Vehicle Speed: 50 mph		Vehicle Mix					
Near/Far Lane Distance: 50 feet		VehicleType	Day	Evening	Night	Daily	
Site Data		Autos: 77.5% 12.9% 9.6% 97.42%					
Barrier Height: 0.0 feet		Medium Trucks: 84.8% 4.9% 10.3% 1.84%					
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks: 86.5% 2.7% 10.8% 0.74%					
Centerline Dist. to Barrier: 59.0 feet		Noise Source Elevations (in feet)					
Centerline Dist. to Observer: 59.0 feet		Autos: 0.000					
Barrier Distance to Observer: 0.0 feet		Medium Trucks: 2.297					
Observer Height (Above Pad): 5.0 feet		Heavy Trucks: 8.006 Grade Adjustment: 0.0					
Pad Elevation: 0.0 feet		Lane Equivalent Distance (in feet)					
Road Elevation: 0.0 feet		Autos: 53.675					
Road Grade: 0.0%		Medium Trucks: 53.510					
Left View: -90.0 degrees		Heavy Trucks: 53.526					
Right View: 90.0 degrees							

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-0.74	-0.57	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-17.98	-0.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-21.93	-0.55	-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:	67.7	65.8	64.0	58.0	66.6	67.2
Medium Trucks:	61.3	59.8	53.4	51.9	60.3	60.6
Heavy Trucks:	61.7	60.3	51.2	52.5	60.8	61.0
Vehicle Noise:	69.4	67.6	64.6	59.8	68.4	68.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	46	99	213	459
CNEL:	49	106	229	493

Tuesday, November 29, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Phase 2 + P
 Road Name: Bellegrave Ave.
 Road Segment: e/o Pats Ranch Rd.

Project Name: Vernola Ranch Specific PI
 Job Number: 14368

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 14,685 vehicles		Autos: 15					
Peak Hour Percentage: 10.00%		Medium Trucks (2 Axles): 15					
Peak Hour Volume: 1,469 vehicles		Heavy Trucks (3+ Axles): 15					
Vehicle Speed: 50 mph		Vehicle Mix					
Near/Far Lane Distance: 50 feet		VehicleType	Day	Evening	Night	Daily	
Site Data		Autos: 77.5% 12.9% 9.6% 97.42%					
Barrier Height: 0.0 feet		Medium Trucks: 84.8% 4.9% 10.3% 1.84%					
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks: 86.5% 2.7% 10.8% 0.74%					
Centerline Dist. to Barrier: 59.0 feet		Noise Source Elevations (in feet)					
Centerline Dist. to Observer: 59.0 feet		Autos: 0.000					
Barrier Distance to Observer: 0.0 feet		Medium Trucks: 2.297					
Observer Height (Above Pad): 5.0 feet		Heavy Trucks: 8.006 Grade Adjustment: 0.0					
Pad Elevation: 0.0 feet		Lane Equivalent Distance (in feet)					
Road Elevation: 0.0 feet		Autos: 53.675					
Road Grade: 0.0%		Medium Trucks: 53.510					
Left View: -90.0 degrees		Heavy Trucks: 53.526					
Right View: 90.0 degrees							

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-0.74	-0.57	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-17.98	-0.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-21.93	-0.55	-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:	67.7	65.8	64.0	58.0	66.6	67.2
Medium Trucks:	61.3	59.8	53.4	51.9	60.3	60.6
Heavy Trucks:	61.7	60.3	51.2	52.5	60.8	61.0
Vehicle Noise:	69.4	67.6	64.6	59.8	68.4	68.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	46	99	213	459
CNEL:	49	106	229	493

Tuesday, November 29, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Phase 2 + P
Road Name: Bellegrave Ave.
Road Segment: e/o Wineville Ave.

Project Name: Vernola Ranch Specific PI
Job Number: 14368

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 13,434 vehicles		Autos: 15					
Peak Hour Percentage: 10.00%		Medium Trucks (2 Axles): 15					
Peak Hour Volume: 1,343 vehicles		Heavy Trucks (3+ Axles): 15					
Vehicle Speed: 50 mph		Vehicle Mix					
Near/Far Lane Distance: 50 feet							
Site Data		VehicleType	Day	Evening	Night	Daily	
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		Autos:	77.5%	12.9%	9.6%	97.42%	
		Medium Trucks:	84.8%	4.9%	10.3%	1.84%	
		Heavy Trucks:	86.5%	2.7%	10.8%	0.74%	
		Noise Source Elevations (in feet)					
		Autos:	0.000				
		Medium Trucks:	2.297				
		Heavy Trucks:	8.006	Grade Adjustment: 0.0			
		Lane Equivalent Distance (in feet)					
		Autos:	53.675				
		Medium Trucks:	53.510				
		Heavy Trucks:	53.526				

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.13	-0.57	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-18.36	-0.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-22.32	-0.55	-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:	67.3	65.4	63.6	57.6	66.2	66.8
Medium Trucks:	60.9	59.4	53.0	51.5	59.9	60.2
Heavy Trucks:	61.3	59.9	50.9	52.1	60.5	60.6
Vehicle Noise:	69.0	67.3	64.2	59.4	68.0	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	43	93	201	433
CNEL:	46	100	216	465

Tuesday, November 29, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Phase 2 + P
 Road Name: Wineville Ave.
 Road Segment: n/o Bellegrave Ave.

Project Name: Vernola Ranch Specific PI
 Job Number: 14368

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt):	8,027 vehicles	Autos: 15					
Peak Hour Percentage:	10.00%	Medium Trucks (2 Axles): 15					
Peak Hour Volume:	803 vehicles	Heavy Trucks (3+ Axles): 15					
Vehicle Speed:	45 mph	Vehicle Mix					
Near/Far Lane Distance:	50 feet						
Site Data		VehicleType	Day	Evening	Night	Daily	
		Autos: 77.5% 12.9% 9.6% 97.42%					
		Medium Trucks: 84.8% 4.9% 10.3% 1.84%					
		Heavy Trucks: 86.5% 2.7% 10.8% 0.74%					
		Noise Source Elevations (in feet)					
		Autos: 0.000					
		Medium Trucks: 2.297					
		Heavy Trucks: 8.006 Grade Adjustment: 0.0					
		Lane Equivalent Distance (in feet)					
		Autos: 53.675					
		Medium Trucks: 53.510					
		Heavy Trucks: 53.526					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-2.91	-0.57	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-20.14	-0.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-24.10	-0.55	-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:	63.8	61.9	60.1	54.1	62.7	63.3
Medium Trucks:	57.6	56.1	49.7	48.1	56.6	56.8
Heavy Trucks:	58.4	57.0	47.9	49.2	57.6	57.7
Vehicle Noise:	65.6	63.9	60.7	56.1	64.6	65.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	26	56	120	258
CNEL:	28	60	128	276

Tuesday, November 29, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Phase 2 + P
 Road Name: Wineville Ave.
 Road Segment: s/o Bellegrave Ave.

Project Name: Vernola Ranch Specific PI
 Job Number: 14368

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 11,875 vehicles		Autos: 15				
Peak Hour Percentage: 10.00%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 1,188 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 45 mph		Vehicle Mix				
Near/Far Lane Distance: 50 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos: 77.5% 12.9% 9.6% 97.42%				
Barrier Height: 0.0 feet		Medium Trucks: 84.8% 4.9% 10.3% 1.84%				
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks: 86.5% 2.7% 10.8% 0.74%				
Centerline Dist. to Barrier: 59.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 59.0 feet		Autos: 0.000				
Barrier Distance to Observer: 0.0 feet		Medium Trucks: 2.297				
Observer Height (Above Pad): 5.0 feet		Heavy Trucks: 8.006 Grade Adjustment: 0.0				
Pad Elevation: 0.0 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet		Autos: 53.675				
Road Grade: 0.0%		Medium Trucks: 53.510				
Left View: -90.0 degrees		Heavy Trucks: 53.526				
Right View: 90.0 degrees						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-1.20	-0.57	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-18.44	-0.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-22.40	-0.55	-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:	65.5	63.6	61.8	55.8	64.4	65.0
Medium Trucks:	59.3	57.8	51.4	49.8	58.3	58.5
Heavy Trucks:	60.1	58.7	49.6	50.9	59.3	59.4
Vehicle Noise:	67.3	65.6	62.4	57.8	66.3	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	33	72	155	335
CNEL:	36	77	167	359

Tuesday, November 29, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Phase 2 + P
 Road Name: Limonite Ave
 Road Segment: e/o Pats Ranch Rd.

Project Name: Vernola Ranch Specific PI
 Job Number: 14368

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 35,837 vehicles		Autos: 15					
Peak Hour Percentage: 10.00%		Medium Trucks (2 Axles): 15					
Peak Hour Volume: 3,584 vehicles		Heavy Trucks (3+ Axles): 15					
Vehicle Speed: 50 mph		Vehicle Mix					
Near/Far Lane Distance: 86 feet		VehicleType	Day	Evening	Night	Daily	
Site Data		Autos: 77.5% 12.9% 9.6% 97.42%					
Barrier Height: 0.0 feet		Medium Trucks: 84.8% 4.9% 10.3% 1.84%					
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks: 86.5% 2.7% 10.8% 0.74%					
Centerline Dist. to Barrier: 81.0 feet		Noise Source Elevations (in feet)					
Centerline Dist. to Observer: 81.0 feet		Autos: 0.000					
Barrier Distance to Observer: 0.0 feet		Medium Trucks: 2.297					
Observer Height (Above Pad): 5.0 feet		Heavy Trucks: 8.006 Grade Adjustment: 0.0					
Pad Elevation: 0.0 feet		Lane Equivalent Distance (in feet)					
Road Elevation: 0.0 feet		Autos: 68.826					
Road Grade: 0.0%		Medium Trucks: 68.697					
Left View: -90.0 degrees		Heavy Trucks: 68.710					
Right View: 90.0 degrees							

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	3.13	-2.19	-1.20	-4.74	0.000	0.000
Medium Trucks:	81.00	-14.10	-2.17	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-18.06	-2.17	-1.20	-5.22	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:	70.0	68.1	66.3	60.2	68.9	69.5
Medium Trucks:	63.5	62.0	55.7	54.1	62.6	62.8
Heavy Trucks:	63.9	62.5	53.5	54.7	63.1	63.2
Vehicle Noise:	71.7	69.9	66.9	62.1	70.6	71.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	89	192	413	891
CNEL:	96	206	444	957

Tuesday, November 29, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Phase 2 + P
 Road Name: Pats Ranch Rd.
 Road Segment: n/o Boca PI

Project Name: Vernola Ranch Specific PI
 Job Number: 14368

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt):	7,307 vehicles	Autos: 15					
Peak Hour Percentage:	10.00%	Medium Trucks (2 Axles): 15					
Peak Hour Volume:	731 vehicles	Heavy Trucks (3+ Axles): 15					
Vehicle Speed:	40 mph	Vehicle Mix					
Near/Far Lane Distance:	21 feet						
Site Data		VehicleType	Day	Evening	Night	Daily	
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		Autos:	77.5%	12.9%	9.6%	97.42%	
		Medium Trucks:	84.8%	4.9%	10.3%	1.84%	
		Heavy Trucks:	86.5%	2.7%	10.8%	0.74%	
		Noise Source Elevations (in feet)					
		Autos:	0.000				
		Medium Trucks:	2.297				
		Heavy Trucks:	8.006	Grade Adjustment: 0.0			
		Lane Equivalent Distance (in feet)					
		Autos:	35.829				
		Medium Trucks:	35.582				
		Heavy Trucks:	35.606				

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-2.80	2.07	-1.20	-4.56	0.000	0.000
Medium Trucks:	77.72	-20.04	2.11	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-24.00	2.11	-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:	64.6	62.7	60.9	54.9	63.5	64.1
Medium Trucks:	58.6	57.1	50.7	49.2	57.6	57.9
Heavy Trucks:	59.9	58.5	49.4	50.7	59.1	59.2
Vehicle Noise:	66.6	64.9	61.6	57.0	65.6	66.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	19	40	87	188
CNEL:	20	43	93	201

Tuesday, November 29, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Phase 2 + P
 Road Name: Pats Ranch Rd.
 Road Segment: s/o Boca Pl

Project Name: Vernola Ranch Specific PI
 Job Number: 14368

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 11,875 vehicles		Autos: 15					
Peak Hour Percentage: 10.00%		Medium Trucks (2 Axles): 15					
Peak Hour Volume: 1,188 vehicles		Heavy Trucks (3+ Axles): 15					
Vehicle Speed: 40 mph		Vehicle Mix					
Near/Far Lane Distance: 50 feet		VehicleType	Day	Evening	Night	Daily	
Site Data		Autos: 77.5% 12.9% 9.6% 97.42%					
Barrier Height: 0.0 feet		Medium Trucks: 84.8% 4.9% 10.3% 1.84%					
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks: 86.5% 2.7% 10.8% 0.74%					
Centerline Dist. to Barrier: 59.0 feet		Noise Source Elevations (in feet)					
Centerline Dist. to Observer: 59.0 feet		Autos: 0.000					
Barrier Distance to Observer: 0.0 feet		Medium Trucks: 2.297					
Observer Height (Above Pad): 5.0 feet		Heavy Trucks: 8.006 Grade Adjustment: 0.0					
Pad Elevation: 0.0 feet		Lane Equivalent Distance (in feet)					
Road Elevation: 0.0 feet		Autos: 53.675					
Road Grade: 0.0%		Medium Trucks: 53.510					
Left View: -90.0 degrees		Heavy Trucks: 53.526					
Right View: 90.0 degrees							

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-0.69	-0.57	-1.20	-4.69	0.000	0.000
Medium Trucks:	77.72	-17.93	-0.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-21.89	-0.55	-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:	64.1	62.2	60.4	54.3	63.0	63.6
Medium Trucks:	58.0	56.5	50.2	48.6	57.1	57.3
Heavy Trucks:	59.4	57.9	48.9	50.2	58.5	58.6
Vehicle Noise:	66.1	64.3	61.1	56.5	65.0	65.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	28	59	128	276
CNEL:	30	64	137	295

Tuesday, November 29, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Phase 3
 Road Name: Bellegrave Ave.
 Road Segment: w/o Pats Ranch Rd.

Project Name: Vernola Ranch Specific PI
 Job Number: 14368

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 13,600 vehicles		Autos: 15					
Peak Hour Percentage: 10.00%		Medium Trucks (2 Axles): 15					
Peak Hour Volume: 1,360 vehicles		Heavy Trucks (3+ Axles): 15					
Vehicle Speed: 50 mph		Vehicle Mix					
Near/Far Lane Distance: 50 feet							
Site Data		VehicleType	Day	Evening	Night	Daily	
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		Autos: 77.5%		12.9%	9.6%	97.42%	
		Medium Trucks: 84.8%		4.9%	10.3%	1.84%	
		Heavy Trucks: 86.5%		2.7%	10.8%	0.74%	
		Noise Source Elevations (in feet)					
		Autos: 0.000					
		Medium Trucks: 2.297					
		Heavy Trucks: 8.006		Grade Adjustment: 0.0			
		Lane Equivalent Distance (in feet)					
		Autos: 53.675					
		Medium Trucks: 53.510					
Heavy Trucks: 53.526							

FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.07	-0.57	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-18.31	-0.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-22.27	-0.55	-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:	67.4	65.5	63.7	57.6	66.3	66.9
Medium Trucks:	60.9	59.4	53.1	51.5	60.0	60.2
Heavy Trucks:	61.4	59.9	50.9	52.2	60.5	60.6
Vehicle Noise:	69.1	67.3	64.3	59.5	68.0	68.5

Centerline Distance to Noise Contour (in feet)				
	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	44	94	202	436
CNEL:	47	101	218	469

Tuesday, November 29, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Phase 3
 Road Name: Bellegrave Ave.
 Road Segment: e/o Pats Ranch Rd.

Project Name: Vernola Ranch Specific PI
 Job Number: 14368

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 13,600 vehicles		Autos: 15					
Peak Hour Percentage: 10.00%		Medium Trucks (2 Axles): 15					
Peak Hour Volume: 1,360 vehicles		Heavy Trucks (3+ Axles): 15					
Vehicle Speed: 50 mph		Vehicle Mix					
Near/Far Lane Distance: 50 feet		VehicleType	Day	Evening	Night	Daily	
Site Data		Autos: 77.5% 12.9% 9.6% 97.42%					
Barrier Height: 0.0 feet		Medium Trucks: 84.8% 4.9% 10.3% 1.84%					
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks: 86.5% 2.7% 10.8% 0.74%					
Centerline Dist. to Barrier: 59.0 feet		Noise Source Elevations (in feet)					
Centerline Dist. to Observer: 59.0 feet		Autos: 0.000					
Barrier Distance to Observer: 0.0 feet		Medium Trucks: 2.297					
Observer Height (Above Pad): 5.0 feet		Heavy Trucks: 8.006 Grade Adjustment: 0.0					
Pad Elevation: 0.0 feet		Lane Equivalent Distance (in feet)					
Road Elevation: 0.0 feet		Autos: 53.675					
Road Grade: 0.0%		Medium Trucks: 53.510					
Left View: -90.0 degrees		Heavy Trucks: 53.526					
Right View: 90.0 degrees							

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.07	-0.57	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-18.31	-0.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-22.27	-0.55	-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:	67.4	65.5	63.7	57.6	66.3	66.9
Medium Trucks:	60.9	59.4	53.1	51.5	60.0	60.2
Heavy Trucks:	61.4	59.9	50.9	52.2	60.5	60.6
Vehicle Noise:	69.1	67.3	64.3	59.5	68.0	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	44	94	202	436
CNEL:	47	101	218	469

Tuesday, November 29, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Phase 3
 Road Name: Bellegrave Ave.
 Road Segment: e/o Wineville Ave.

Project Name: Vernola Ranch Specific PI
 Job Number: 14368

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt):	12,069 vehicles	Autos:		15			
Peak Hour Percentage:	10.00%	Medium Trucks (2 Axles):		15			
Peak Hour Volume:	1,207 vehicles	Heavy Trucks (3+ Axles):		15			
Vehicle Speed:	50 mph	Vehicle Mix					
Near/Far Lane Distance:	50 feet						
Site Data		VehicleType	Day	Evening	Night	Daily	
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		Autos:		77.5%	12.9%	9.6% 97.42%	
		Medium Trucks:		84.8%	4.9%	10.3% 1.84%	
		Heavy Trucks:		86.5%	2.7%	10.8% 0.74%	
		Noise Source Elevations (in feet)					
		Autos:		0.000			
		Medium Trucks:		2.297			
		Heavy Trucks:		8.006	Grade Adjustment: 0.0		
		Lane Equivalent Distance (in feet)					
		Autos:		53.675			
		Medium Trucks:		53.510			
Heavy Trucks:		53.526					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.59	-0.57	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-18.83	-0.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-22.79	-0.55	-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:	66.8	64.9	63.2	57.1	65.7	66.4
Medium Trucks:	60.4	58.9	52.6	51.0	59.5	59.7
Heavy Trucks:	60.8	59.4	50.4	51.6	60.0	60.1
Vehicle Noise:	68.5	66.8	63.7	59.0	67.5	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	40	87	187	403
CNEL:	43	93	201	433

Tuesday, November 29, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Phase 3
 Road Name: Wineville Ave.
 Road Segment: n/o Bellegrave Ave.

Project Name: Vernola Ranch Specific PI
 Job Number: 14368

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt):	7,452 vehicles	Autos: 15					
Peak Hour Percentage:	10.00%	Medium Trucks (2 Axles): 15					
Peak Hour Volume:	745 vehicles	Heavy Trucks (3+ Axles): 15					
Vehicle Speed:	45 mph	Vehicle Mix					
Near/Far Lane Distance:	50 feet						
Site Data		VehicleType	Day	Evening	Night	Daily	
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		Autos:	77.5%	12.9%	9.6%	97.42%	
		Medium Trucks:	84.8%	4.9%	10.3%	1.84%	
		Heavy Trucks:	86.5%	2.7%	10.8%	0.74%	
		Noise Source Elevations (in feet)					
		Autos:	0.000				
		Medium Trucks:	2.297				
		Heavy Trucks:	8.006	Grade Adjustment: 0.0			
		Lane Equivalent Distance (in feet)					
		Autos:	53.675				
		Medium Trucks:	53.510				
Heavy Trucks:	53.526						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-3.23	-0.57	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-20.47	-0.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-24.42	-0.55	-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:	63.5	61.6	59.8	53.7	62.4	63.0
Medium Trucks:	57.2	55.7	49.4	47.8	56.3	56.5
Heavy Trucks:	58.1	56.7	47.6	48.9	57.2	57.4
Vehicle Noise:	65.3	63.6	60.4	55.7	64.3	64.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	25	53	114	245
CNEL:	26	57	122	263

Tuesday, November 29, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Phase 3
 Road Name: Wineville Ave.
 Road Segment: s/o Bellegrave Ave.

Project Name: Vernola Ranch Specific PI
 Job Number: 14368

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt):	9,428 vehicles	Autos: 15					
Peak Hour Percentage:	10.00%	Medium Trucks (2 Axles): 15					
Peak Hour Volume:	943 vehicles	Heavy Trucks (3+ Axles): 15					
Vehicle Speed:	45 mph	Vehicle Mix					
Near/Far Lane Distance:	50 feet						
Site Data		VehicleType	Day	Evening	Night	Daily	
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		Autos: 77.5% 12.9% 9.6% 97.42%					
		Medium Trucks: 84.8% 4.9% 10.3% 1.84%					
		Heavy Trucks: 86.5% 2.7% 10.8% 0.74%					
		Noise Source Elevations (in feet)					
		Autos: 0.000					
		Medium Trucks: 2.297					
		Heavy Trucks: 8.006 Grade Adjustment: 0.0					
		Lane Equivalent Distance (in feet)					
		Autos: 53.675					
		Medium Trucks: 53.510					
		Heavy Trucks: 53.526					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-2.21	-0.57	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-19.45	-0.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-23.40	-0.55	-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:	64.5	62.6	60.8	54.8	63.4	64.0
Medium Trucks:	58.3	56.8	50.4	48.8	57.3	57.5
Heavy Trucks:	59.1	57.7	48.6	49.9	58.3	58.4
Vehicle Noise:	66.3	64.6	61.4	56.8	65.3	65.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	29	62	133	287
CNEL:	31	66	143	308

Tuesday, November 29, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Phase 3
 Road Name: Limonite Ave
 Road Segment: e/o Pats Ranch Rd.

Project Name: Vernola Ranch Specific PI
 Job Number: 14368

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 35,370 vehicles		Autos: 15					
Peak Hour Percentage: 10.00%		Medium Trucks (2 Axles): 15					
Peak Hour Volume: 3,537 vehicles		Heavy Trucks (3+ Axles): 15					
Vehicle Speed: 50 mph		Vehicle Mix					
Near/Far Lane Distance: 86 feet							
Site Data		VehicleType	Day	Evening	Night	Daily	
Barrier Height: 0.0 feet		Autos:	77.5%	12.9%	9.6%	97.42%	
Barrier Type (0-Wall, 1-Berm): 0.0		Medium Trucks:	84.8%	4.9%	10.3%	1.84%	
Centerline Dist. to Barrier: 81.0 feet		Heavy Trucks:	86.5%	2.7%	10.8%	0.74%	
Centerline Dist. to Observer: 81.0 feet		Noise Source Elevations (in feet)					
Barrier Distance to Observer: 0.0 feet		Autos:	0.000				
Observer Height (Above Pad): 5.0 feet		Medium Trucks:	2.297				
Pad Elevation: 0.0 feet		Heavy Trucks:	8.006	Grade Adjustment:	0.0		
Road Elevation: 0.0 feet		Lane Equivalent Distance (in feet)					
Road Grade: 0.0%		Autos:	68.826				
Left View: -90.0 degrees		Medium Trucks:	68.697				
Right View: 90.0 degrees		Heavy Trucks:	68.710				

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	3.08	-2.19	-1.20	-4.74	0.000	0.000
Medium Trucks:	81.00	-14.16	-2.17	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-18.12	-2.17	-1.20	-5.22	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:	69.9	68.0	66.2	60.2	68.8	69.4
Medium Trucks:	63.5	62.0	55.6	54.1	62.5	62.7
Heavy Trucks:	63.9	62.5	53.4	54.7	63.0	63.2
Vehicle Noise:	71.6	69.8	66.8	62.0	70.6	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	88	190	410	883
CNEL:	95	204	440	949

Tuesday, November 29, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Phase 3
Road Name: Pats Ranch Rd.
Road Segment: n/o Boca Pl

Project Name: Vernola Ranch Specific PI
Job Number: 14368

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS						
Highway Data		Site Conditions (Hard = 10, Soft = 15)						
Average Daily Traffic (Adt):	1,232 vehicles	Autos:		15				
Peak Hour Percentage:	10.00%	Medium Trucks (2 Axles):		15				
Peak Hour Volume:	123 vehicles	Heavy Trucks (3+ Axles):		15				
Vehicle Speed:	40 mph	Vehicle Mix						
Near/Far Lane Distance:	21 feet	VehicleType	Day	Evening	Night	Daily		
Site Data		Autos:		77.5%	12.9%	9.6%	97.42%	
Barrier Height:	0.0 feet	Medium Trucks:		84.8%	4.9%	10.3%	1.84%	
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:		86.5%	2.7%	10.8%	0.74%	
Centerline Dist. to Barrier:	37.0 feet	Noise Source Elevations (in feet)						
Centerline Dist. to Observer:	37.0 feet	Autos:		0.000				
Barrier Distance to Observer:	0.0 feet	Medium Trucks:		2.297				
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:		8.006	Grade Adjustment:		0.0	
Pad Elevation:	0.0 feet	Lane Equivalent Distance (in feet)						
Road Elevation:	0.0 feet	Autos:		35.829				
Road Grade:	0.0%	Medium Trucks:		35.582				
Left View:	-90.0 degrees	Heavy Trucks:		35.606				
Right View:	90.0 degrees							

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-10.53	2.07	-1.20	-4.56	0.000	0.000
Medium Trucks:	77.72	-27.77	2.11	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-31.73	2.11	-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:	56.8	54.9	53.2	47.1	55.7	56.4
Medium Trucks:	50.9	49.3	43.0	41.4	49.9	50.1
Heavy Trucks:	52.2	50.8	41.7	43.0	51.3	51.4
Vehicle Noise:	58.9	57.1	53.9	49.3	57.8	58.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	6	12	27	57
CNEL:	6	13	28	61

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Phase 3
Road Name: Pats Ranch Rd.
Road Segment: s/o Boca Pl

Project Name: Vernola Ranch Specific PI
Job Number: 14368

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt):	3,209 vehicles	Autos: 15					
Peak Hour Percentage:	10.00%	Medium Trucks (2 Axles): 15					
Peak Hour Volume:	321 vehicles	Heavy Trucks (3+ Axles): 15					
Vehicle Speed:	40 mph	Vehicle Mix					
Near/Far Lane Distance:	50 feet						
Site Data		VehicleType	Day	Evening	Night	Daily	
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		Autos: 77.5% 12.9% 9.6% 97.42%					
		Medium Trucks: 84.8% 4.9% 10.3% 1.84%					
		Heavy Trucks: 86.5% 2.7% 10.8% 0.74%					
		Noise Source Elevations (in feet)					
		Autos: 0.000					
		Medium Trucks: 2.297					
		Heavy Trucks: 8.006 Grade Adjustment: 0.0					
		Lane Equivalent Distance (in feet)					
		Autos: 53.675					
		Medium Trucks: 53.510					
Heavy Trucks: 53.526							

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-6.38	-0.57	-1.20	-4.69	0.000	0.000
Medium Trucks:	77.72	-23.61	-0.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-27.57	-0.55	-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:	58.4	56.5	54.7	48.7	57.3	57.9
Medium Trucks:	52.4	50.8	44.5	42.9	51.4	51.6
Heavy Trucks:	53.7	52.3	43.2	44.5	52.8	53.0
Vehicle Noise:	60.4	58.7	55.4	50.8	59.4	59.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	12	25	53	115
CNEL:	12	27	57	123

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Phase 3 + P
 Road Name: Bellegrave Ave.
 Road Segment: w/o Pats Ranch Rd.

Project Name: Vernola Ranch Specific PI
 Job Number: 14368

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 15,226 vehicles		Autos: 15					
Peak Hour Percentage: 10.00%		Medium Trucks (2 Axles): 15					
Peak Hour Volume: 1,523 vehicles		Heavy Trucks (3+ Axles): 15					
Vehicle Speed: 50 mph		Vehicle Mix					
Near/Far Lane Distance: 50 feet							
Site Data		VehicleType	Day	Evening	Night	Daily	
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		Autos:	77.5%	12.9%	9.6%	97.42%	
		Medium Trucks:	84.8%	4.9%	10.3%	1.84%	
		Heavy Trucks:	86.5%	2.7%	10.8%	0.74%	
		Noise Source Elevations (in feet)					
		Autos:	0.000				
		Medium Trucks:	2.297				
		Heavy Trucks:	8.006	Grade Adjustment: 0.0			
		Lane Equivalent Distance (in feet)					
		Autos:	53.675				
		Medium Trucks:	53.510				
		Heavy Trucks:	53.526				

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-0.58	-0.57	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-17.82	-0.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-21.78	-0.55	-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:	67.9	66.0	64.2	58.1	66.8	67.4
Medium Trucks:	61.4	59.9	53.6	52.0	60.5	60.7
Heavy Trucks:	61.9	60.4	51.4	52.6	61.0	61.1
Vehicle Noise:	69.6	67.8	64.8	60.0	68.5	69.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	47	101	218	470
CNEL:	51	109	235	505

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Phase 3 + P
 Road Name: Bellegrave Ave.
 Road Segment: e/o Pats Ranch Rd.

Project Name: Vernola Ranch Specific PI
 Job Number: 14368

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 15,764 vehicles		Autos: 15					
Peak Hour Percentage: 10.00%		Medium Trucks (2 Axles): 15					
Peak Hour Volume: 1,576 vehicles		Heavy Trucks (3+ Axles): 15					
Vehicle Speed: 50 mph		Vehicle Mix					
Near/Far Lane Distance: 50 feet							
Site Data		VehicleType	Day	Evening	Night	Daily	
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		Autos:	77.5%	12.9%	9.6%	97.42%	
		Medium Trucks:	84.8%	4.9%	10.3%	1.84%	
		Heavy Trucks:	86.5%	2.7%	10.8%	0.74%	
		Noise Source Elevations (in feet)					
		Autos:	0.000				
		Medium Trucks:	2.297				
		Heavy Trucks:	8.006	Grade Adjustment: 0.0			
		Lane Equivalent Distance (in feet)					
		Autos:	53.675				
		Medium Trucks:	53.510				
Heavy Trucks:	53.526						

FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-0.43	-0.57	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-17.67	-0.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-21.63	-0.55	-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:	68.0	66.1	64.3	58.3	66.9	67.5
Medium Trucks:	61.6	60.1	53.7	52.2	60.6	60.9
Heavy Trucks:	62.0	60.6	51.5	52.8	61.2	61.3
Vehicle Noise:	69.7	68.0	64.9	60.1	68.7	69.1

Centerline Distance to Noise Contour (in feet)				
	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	48	104	223	481
CNEL:	52	111	240	517

Tuesday, November 29, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Phase 3 + P
Road Name: Bellegrave Ave.
Road Segment: e/o Wineville Ave.

Project Name: Vernola Ranch Specific PI
Job Number: 14368

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt):	13,567 vehicles	Autos:		15			
Peak Hour Percentage:	10.00%	Medium Trucks (2 Axles):		15			
Peak Hour Volume:	1,357 vehicles	Heavy Trucks (3+ Axles):		15			
Vehicle Speed:	50 mph	Vehicle Mix					
Near/Far Lane Distance:	50 feet						
Site Data		VehicleType	Day	Evening	Night	Daily	
Barrier Height:	0.0 feet	Autos:	77.5%	12.9%	9.6%	97.42%	
Barrier Type (0-Wall, 1-Berm):	0.0	Medium Trucks:	84.8%	4.9%	10.3%	1.84%	
Centerline Dist. to Barrier:	59.0 feet	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%	
Centerline Dist. to Observer:	59.0 feet	Noise Source Elevations (in feet)					
Barrier Distance to Observer:	0.0 feet	Autos:	0.000				
Observer Height (Above Pad):	5.0 feet	Medium Trucks:	2.297				
Pad Elevation:	0.0 feet	Heavy Trucks:	8.006	Grade Adjustment: 0.0			
Road Elevation:	0.0 feet	Lane Equivalent Distance (in feet)					
Road Grade:	0.0%	Autos:	53.675				
Left View:	-90.0 degrees	Medium Trucks:	53.510				
Right View:	90.0 degrees	Heavy Trucks:	53.526				

FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.08	-0.57	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-18.32	-0.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-22.28	-0.55	-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:	67.4	65.5	63.7	57.6	66.3	66.9
Medium Trucks:	60.9	59.4	53.1	51.5	60.0	60.2
Heavy Trucks:	61.4	59.9	50.9	52.1	60.5	60.6
Vehicle Noise:	69.1	67.3	64.3	59.5	68.0	68.5

Centerline Distance to Noise Contour (in feet)				
	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	44	94	202	435
CNEL:	47	101	217	468

Tuesday, November 29, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Phase 3 + P
 Road Name: Wineville Ave.
 Road Segment: n/o Bellegrave Ave.

Project Name: Vernola Ranch Specific PI
 Job Number: 14368

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS						
Highway Data		Site Conditions (Hard = 10, Soft = 15)						
Average Daily Traffic (Adt):	8,119 vehicles	Autos:		15				
Peak Hour Percentage:	10.00%	Medium Trucks (2 Axles):		15				
Peak Hour Volume:	812 vehicles	Heavy Trucks (3+ Axles):		15				
Vehicle Speed:	45 mph	Vehicle Mix						
Near/Far Lane Distance:	50 feet	VehicleType	Day	Evening	Night	Daily		
Site Data		Autos:		77.5%	12.9%	9.6%	97.42%	
Barrier Height:	0.0 feet	Medium Trucks:		84.8%	4.9%	10.3%	1.84%	
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:		86.5%	2.7%	10.8%	0.74%	
Centerline Dist. to Barrier:	59.0 feet	Noise Source Elevations (in feet)						
Centerline Dist. to Observer:	59.0 feet	Autos:		0.000				
Barrier Distance to Observer:	0.0 feet	Medium Trucks:		2.297				
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:		8.006	Grade Adjustment:		0.0	
Pad Elevation:	0.0 feet	Lane Equivalent Distance (in feet)						
Road Elevation:	0.0 feet	Autos:		53.675				
Road Grade:	0.0%	Medium Trucks:		53.510				
Left View:	-90.0 degrees	Heavy Trucks:		53.526				
Right View:	90.0 degrees							

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-2.86	-0.57	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-20.09	-0.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-24.05	-0.55	-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:	63.8	61.9	60.2	54.1	62.7	63.3
Medium Trucks:	57.6	56.1	49.7	48.2	56.7	56.9
Heavy Trucks:	58.5	57.0	48.0	49.2	57.6	57.7
Vehicle Noise:	65.7	63.9	60.8	56.1	64.7	65.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	26	56	121	260
CNEL:	28	60	129	278

Tuesday, November 29, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Phase 3 + P
Road Name: Wineville Ave.
Road Segment: s/o Bellegrave Ave.

Project Name: Vernola Ranch Specific PI
Job Number: 14368

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt):	9,428 vehicles	Autos: 15					
Peak Hour Percentage:	10.00%	Medium Trucks (2 Axles): 15					
Peak Hour Volume:	943 vehicles	Heavy Trucks (3+ Axles): 15					
Vehicle Speed:	45 mph	Vehicle Mix					
Near/Far Lane Distance:	50 feet						
Site Data		VehicleType	Day	Evening	Night	Daily	
		Autos: 77.5% 12.9% 9.6% 97.42%					
		Medium Trucks: 84.8% 4.9% 10.3% 1.84%					
		Heavy Trucks: 86.5% 2.7% 10.8% 0.74%					
		Noise Source Elevations (in feet)					
		Autos: 0.000					
		Medium Trucks: 2.297					
		Heavy Trucks: 8.006 Grade Adjustment: 0.0					
		Lane Equivalent Distance (in feet)					
		Autos: 53.675					
Medium Trucks: 53.510							
Heavy Trucks: 53.526							

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-2.21	-0.57	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-19.45	-0.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-23.40	-0.55	-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:	64.5	62.6	60.8	54.8	63.4	64.0
Medium Trucks:	58.3	56.8	50.4	48.8	57.3	57.5
Heavy Trucks:	59.1	57.7	48.6	49.9	58.3	58.4
Vehicle Noise:	66.3	64.6	61.4	56.8	65.3	65.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	29	62	133	287
CNEL:	31	66	143	308

Tuesday, November 29, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Phase 3 + P
 Road Name: Limonite Ave
 Road Segment: e/o Pats Ranch Rd.

Project Name: Vernola Ranch Specific PI
 Job Number: 14368

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 35,964 vehicles		Autos: 15					
Peak Hour Percentage: 10.00%		Medium Trucks (2 Axles): 15					
Peak Hour Volume: 3,596 vehicles		Heavy Trucks (3+ Axles): 15					
Vehicle Speed: 50 mph		Vehicle Mix					
Near/Far Lane Distance: 86 feet		VehicleType	Day	Evening	Night	Daily	
Site Data		Autos: 77.5% 12.9% 9.6% 97.42%					
Barrier Height: 0.0 feet		Medium Trucks: 84.8% 4.9% 10.3% 1.84%					
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks: 86.5% 2.7% 10.8% 0.74%					
Centerline Dist. to Barrier: 81.0 feet		Noise Source Elevations (in feet)					
Centerline Dist. to Observer: 81.0 feet		Autos: 0.000					
Barrier Distance to Observer: 0.0 feet		Medium Trucks: 2.297					
Observer Height (Above Pad): 5.0 feet		Heavy Trucks: 8.006 Grade Adjustment: 0.0					
Pad Elevation: 0.0 feet		Lane Equivalent Distance (in feet)					
Road Elevation: 0.0 feet		Autos: 68.826					
Road Grade: 0.0%		Medium Trucks: 68.697					
Left View: -90.0 degrees		Heavy Trucks: 68.710					
Right View: 90.0 degrees							

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	3.15	-2.19	-1.20	-4.74	0.000	0.000
Medium Trucks:	81.00	-14.09	-2.17	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-18.04	-2.17	-1.20	-5.22	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:	70.0	68.1	66.3	60.2	68.9	69.5
Medium Trucks:	63.5	62.0	55.7	54.1	62.6	62.8
Heavy Trucks:	64.0	62.5	53.5	54.8	63.1	63.2
Vehicle Noise:	71.7	69.9	66.9	62.1	70.6	71.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	89	192	414	893
CNEL:	96	207	445	959

Tuesday, November 29, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Phase 3 + P
Road Name: Pats Ranch Rd.
Road Segment: n/o Boca Pl

Project Name: Vernola Ranch Specific PI
Job Number: 14368

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS						
Highway Data		Site Conditions (Hard = 10, Soft = 15)						
Average Daily Traffic (Adt):	8,672 vehicles	Autos:		15				
Peak Hour Percentage:	10.00%	Medium Trucks (2 Axles):		15				
Peak Hour Volume:	867 vehicles	Heavy Trucks (3+ Axles):		15				
Vehicle Speed:	40 mph	Vehicle Mix						
Near/Far Lane Distance:	21 feet							VehicleType
Site Data		Autos:		77.5%	12.9%	9.6%	97.42%	
Barrier Height:	0.0 feet	Medium Trucks:		84.8%	4.9%	10.3%	1.84%	
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:		86.5%	2.7%	10.8%	0.74%	
Centerline Dist. to Barrier:	37.0 feet	Noise Source Elevations (in feet)						
Centerline Dist. to Observer:	37.0 feet							Autos:
Barrier Distance to Observer:	0.0 feet	Medium Trucks:		2.297				
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:		8.006	Grade Adjustment: 0.0			
Pad Elevation:	0.0 feet	Lane Equivalent Distance (in feet)						
Road Elevation:	0.0 feet							Autos:
Road Grade:	0.0%	Medium Trucks:		35.582				
Left View:	-90.0 degrees	Heavy Trucks:		35.606				
Right View:	90.0 degrees							

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-2.06	2.07	-1.20	-4.56	0.000	0.000
Medium Trucks:	77.72	-19.30	2.11	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-23.25	2.11	-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:	65.3	63.4	61.7	55.6	64.2	64.8
Medium Trucks:	59.3	57.8	51.5	49.9	58.4	58.6
Heavy Trucks:	60.7	59.2	50.2	51.4	59.8	59.9
Vehicle Noise:	67.3	65.6	62.3	57.8	66.3	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	21	45	98	210
CNEL:	23	49	105	225

Tuesday, November 29, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Phase 3 + P
Road Name: Pats Ranch Rd.
Road Segment: s/o Boca Pl

Project Name: Vernola Ranch Specific PI
Job Number: 14368

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 12,168 vehicles		Autos: 15					
Peak Hour Percentage: 10.00%		Medium Trucks (2 Axles): 15					
Peak Hour Volume: 1,217 vehicles		Heavy Trucks (3+ Axles): 15					
Vehicle Speed: 40 mph		Vehicle Mix					
Near/Far Lane Distance: 50 feet		VehicleType	Day	Evening	Night	Daily	
Site Data		Autos: 77.5% 12.9% 9.6% 97.42%					
Barrier Height: 0.0 feet		Medium Trucks: 84.8% 4.9% 10.3% 1.84%					
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks: 86.5% 2.7% 10.8% 0.74%					
Centerline Dist. to Barrier: 59.0 feet		Noise Source Elevations (in feet)					
Centerline Dist. to Observer: 59.0 feet		Autos: 0.000					
Barrier Distance to Observer: 0.0 feet		Medium Trucks: 2.297					
Observer Height (Above Pad): 5.0 feet		Heavy Trucks: 8.006 Grade Adjustment: 0.0					
Pad Elevation: 0.0 feet		Lane Equivalent Distance (in feet)					
Road Elevation: 0.0 feet		Autos: 53.675					
Road Grade: 0.0%		Medium Trucks: 53.510					
Left View: -90.0 degrees		Heavy Trucks: 53.526					
Right View: 90.0 degrees							

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-0.59	-0.57	-1.20	-4.69	0.000	0.000
Medium Trucks:	77.72	-17.83	-0.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-21.78	-0.55	-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:	64.2	62.3	60.5	54.4	63.1	63.7
Medium Trucks:	58.1	56.6	50.3	48.7	57.2	57.4
Heavy Trucks:	59.5	58.0	49.0	50.3	58.6	58.7
Vehicle Noise:	66.2	64.4	61.2	56.6	65.2	65.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	28	60	130	280
CNEL:	30	65	139	300

Tuesday, November 29, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: GPBO
 Road Name: Bellegrave Ave.
 Road Segment: w/o Pats Ranch Rd.

Project Name: Vernola Ranch Specific PI
 Job Number: 14368

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 17,637 vehicles		Autos: 15					
Peak Hour Percentage: 10.00%		Medium Trucks (2 Axles): 15					
Peak Hour Volume: 1,764 vehicles		Heavy Trucks (3+ Axles): 15					
Vehicle Speed: 50 mph		Vehicle Mix					
Near/Far Lane Distance: 50 feet							
Site Data		VehicleType	Day	Evening	Night	Daily	
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		Autos:		77.5%	12.9%	9.6%	97.42%
		Medium Trucks:		84.8%	4.9%	10.3%	1.84%
		Heavy Trucks:		86.5%	2.7%	10.8%	0.74%
		Noise Source Elevations (in feet)					
		Autos:		0.000			
		Medium Trucks:		2.297			
		Heavy Trucks:		8.006	Grade Adjustment: 0.0		
		Lane Equivalent Distance (in feet)					
		Autos:		53.675			
		Medium Trucks:		53.510			
Heavy Trucks:		53.526					

FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	0.06	-0.57	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-17.18	-0.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-21.14	-0.55	-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:	68.5	66.6	64.8	58.8	67.4	68.0
Medium Trucks:	62.1	60.6	54.2	52.7	61.1	61.4
Heavy Trucks:	62.5	61.1	52.0	53.3	61.6	61.8
Vehicle Noise:	70.2	68.4	65.4	60.6	69.2	69.6

Centerline Distance to Noise Contour (in feet)				
	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	52	112	241	519
CNEL:	56	120	259	557

Tuesday, November 29, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: GPBO
 Road Name: Bellegrave Ave.
 Road Segment: e/o Pats Ranch Rd.

Project Name: Vernola Ranch Specific PI
 Job Number: 14368

SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS				
Highway Data				Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 17,637 vehicles				Autos: 15				
Peak Hour Percentage: 10.00%				Medium Trucks (2 Axles): 15				
Peak Hour Volume: 1,764 vehicles				Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 50 mph				Vehicle Mix				
Near/Far Lane Distance: 50 feet				VehicleType	Day	Evening	Night	Daily
Site Data				Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height: 0.0 feet				Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm): 0.0				Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier: 59.0 feet				Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 59.0 feet				Autos:	0.000			
Barrier Distance to Observer: 0.0 feet				Medium Trucks:	2.297			
Observer Height (Above Pad): 5.0 feet				Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation: 0.0 feet				Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet				Autos:	53.675			
Road Grade: 0.0%				Medium Trucks:	53.510			
Left View: -90.0 degrees				Heavy Trucks:	53.526			
Right View: 90.0 degrees								

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	0.06	-0.57	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-17.18	-0.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-21.14	-0.55	-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:	68.5	66.6	64.8	58.8	67.4	68.0
Medium Trucks:	62.1	60.6	54.2	52.7	61.1	61.4
Heavy Trucks:	62.5	61.1	52.0	53.3	61.6	61.8
Vehicle Noise:	70.2	68.4	65.4	60.6	69.2	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	52	112	241	519
CNEL:	56	120	259	557

Tuesday, November 29, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: GPBO
 Road Name: Bellegrave Ave.
 Road Segment: e/o Wineville Ave.

Project Name: Vernola Ranch Specific PI
 Job Number: 14368

SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS				
Highway Data				Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 15,792 vehicles				Autos: 15				
Peak Hour Percentage: 10.00%				Medium Trucks (2 Axles): 15				
Peak Hour Volume: 1,579 vehicles				Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 50 mph				Vehicle Mix				
Near/Far Lane Distance: 50 feet				VehicleType	Day	Evening	Night	Daily
Site Data				Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height: 0.0 feet				Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm): 0.0				Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier: 59.0 feet				Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 59.0 feet				Autos:	0.000			
Barrier Distance to Observer: 0.0 feet				Medium Trucks:	2.297			
Observer Height (Above Pad): 5.0 feet				Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation: 0.0 feet				Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet				Autos:	53.675			
Road Grade: 0.0%				Medium Trucks:	53.510			
Left View: -90.0 degrees				Heavy Trucks:	53.526			
Right View: 90.0 degrees								

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-0.42	-0.57	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-17.66	-0.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-21.62	-0.55	-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:	68.0	66.1	64.3	58.3	66.9	67.5
Medium Trucks:	61.6	60.1	53.7	52.2	60.6	60.9
Heavy Trucks:	62.0	60.6	51.6	52.8	61.2	61.3
Vehicle Noise:	69.7	68.0	64.9	60.1	68.7	69.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	48	104	224	482
CNEL:	52	112	240	518

Tuesday, November 29, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: GPBO
 Road Name: Wineville Ave.
 Road Segment: n/o Bellegrave Ave.

Project Name: Vernola Ranch Specific PI
 Job Number: 14368

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 10,143 vehicles		Autos: 15				
Peak Hour Percentage: 10.00%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 1,014 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 45 mph		Vehicle Mix				
Near/Far Lane Distance: 50 feet						
Site Data		VehicleType	Day	Evening	Night	Daily
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		Autos:	77.5%	12.9%	9.6%	97.42%
		Medium Trucks:	84.8%	4.9%	10.3%	1.84%
		Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
		Noise Source Elevations (in feet)				
		Autos:	0.000			
		Medium Trucks:	2.297			
		Heavy Trucks:	8.006	Grade Adjustment: 0.0		
		Lane Equivalent Distance (in feet)				
		Autos:	53.675			
		Medium Trucks:	53.510			
		Heavy Trucks:	53.526			

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-1.89	-0.57	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-19.13	-0.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-23.08	-0.55	-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:	64.8	62.9	61.1	55.1	63.7	64.3
Medium Trucks:	58.6	57.1	50.7	49.2	57.6	57.9
Heavy Trucks:	59.4	58.0	49.0	50.2	58.6	58.7
Vehicle Noise:	66.6	64.9	61.8	57.1	65.6	66.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	30	65	140	301
CNEL:	32	70	150	323

Tuesday, November 29, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: GPBO
 Road Name: Wineville Ave.
 Road Segment: s/o Bellegrave Ave.

Project Name: Vernola Ranch Specific PI
 Job Number: 14368

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS						
Highway Data		Site Conditions (Hard = 10, Soft = 15)						
Average Daily Traffic (Adt):	12,902 vehicles	Autos:		15				
Peak Hour Percentage:	10.00%	Medium Trucks (2 Axles):		15				
Peak Hour Volume:	1,290 vehicles	Heavy Trucks (3+ Axles):		15				
Vehicle Speed:	45 mph	Vehicle Mix						
Near/Far Lane Distance:	50 feet	VehicleType	Day	Evening	Night	Daily		
Site Data		Autos:		77.5%	12.9%	9.6%	97.42%	
Barrier Height:	0.0 feet	Medium Trucks:		84.8%	4.9%	10.3%	1.84%	
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:		86.5%	2.7%	10.8%	0.74%	
Centerline Dist. to Barrier:	59.0 feet	Noise Source Elevations (in feet)						
Centerline Dist. to Observer:	59.0 feet	Autos:		0.000				
Barrier Distance to Observer:	0.0 feet	Medium Trucks:		2.297				
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:		8.006	Grade Adjustment:		0.0	
Pad Elevation:	0.0 feet	Lane Equivalent Distance (in feet)						
Road Elevation:	0.0 feet	Autos:		53.675				
Road Grade:	0.0%	Medium Trucks:		53.510				
Left View:	-90.0 degrees	Heavy Trucks:		53.526				
Right View:	90.0 degrees							

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.84	-0.57	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-18.08	-0.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-22.04	-0.55	-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:	65.9	64.0	62.2	56.1	64.8	65.4
Medium Trucks:	59.6	58.1	51.8	50.2	58.7	58.9
Heavy Trucks:	60.5	59.0	50.0	51.3	59.6	59.7
Vehicle Noise:	67.7	65.9	62.8	58.1	66.7	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	35	76	164	354
CNEL:	38	82	176	379

Tuesday, November 29, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: GPBO
 Road Name: Limonite Ave
 Road Segment: e/o Pats Ranch Rd.

Project Name: Vernola Ranch Specific PI
 Job Number: 14368

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 48,667 vehicles		Autos: 15				
Peak Hour Percentage: 10.00%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 4,867 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 50 mph		Vehicle Mix				
Near/Far Lane Distance: 86 feet						
Site Data		VehicleType	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 81.0 feet Centerline Dist. to Observer: 81.0 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		Autos: 77.5% 12.9% 9.6% 97.42%				
		Medium Trucks: 84.8% 4.9% 10.3% 1.84%				
		Heavy Trucks: 86.5% 2.7% 10.8% 0.74%				
		Noise Source Elevations (in feet)				
		Autos: 0.000				
		Medium Trucks: 2.297				
		Heavy Trucks: 8.006 Grade Adjustment: 0.0				
		Lane Equivalent Distance (in feet)				
		Autos: 68.826				
		Medium Trucks: 68.697				
		Heavy Trucks: 68.710				

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	4.46	-2.19	-1.20	-4.74	0.000	0.000
Medium Trucks:	81.00	-12.77	-2.17	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-16.73	-2.17	-1.20	-5.22	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:	71.3	69.4	67.6	61.6	70.2	70.8
Medium Trucks:	64.9	63.3	57.0	55.4	63.9	64.1
Heavy Trucks:	65.3	63.9	54.8	56.1	64.4	64.5
Vehicle Noise:	73.0	71.2	68.2	63.4	71.9	72.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	109	235	507	1,092
CNEL:	117	253	545	1,173

Tuesday, November 29, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: GPBO
 Road Name: Pats Ranch Rd.
 Road Segment: n/o Boca PI

Project Name: Vernola Ranch Specific PI
 Job Number: 14368

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS						
Highway Data		Site Conditions (Hard = 10, Soft = 15)						
Average Daily Traffic (Adt):	1,720 vehicles	Autos:					15	
Peak Hour Percentage:	10.00%	Medium Trucks (2 Axles):					15	
Peak Hour Volume:	172 vehicles	Heavy Trucks (3+ Axles):					15	
Vehicle Speed:	40 mph	Vehicle Mix						
Near/Far Lane Distance:	21 feet							
Site Data		VehicleType	Day	Evening	Night	Daily		
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		Autos:		77.5%	12.9%	9.6%	97.42%	
		Medium Trucks:		84.8%	4.9%	10.3%	1.84%	
		Heavy Trucks:		86.5%	2.7%	10.8%	0.74%	
		Noise Source Elevations (in feet)						
		Autos:		0.000				
		Medium Trucks:		2.297				
		Heavy Trucks:		8.006	Grade Adjustment: 0.0			
		Lane Equivalent Distance (in feet)						
		Autos:		35.829				
		Medium Trucks:		35.582				
Heavy Trucks:		35.606						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-9.08	2.07	-1.20	-4.56	0.000	0.000
Medium Trucks:	77.72	-26.32	2.11	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-30.28	2.11	-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:	58.3	56.4	54.6	48.6	57.2	57.8
Medium Trucks:	52.3	50.8	44.4	42.9	51.4	51.6
Heavy Trucks:	53.6	52.2	43.2	44.4	52.8	52.9
Vehicle Noise:	60.3	58.6	55.3	50.8	59.3	59.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	7	15	33	72
CNEL:	8	17	36	77

Tuesday, November 29, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: GPBO
Road Name: Pats Ranch Rd.
Road Segment: s/o Boca PI

Project Name: Vernola Ranch Specific PI
Job Number: 14368

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS							
Highway Data		Site Conditions (Hard = 10, Soft = 15)							
Average Daily Traffic (Adt):	4,480 vehicles	Autos:		15					
Peak Hour Percentage:	10.00%	Medium Trucks (2 Axles):		15					
Peak Hour Volume:	448 vehicles	Heavy Trucks (3+ Axles):		15					
Vehicle Speed:	40 mph	Vehicle Mix							
Near/Far Lane Distance:	50 feet	VehicleType	Day	Evening	Night	Daily			
Site Data		Autos:		77.5%	12.9%	9.6%	97.42%		
Barrier Height:	0.0 feet	Medium Trucks:		84.8%	4.9%	10.3%	1.84%		
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:		86.5%	2.7%	10.8%	0.74%		
Centerline Dist. to Barrier:	59.0 feet	Noise Source Elevations (in feet)							
Centerline Dist. to Observer:	59.0 feet	Autos:		0.000					
Barrier Distance to Observer:	0.0 feet	Medium Trucks:		2.297					
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:		8.006	Grade Adjustment:		0.0		
Pad Elevation:	0.0 feet	Lane Equivalent Distance (in feet)							
Road Elevation:	0.0 feet	Autos:		53.675					
Road Grade:	0.0%	Medium Trucks:		53.510					
Left View:	-90.0 degrees	Heavy Trucks:		53.526					
Right View:	90.0 degrees								

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-4.93	-0.57	-1.20	-4.69	0.000	0.000
Medium Trucks:	77.72	-22.17	-0.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-26.12	-0.55	-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:	59.8	57.9	56.2	50.1	58.7	59.3
Medium Trucks:	53.8	52.3	45.9	44.4	52.9	53.1
Heavy Trucks:	55.1	53.7	44.7	45.9	54.3	54.4
Vehicle Noise:	61.8	60.1	56.8	52.3	60.8	61.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	14	31	67	144
CNEL:	15	33	72	154

Tuesday, November 29, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: GPBO + P
 Road Name: Bellegrave Ave.
 Road Segment: w/o Pats Ranch Rd.

Project Name: Vernola Ranch Specific PI
 Job Number: 14368

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 19,263 vehicles		Autos: 15					
Peak Hour Percentage: 10.00%		Medium Trucks (2 Axles): 15					
Peak Hour Volume: 1,926 vehicles		Heavy Trucks (3+ Axles): 15					
Vehicle Speed: 50 mph		Vehicle Mix					
Near/Far Lane Distance: 50 feet							
Site Data		VehicleType	Day	Evening	Night	Daily	
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		Autos:	77.5%	12.9%	9.6%	97.42%	
		Medium Trucks:	84.8%	4.9%	10.3%	1.84%	
		Heavy Trucks:	86.5%	2.7%	10.8%	0.74%	
		Noise Source Elevations (in feet)					
		Autos:	0.000				
		Medium Trucks:	2.297				
		Heavy Trucks:	8.006	Grade Adjustment:	0.0		
		Lane Equivalent Distance (in feet)					
		Autos:	53.675				
		Medium Trucks:	53.510				
		Heavy Trucks:	53.526				

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	0.44	-0.57	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-16.80	-0.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-20.76	-0.55	-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:	68.9	67.0	65.2	59.2	67.8	68.4
Medium Trucks:	62.5	60.9	54.6	53.0	61.5	61.7
Heavy Trucks:	62.9	61.5	52.4	53.7	62.0	62.1
Vehicle Noise:	70.6	68.8	65.8	61.0	69.5	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	55	119	255	550
CNEL:	59	127	274	591

Tuesday, November 29, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: GPBO + P
 Road Name: Bellegrave Ave.
 Road Segment: e/o Pats Ranch Rd.

Project Name: Vernola Ranch Specific PI
 Job Number: 14368

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 19,801 vehicles		Autos: 15					
Peak Hour Percentage: 10.00%		Medium Trucks (2 Axles): 15					
Peak Hour Volume: 1,980 vehicles		Heavy Trucks (3+ Axles): 15					
Vehicle Speed: 50 mph		Vehicle Mix					
Near/Far Lane Distance: 50 feet							
Site Data		VehicleType	Day	Evening	Night	Daily	
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		Autos: 77.5%		12.9%	9.6%	97.42%	
		Medium Trucks: 84.8%		4.9%	10.3%	1.84%	
		Heavy Trucks: 86.5%		2.7%	10.8%	0.74%	
		Noise Source Elevations (in feet)					
		Autos: 0.000					
		Medium Trucks: 2.297					
		Heavy Trucks: 8.006		Grade Adjustment: 0.0			
		Lane Equivalent Distance (in feet)					
		Autos: 53.675					
		Medium Trucks: 53.510					
Heavy Trucks: 53.526							

FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	0.56	-0.57	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-16.68	-0.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-20.64	-0.55	-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:	69.0	67.1	65.3	59.3	67.9	68.5
Medium Trucks:	62.6	61.1	54.7	53.2	61.6	61.9
Heavy Trucks:	63.0	61.6	52.5	53.8	62.1	62.3
Vehicle Noise:	70.7	68.9	65.9	61.1	69.7	70.1

Centerline Distance to Noise Contour (in feet)				
	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	56	121	260	560
CNEL:	60	130	279	602

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: GPBO + P
 Road Name: Bellegrave Ave.
 Road Segment: e/o Wineville Ave.

Project Name: Vernola Ranch Specific PI
 Job Number: 14368

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS						
Highway Data		Site Conditions (Hard = 10, Soft = 15)						
Average Daily Traffic (Adt): 17,290 vehicles		Autos: 15						
Peak Hour Percentage: 10.00%		Medium Trucks (2 Axles): 15						
Peak Hour Volume: 1,729 vehicles		Heavy Trucks (3+ Axles): 15						
Vehicle Speed: 50 mph		Vehicle Mix						
Near/Far Lane Distance: 50 feet								
Site Data		VehicleType	Day	Evening	Night	Daily		
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		Autos:		77.5%	12.9%	9.6%	97.42%	
		Medium Trucks:		84.8%	4.9%	10.3%	1.84%	
		Heavy Trucks:		86.5%	2.7%	10.8%	0.74%	
		Noise Source Elevations (in feet)						
		Autos:		0.000				
		Medium Trucks:		2.297				
		Heavy Trucks:		8.006	Grade Adjustment: 0.0			
		Lane Equivalent Distance (in feet)						
		Autos:		53.675				
		Medium Trucks:		53.510				
		Heavy Trucks:		53.526				

FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-0.03	-0.57	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-17.27	-0.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-21.22	-0.55	-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:	68.4	66.5	64.7	58.7	67.3	67.9
Medium Trucks:	62.0	60.5	54.1	52.6	61.0	61.3
Heavy Trucks:	62.4	61.0	51.9	53.2	61.6	61.7
Vehicle Noise:	70.1	68.4	65.3	60.5	69.1	69.5

Centerline Distance to Noise Contour (in feet)				
	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	51	110	238	512
CNEL:	55	118	255	550

Tuesday, November 29, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: GPBO + P
 Road Name: Wineville Ave.
 Road Segment: n/o Bellegrave Ave.

Project Name: Vernola Ranch Specific PI
 Job Number: 14368

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS							
Highway Data		Site Conditions (Hard = 10, Soft = 15)							
Average Daily Traffic (Adt):	10,810 vehicles	Autos:		15					
Peak Hour Percentage:	10.00%	Medium Trucks (2 Axles):		15					
Peak Hour Volume:	1,081 vehicles	Heavy Trucks (3+ Axles):		15					
Vehicle Speed:	45 mph	Vehicle Mix							
Near/Far Lane Distance:	50 feet							VehicleType	Day
Site Data		Autos:		77.5%	12.9%	9.6%	97.42%		
Barrier Height:		0.0 feet		Medium Trucks:		84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):		0.0		Heavy Trucks:		86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:		59.0 feet		Noise Source Elevations (in feet)					
Centerline Dist. to Observer:		59.0 feet							
Barrier Distance to Observer:		0.0 feet		Autos:		0.000			
Observer Height (Above Pad):		5.0 feet		Medium Trucks:		2.297			
Pad Elevation:		0.0 feet		Heavy Trucks:		8.006	Grade Adjustment: 0.0		
Road Elevation:		0.0 feet		Lane Equivalent Distance (in feet)					
Road Grade:		0.0%							
Left View:		-90.0 degrees		Autos:		53.675			
Right View:		90.0 degrees		Medium Trucks:		53.510			
				Heavy Trucks:		53.526			

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-1.61	-0.57	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-18.85	-0.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-22.81	-0.55	-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:	65.1	63.2	61.4	55.4	64.0	64.6
Medium Trucks:	58.9	57.3	51.0	49.4	57.9	58.1
Heavy Trucks:	59.7	58.3	49.2	50.5	58.8	59.0
Vehicle Noise:	66.9	65.2	62.0	57.4	65.9	66.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	31	68	146	314
CNEL:	34	73	156	337

Tuesday, November 29, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: GPBO + P
 Road Name: Wineville Ave.
 Road Segment: s/o Bellegrave Ave.

Project Name: Vernola Ranch Specific PI
 Job Number: 14368

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt):	12,902 vehicles	Autos:		15			
Peak Hour Percentage:	10.00%	Medium Trucks (2 Axles):		15			
Peak Hour Volume:	1,290 vehicles	Heavy Trucks (3+ Axles):		15			
Vehicle Speed:	45 mph	Vehicle Mix					
Near/Far Lane Distance:	50 feet						
Site Data		VehicleType	Day	Evening	Night	Daily	
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		Autos:		77.5%	12.9%	9.6% 97.42%	
		Medium Trucks:		84.8%	4.9%	10.3% 1.84%	
		Heavy Trucks:		86.5%	2.7%	10.8% 0.74%	
		Noise Source Elevations (in feet)					
		Autos:		0.000			
		Medium Trucks:		2.297			
		Heavy Trucks:		8.006	Grade Adjustment: 0.0		
		Lane Equivalent Distance (in feet)					
		Autos:		53.675			
		Medium Trucks:		53.510			
Heavy Trucks:		53.526					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.84	-0.57	-1.20	-4.69	0.000	0.000
Medium Trucks:	79.45	-18.08	-0.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-22.04	-0.55	-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:	65.9	64.0	62.2	56.1	64.8	65.4
Medium Trucks:	59.6	58.1	51.8	50.2	58.7	58.9
Heavy Trucks:	60.5	59.0	50.0	51.3	59.6	59.7
Vehicle Noise:	67.7	65.9	62.8	58.1	66.7	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	35	76	164	354
CNEL:	38	82	176	379

Tuesday, November 29, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: GPBO + P
 Road Name: Limonite Ave
 Road Segment: e/o Pats Ranch Rd.

Project Name: Vernola Ranch Specific PI
 Job Number: 14368

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt):	49,261 vehicles	Autos: 15				
Peak Hour Percentage:	10.00%	Medium Trucks (2 Axles): 15				
Peak Hour Volume:	4,926 vehicles	Heavy Trucks (3+ Axles): 15				
Vehicle Speed:	50 mph	Vehicle Mix				
Near/Far Lane Distance:	86 feet					
Site Data		VehicleType	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 81.0 feet Centerline Dist. to Observer: 81.0 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		Autos:	77.5%	12.9%	9.6%	97.42%
		Medium Trucks:	84.8%	4.9%	10.3%	1.84%
		Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
		Noise Source Elevations (in feet)				
		Autos:	0.000			
		Medium Trucks:	2.297			
		Heavy Trucks:	8.006	Grade Adjustment:	0.0	
		Lane Equivalent Distance (in feet)				
		Autos:	68.826			
		Medium Trucks:	68.697			
Heavy Trucks:	68.710					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	4.52	-2.19	-1.20	-4.74	0.000	0.000
Medium Trucks:	81.00	-12.72	-2.17	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-16.68	-2.17	-1.20	-5.22	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:	71.3	69.4	67.7	61.6	70.2	70.8
Medium Trucks:	64.9	63.4	57.0	55.5	64.0	64.2
Heavy Trucks:	65.3	63.9	54.9	56.1	64.5	64.6
Vehicle Noise:	73.0	71.3	68.2	63.5	72.0	72.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	110	237	511	1,101
CNEL:	118	255	549	1,183

Tuesday, November 29, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: GPBO + P
 Road Name: Pats Ranch Rd.
 Road Segment: n/o Boca Pl

Project Name: Vernola Ranch Specific PI
 Job Number: 14368

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS						
Highway Data		Site Conditions (Hard = 10, Soft = 15)						
Average Daily Traffic (Adt):	9,160 vehicles	Autos:		15				
Peak Hour Percentage:	10.00%	Medium Trucks (2 Axles):		15				
Peak Hour Volume:	916 vehicles	Heavy Trucks (3+ Axles):		15				
Vehicle Speed:	40 mph	Vehicle Mix						
Near/Far Lane Distance:	21 feet	VehicleType	Day	Evening	Night	Daily		
Site Data		Autos:		77.5%	12.9%	9.6%	97.42%	
Barrier Height:	0.0 feet	Medium Trucks:		84.8%	4.9%	10.3%	1.84%	
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:		86.5%	2.7%	10.8%	0.74%	
Centerline Dist. to Barrier:	37.0 feet	Noise Source Elevations (in feet)						
Centerline Dist. to Observer:	37.0 feet	Autos:		0.000				
Barrier Distance to Observer:	0.0 feet	Medium Trucks:		2.297				
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:		8.006	Grade Adjustment:		0.0	
Pad Elevation:	0.0 feet	Lane Equivalent Distance (in feet)						
Road Elevation:	0.0 feet	Autos:		35.829				
Road Grade:	0.0%	Medium Trucks:		35.582				
Left View:	-90.0 degrees	Heavy Trucks:		35.606				
Right View:	90.0 degrees							

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-1.82	2.07	-1.20	-4.56	0.000	0.000
Medium Trucks:	77.72	-19.06	2.11	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-23.01	2.11	-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:	65.6	63.7	61.9	55.8	64.5	65.1
Medium Trucks:	59.6	58.1	51.7	50.2	58.6	58.8
Heavy Trucks:	60.9	59.5	50.4	51.7	60.0	60.2
Vehicle Noise:	67.6	65.9	62.6	58.0	66.6	67.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	22	47	101	218
CNEL:	23	50	108	234

Tuesday, November 29, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: GPBO + P
 Road Name: Pats Ranch Rd.
 Road Segment: s/o Boca Pl

Project Name: Vernola Ranch Specific PI
 Job Number: 14368

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 13,439 vehicles		Autos: 15					
Peak Hour Percentage: 10.00%		Medium Trucks (2 Axles): 15					
Peak Hour Volume: 1,344 vehicles		Heavy Trucks (3+ Axles): 15					
Vehicle Speed: 40 mph		Vehicle Mix					
Near/Far Lane Distance: 50 feet							
Site Data		VehicleType	Day	Evening	Night	Daily	
		Autos: 77.5%		12.9%	9.6%	97.42%	
		Medium Trucks: 84.8%		4.9%	10.3%	1.84%	
		Heavy Trucks: 86.5%		2.7%	10.8%	0.74%	
		Noise Source Elevations (in feet)					
		Autos: 0.000					
Barrier Height: 0.0 feet		Medium Trucks: 2.297					
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks: 8.006		Grade Adjustment: 0.0			
Centerline Dist. to Barrier: 59.0 feet		Lane Equivalent Distance (in feet)					
Centerline Dist. to Observer: 59.0 feet							
Barrier Distance to Observer: 0.0 feet		Autos: 53.675					
Observer Height (Above Pad): 5.0 feet		Medium Trucks: 53.510					
Pad Elevation: 0.0 feet		Heavy Trucks: 53.526					
Road Elevation: 0.0 feet							
Road Grade: 0.0%							
Left View: -90.0 degrees							
Right View: 90.0 degrees							

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-0.16	-0.57	-1.20	-4.69	0.000	0.000
Medium Trucks:	77.72	-17.39	-0.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-21.35	-0.55	-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:	64.6	62.7	60.9	54.9	63.5	64.1
Medium Trucks:	58.6	57.1	50.7	49.2	57.6	57.9
Heavy Trucks:	59.9	58.5	49.4	50.7	59.0	59.2
Vehicle Noise:	66.6	64.9	61.6	57.0	65.6	66.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	30	65	139	299
CNEL:	32	69	149	321

Tuesday, November 29, 2022

APPENDIX 10.1:

OPERATIONAL NOISE LEVEL CALCULATIONS

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14368 - Vernola Ranch - Operation

CadnaA Noise Prediction Model: 14368-02_Operation.cna

Date: 06.12.22

Analyst: B. Maddux

Calculation Configuration

Configuration	
Parameter	Value
General	
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 Rcvr - 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 (TNM)	
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)
R1		R1	50.0	35.2	48.0	0.0	0.0	0.0		x	Total	5.00 a	6167702.46	2306647.74	5.00
R2		R2	42.7	38.7	45.7	0.0	0.0	0.0		x	Total	5.00 a	6169487.04	2306476.75	5.00
R3		R3	42.7	38.9	45.8	0.0	0.0	0.0		x	Total	5.00 a	6169503.96	2305622.59	5.00
R4		R4	40.2	35.9	42.9	0.0	0.0	0.0		x	Total	5.00 a	6169537.93	2304660.57	5.00
R5		R5	40.5	34.3	42.0	0.0	0.0	0.0		x	Total	5.00 a	6169511.89	2302658.84	5.00

Point Source(s)

Name	M.	ID	Result. PWL			Lw / Li			Operating Time			Height	Coordinates		
			Day	Evening	Night	Type	Value	norm.	Day	Special	Night		X	Y	Z
			(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	(ft)	(ft)	(ft)	(ft)
POINTSOURCE		Pool2	94.6	94.6	94.6	Lw	94.6		900.00	0.00	0.00	5.00 a	6168280.11	2302743.36	5.00
POINTSOURCE		Pool1	94.6	94.6	94.6	Lw	94.6		900.00	0.00	0.00	5.00 a	6168884.83	2302726.41	5.00
POINTSOURCE		Out06	91.5	91.5	91.5	Lw	91.5		900.00	0.00	0.00	5.00 a	6168788.76	2304551.87	5.00
POINTSOURCE		Out05	91.5	91.5	91.5	Lw	91.5		900.00	0.00	0.00	5.00 a	6168364.89	2303455.46	5.00
POINTSOURCE		Out04	91.5	91.5	91.5	Lw	91.5		900.00	0.00	0.00	5.00 a	6168178.38	2303184.19	5.00
POINTSOURCE		Out03	91.5	91.5	91.5	Lw	91.5		900.00	0.00	0.00	5.00 a	6168031.44	2305874.35	5.00
POINTSOURCE		Out02	91.5	91.5	91.5	Lw	91.5		900.00	0.00	0.00	5.00 a	6167850.59	2306637.31	5.00
POINTSOURCE		Out01	91.5	91.5	91.5	Lw	91.5		900.00	0.00	0.00	5.00 a	6167857.88	2306631.32	5.00
POINTSOURCE		Park15	72.5	72.5	72.5	Lw	72.5		900.00	0.00	540.00	5.00 a	6168859.87	2304730.33	5.00
POINTSOURCE		Park13	72.5	72.5	72.5	Lw	72.5		900.00	0.00	540.00	5.00 a	6168633.12	2302584.45	5.00
POINTSOURCE		Park12	72.5	72.5	72.5	Lw	72.5		900.00	0.00	540.00	5.00 a	6168374.00	2302584.45	5.00
POINTSOURCE		Park11	72.5	72.5	72.5	Lw	72.5		900.00	0.00	540.00	5.00 a	6168910.12	2302553.17	5.00
POINTSOURCE		Park10	72.5	72.5	72.5	Lw	72.5		900.00	0.00	540.00	5.00 a	6169227.31	2302544.24	5.00

Name	M.	ID	Result. PWL			Lw / Li			Operating Time			Height		Coordinates		
			Day	Evening	Night	Type	Value	norm.	Day	Special	Night	(ft)		X	Y	Z
			(dBA)	(dBA)	(dBA)				(min)	(min)	(min)			(ft)	(ft)	(ft)
POINTSOURCE		Park09	72.5	72.5	72.5	Lw	72.5		900.00	0.00	540.00	5.00	a	6169227.31	2302919.52	5.00
POINTSOURCE		Park08	72.5	72.5	72.5	Lw	72.5		900.00	0.00	540.00	5.00	a	6168650.99	2302910.58	5.00
POINTSOURCE		Park07	72.5	72.5	72.5	Lw	72.5		900.00	0.00	540.00	5.00	a	6168378.47	2302932.92	5.00
POINTSOURCE		Park06	72.5	72.5	72.5	Lw	72.5		900.00	0.00	540.00	5.00	a	6168101.48	2302977.60	5.00
POINTSOURCE		Park05	72.5	72.5	72.5	Lw	72.5		900.00	0.00	540.00	5.00	a	6168088.08	2302588.91	5.00
POINTSOURCE		Park04	72.5	72.5	72.5	Lw	72.5		900.00	0.00	540.00	5.00	a	6168915.84	2302929.44	5.00
POINTSOURCE		Out7	91.5	91.5	91.5	Lw	91.5		900.00	0.00	0.00	5.00	a	6168667.50	2306997.82	5.00
POINTSOURCE		Out8	91.5	91.5	91.5	Lw	91.5		900.00	0.00	0.00	5.00	a	6169125.15	2306097.78	5.00
POINTSOURCE		Park01	72.5	72.5	72.5	Lw	72.5		900.00	0.00	540.00	5.00	a	6168501.50	2303648.84	5.00
AC001		AC001	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168985.44	2303891.89	3.00
AC002		AC002	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168985.44	2303833.30	3.00
AC003		AC003	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168985.44	2303783.38	3.00
AC004		AC004	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168987.61	2303737.81	3.00
AC005		AC005	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168985.44	2303685.73	3.00
AC006		AC006	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168991.95	2303635.82	3.00
AC007		AC007	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168991.95	2303585.90	3.00
AC008		AC008	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168989.78	2303540.33	3.00
AC009		AC009	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168989.78	2303486.08	3.00
AC010		AC010	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168985.44	2303427.48	3.00
AC011		AC011	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169039.70	2303381.91	3.00
AC012		AC012	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169098.29	2303377.57	3.00
AC013		AC013	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169150.37	2303364.55	3.00
AC014		AC014	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169198.12	2303362.38	3.00
AC015		AC015	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169256.71	2303342.85	3.00
AC016		AC016	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169332.67	2303351.53	3.00
AC017		AC017	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169354.37	2303420.97	3.00
AC018		AC018	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169354.37	2303475.23	3.00
AC019		AC019	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169354.37	2303533.82	3.00
AC020		AC020	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169356.54	2303579.39	3.00
AC021		AC021	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169358.71	2303633.65	3.00
AC022		AC022	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169358.71	2303690.07	3.00
AC023		AC023	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169354.37	2303735.64	3.00
AC024		AC024	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169356.54	2303772.53	3.00
AC025		AC025	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169350.03	2303837.64	3.00
AC026		AC026	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169350.03	2303889.72	3.00
AC027		AC027	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169363.05	2304035.12	3.00
AC028		AC028	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169360.88	2304080.69	3.00
AC029		AC029	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169350.03	2304130.61	3.00
AC030		AC030	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169354.37	2304182.69	3.00
AC031		AC031	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169354.37	2304230.43	3.00
AC032		AC032	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169358.71	2304282.52	3.00
AC033		AC033	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169365.22	2304330.26	3.00
AC034		AC034	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169347.86	2304399.70	3.00
AC035		AC035	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169289.26	2304432.26	3.00
AC036		AC036	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169228.50	2304430.09	3.00
AC037		AC037	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169182.93	2304432.26	3.00
AC038		AC038	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169133.01	2304430.09	3.00
AC039		AC039	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169076.59	2304432.26	3.00
AC040		AC040	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169018.00	2304421.41	3.00
AC041		AC041	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168996.30	2304351.96	3.00
AC042		AC042	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169004.98	2304289.03	3.00
AC043		AC043	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169007.15	2304243.45	3.00
AC044		AC044	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169000.64	2304189.20	3.00
AC045		AC045	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169000.64	2304141.46	3.00
AC046		AC046	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169000.64	2304085.03	3.00
AC047		AC047	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169002.81	2304032.95	3.00
AC048		AC048	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169133.01	2304284.69	3.00
AC049		AC049	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169206.80	2304297.71	3.00
AC050		AC050	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169139.52	2304228.26	3.00
AC051		AC051	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169208.97	2304234.77	3.00
AC052		AC052	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169211.14	2304184.86	3.00
AC053		AC053	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169143.86	2304184.86	3.00
AC054		AC054	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169143.86	2304134.95	3.00
AC055		AC055	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169211.14	2304134.95	3.00
AC056		AC056	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169146.03	2304089.37	3.00
AC057		AC057	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169208.97	2304089.37	3.00
AC058		AC058	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169148.20	2304035.12	3.00
AC059		AC059	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169208.97	2304035.12	3.00
AC060		AC060	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169139.52	2303887.55	3.00
AC061		AC061	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169204.63	2303889.72	3.00
AC062		AC062	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169141.69	2303839.81	3.00
AC063		AC063	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169204.63	2303835.47	3.00
AC064		AC064	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169143.86	2303789.90	3.00
AC065		AC065	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169208.97	2303783.38	3.00
AC066		AC066	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169208.97	2303737.81	3.00
AC067		AC067	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169139.52	2303739.98	3.00
AC068		AC068	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169139.52	230	

Name	M.	ID	Result. PWL			Lw / Li			Operating Time			Height		Coordinates		
			Day	Evening	Night	Type	Value	norm.	Day	Special	Night	(ft)		X	Y	Z
			(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)			(ft)	(ft)	(ft)
AC069		AC069	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169211.14	2303683.56	3.00
AC070		AC070	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169213.31	2303637.99	3.00
AC071		AC071	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169141.69	2303637.99	3.00
AC072		AC072	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169137.35	2303592.41	3.00
AC073		AC073	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169208.97	2303581.56	3.00
AC074		AC074	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169202.46	2303540.33	3.00
AC075		AC075	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169146.03	2303540.33	3.00
AC076		AC076	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168831.36	2304180.52	3.00
AC077		AC077	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168787.96	2304180.52	3.00
AC078		AC078	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168740.22	2304174.01	3.00
AC079		AC079	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168688.14	2304182.69	3.00
AC080		AC080	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168642.56	2304189.20	3.00
AC081		AC081	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168583.97	2304178.35	3.00
AC082		AC082	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168525.37	2304206.56	3.00
AC083		AC083	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168505.84	2304278.18	3.00
AC084		AC084	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168510.18	2304334.60	3.00
AC085		AC085	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168512.35	2304378.00	3.00
AC086		AC086	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168503.67	2304438.77	3.00
AC087		AC087	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168508.01	2304477.83	3.00
AC088		AC088	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168512.35	2304540.76	3.00
AC089		AC089	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168505.84	2304582.00	3.00
AC090		AC090	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168505.84	2304629.74	3.00
AC091		AC091	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168503.67	2304673.14	3.00
AC092		AC092	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168494.99	2304727.40	3.00
AC093		AC093	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168503.67	2304877.13	3.00
AC094		AC094	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168501.50	2304937.90	3.00
AC095		AC095	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168492.82	2304985.64	3.00
AC096		AC096	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168484.14	2305042.07	3.00
AC097		AC097	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168468.95	2305074.62	3.00
AC098		AC098	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168468.95	2305133.21	3.00
AC099		AC099	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168466.78	2305176.61	3.00
AC100		AC100	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168466.78	2305228.70	3.00
AC101		AC101	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168453.76	2305293.80	3.00
AC102		AC102	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168451.59	2305369.76	3.00
AC103		AC103	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168508.01	2305404.48	3.00
AC104		AC104	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168579.63	2305408.82	3.00
AC105		AC105	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168636.05	2305413.16	3.00
AC106		AC106	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168685.97	2305406.65	3.00
AC107		AC107	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168733.71	2305406.65	3.00
AC108		AC108	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168785.79	2305410.99	3.00
AC109		AC109	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168833.53	2305410.99	3.00
AC110		AC110	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168894.30	2305413.16	3.00
AC111		AC111	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168898.64	2305259.08	3.00
AC112		AC112	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168840.05	2305259.08	3.00
AC113		AC113	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168787.96	2305256.91	3.00
AC114		AC114	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168735.88	2305256.91	3.00
AC115		AC115	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168688.14	2305254.74	3.00
AC116		AC116	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168646.90	2305250.40	3.00
AC117		AC117	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168638.22	2305157.08	3.00
AC118		AC118	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168688.14	2305161.42	3.00
AC119		AC119	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168740.22	2305154.91	3.00
AC120		AC120	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168790.13	2305150.57	3.00
AC121		AC121	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168833.53	2305154.91	3.00
AC122		AC122	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168887.79	2305154.91	3.00
AC123		AC123	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168894.30	2305000.83	3.00
AC124		AC124	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168842.22	2304992.15	3.00
AC125		AC125	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168787.96	2304996.49	3.00
AC126		AC126	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168742.39	2304989.98	3.00
AC127		AC127	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168694.65	2304985.64	3.00
AC128		AC128	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168636.05	2304992.15	3.00
AC129		AC129	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168636.05	2304907.52	3.00
AC130		AC130	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168696.82	2304905.35	3.00
AC131		AC131	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168751.07	2304903.18	3.00
AC132		AC132	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168792.30	2304905.35	3.00
AC133		AC133	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168842.22	2304907.52	3.00
AC134		AC134	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168898.64	2304905.35	3.00
AC135		AC135	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168651.24	2304749.10	3.00
AC136		AC136	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168644.73	2304688.33	3.00
AC137		AC137	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168651.24	2304642.76	3.00
AC138		AC138	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168649.07	2304571.15	3.00
AC139		AC139	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168651.24	2304516.89	3.00
AC140		AC140	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168651.24	2304469.15	3.00
AC141		AC141	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168659.92	2304414.90	3.00
AC142		AC142	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168657.75	2304371.49	3.00
AC143		AC143	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168662.09	2304312.90	3.00
AC144		AC144	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169046.21	2305265.59	3.00
AC145		AC145	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a			

Name	M.	ID	Result. PWL			Lw / Li			Operating Time			Height		Coordinates		
			Day	Evening	Night	Type	Value	norm.	Day	Special	Night	(ft)		X	Y	Z
			(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)			(ft)	(ft)	(ft)
AC146		AC146	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169050.55	2305176.61	3.00
AC147		AC147	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169048.38	2305124.53	3.00
AC148		AC148	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169048.38	2305083.30	3.00
AC149		AC149	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169046.21	2305039.90	3.00
AC150		AC150	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169044.04	2304994.32	3.00
AC151		AC151	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169044.04	2304948.75	3.00
AC152		AC152	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169048.38	2304907.52	3.00
AC153		AC153	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169044.04	2304855.43	3.00
AC154		AC154	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169054.89	2304801.18	3.00
AC155		AC155	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169119.99	2304788.16	3.00
AC156		AC156	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169165.57	2304783.82	3.00
AC157		AC157	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169208.97	2304788.16	3.00
AC158		AC158	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169250.20	2304783.82	3.00
AC159		AC159	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169306.62	2304785.99	3.00
AC160		AC160	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169360.88	2304840.24	3.00
AC161		AC161	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169367.39	2304898.84	3.00
AC162		AC162	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169360.88	2304942.24	3.00
AC163		AC163	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169360.88	2304989.98	3.00
AC164		AC164	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169360.88	2305039.90	3.00
AC165		AC165	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169365.22	2305081.13	3.00
AC166		AC166	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169365.22	2305124.53	3.00
AC167		AC167	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169369.56	2305174.44	3.00
AC168		AC168	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169369.56	2305211.34	3.00
AC169		AC169	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169373.90	2305263.42	3.00
AC170		AC170	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169369.56	2305402.31	3.00
AC171		AC171	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169369.56	2305456.56	3.00
AC172		AC172	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169369.56	2305499.96	3.00
AC173		AC173	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169373.90	2305534.69	3.00
AC174		AC174	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169371.73	2305584.60	3.00
AC175		AC175	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169376.07	2305619.32	3.00
AC176		AC176	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169371.73	2305675.75	3.00
AC177		AC177	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169373.90	2305727.83	3.00
AC178		AC178	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169376.07	2305771.23	3.00
AC179		AC179	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169380.41	2305810.29	3.00
AC180		AC180	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169386.92	2305866.72	3.00
AC181		AC181	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169358.71	2305907.95	3.00
AC182		AC182	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169315.31	2305944.84	3.00
AC183		AC183	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169258.88	2305944.84	3.00
AC184		AC184	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169215.48	2305933.99	3.00
AC185		AC185	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169172.08	2305925.31	3.00
AC186		AC186	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169117.82	2305936.16	3.00
AC187		AC187	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169074.42	2305916.63	3.00
AC188		AC188	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169044.04	2305868.89	3.00
AC189		AC189	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169041.87	2305816.81	3.00
AC190		AC190	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169052.72	2305764.72	3.00
AC191		AC191	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169050.55	2305721.32	3.00
AC192		AC192	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169044.04	2305677.92	3.00
AC193		AC193	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169044.04	2305632.34	3.00
AC194		AC194	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169039.70	2305586.77	3.00
AC195		AC195	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169044.04	2305541.20	3.00
AC196		AC196	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169039.70	2305489.11	3.00
AC197		AC197	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169037.53	2305450.05	3.00
AC198		AC198	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169046.21	2305404.48	3.00
AC199		AC199	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169248.03	2305814.63	3.00
AC200		AC200	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169239.35	2305769.06	3.00
AC201		AC201	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169178.59	2305766.89	3.00
AC202		AC202	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169176.42	2305723.49	3.00
AC203		AC203	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169237.18	2305721.32	3.00
AC204		AC204	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169237.18	2305675.75	3.00
AC205		AC205	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169176.42	2305673.58	3.00
AC206		AC206	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169176.42	2305632.34	3.00
AC207		AC207	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169239.35	2305632.34	3.00
AC208		AC208	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169176.42	2305582.43	3.00
AC209		AC209	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169237.18	2305582.43	3.00
AC210		AC210	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169176.42	2305536.86	3.00
AC211		AC211	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169239.35	2305539.03	3.00
AC212		AC212	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169237.18	2305497.79	3.00
AC213		AC213	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169180.76	2305493.45	3.00
AC214		AC214	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169178.59	2305452.22	3.00
AC215		AC215	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169239.35	2305450.05	3.00
AC216		AC216	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169237.18	2305402.31	3.00
AC217		AC217	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169180.76	2305404.48	3.00
AC218		AC218	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169169.91	2305263.42	3.00
AC219		AC219	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169239.35	2305269.93	3.00
AC220		AC220	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169237.18	2305213.51	3.00
AC221		AC221	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169180.76	2305220.02	3.00
AC222		AC222	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a			

Name	M.	ID	Result. PWL			Lw / Li			Operating Time			Height		Coordinates		
			Day	Evening	Night	Type	Value	norm.	Day	Special	Night	(ft)		X	Y	Z
			(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)			(ft)	(ft)	(ft)
AC223		AC223	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169241.52	2305174.44	3.00
AC224		AC224	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169174.25	2305128.87	3.00
AC225		AC225	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169232.84	2305126.70	3.00
AC226		AC226	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169176.42	2305076.79	3.00
AC227		AC227	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169232.84	2305081.13	3.00
AC228		AC228	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169232.84	2305035.56	3.00
AC229		AC229	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169176.42	2305035.56	3.00
AC230		AC230	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169172.08	2304992.15	3.00
AC231		AC231	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169228.50	2304994.32	3.00
AC232		AC232	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169226.33	2304942.24	3.00
AC233		AC233	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169180.76	2304942.24	3.00
AC234		AC234	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168907.32	2305491.28	3.00
AC235		AC235	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168842.22	2305495.62	3.00
AC236		AC236	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168796.64	2305499.96	3.00
AC237		AC237	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168757.58	2305497.79	3.00
AC238		AC238	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168712.01	2305497.79	3.00
AC239		AC239	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168662.09	2305497.79	3.00
AC240		AC240	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168610.01	2305502.13	3.00
AC241		AC241	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168573.12	2305497.79	3.00
AC242		AC242	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168531.89	2305493.45	3.00
AC243		AC243	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168477.63	2305486.94	3.00
AC244		AC244	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168421.21	2305517.33	3.00
AC245		AC245	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168399.51	2305571.58	3.00
AC246		AC246	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168397.34	2305619.32	3.00
AC247		AC247	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168384.32	2305669.24	3.00
AC248		AC248	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168375.64	2305714.81	3.00
AC249		AC249	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168362.61	2305760.38	3.00
AC250		AC250	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168358.27	2305803.78	3.00
AC251		AC251	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168347.42	2305845.02	3.00
AC252		AC252	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168334.40	2305890.59	3.00
AC253		AC253	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168466.78	2305890.59	3.00
AC254		AC254	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168518.86	2305892.76	3.00
AC255		AC255	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168566.61	2305890.59	3.00
AC256		AC256	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168610.01	2305888.42	3.00
AC257		AC257	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168657.75	2305890.59	3.00
AC258		AC258	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168698.99	2305888.42	3.00
AC259		AC259	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168744.56	2305890.59	3.00
AC260		AC260	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168794.47	2305890.59	3.00
AC261		AC261	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168840.05	2305892.76	3.00
AC262		AC262	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168842.22	2305832.00	3.00
AC263		AC263	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168787.96	2305827.66	3.00
AC264		AC264	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168748.90	2305829.83	3.00
AC265		AC265	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168701.16	2305827.66	3.00
AC266		AC266	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168657.75	2305827.66	3.00
AC267		AC267	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168612.18	2305829.83	3.00
AC268		AC268	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168566.61	2305827.66	3.00
AC269		AC269	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168525.37	2305823.32	3.00
AC270		AC270	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168473.29	2305823.32	3.00
AC271		AC271	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168529.72	2305699.62	3.00
AC272		AC272	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168531.89	2305630.17	3.00
AC273		AC273	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168583.97	2305693.11	3.00
AC274		AC274	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168586.14	2305632.34	3.00
AC275		AC275	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168633.88	2305693.11	3.00
AC276		AC276	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168631.71	2305634.51	3.00
AC277		AC277	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168677.28	2305636.68	3.00
AC278		AC278	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168679.45	2305688.77	3.00
AC279		AC279	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168725.03	2305697.45	3.00
AC280		AC280	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168722.86	2305632.34	3.00
AC281		AC281	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168766.26	2305628.00	3.00
AC282		AC282	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168764.09	2305682.26	3.00
AC283		AC283	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168824.85	2305693.11	3.00
AC284		AC284	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168814.00	2305641.02	3.00
AC285		AC285	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168859.58	2305632.34	3.00
AC286		AC286	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168857.41	2305688.77	3.00
AC287		AC287	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168905.15	2305690.94	3.00
AC288		AC288	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168907.32	2305632.34	3.00
AC289		AC289	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168850.90	2306053.35	3.00
AC290		AC290	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168794.47	2306042.50	3.00
AC291		AC291	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168746.73	2306051.18	3.00
AC292		AC292	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168692.48	2306049.01	3.00
AC293		AC293	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168649.07	2306049.01	3.00
AC294		AC294	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168531.89	2306044.67	3.00
AC295		AC295	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168481.97	2306042.50	3.00
AC296		AC296	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168425.55	2306044.67	3.00
AC297		AC297	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168366.95	2306033.82	3.00
AC298		AC298	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168308.36	2306072.88	3.00
AC299		AC299	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a			

Name	M.	ID	Result. PWL			Lw / Li			Operating Time			Height		Coordinates		
			Day	Evening	Night	Type	Value	norm.	Day	Special	Night	(ft)		X	Y	Z
			(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)			(ft)	(ft)	(ft)
AC300		AC300	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168275.81	2306185.73	3.00
AC301		AC301	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168273.64	2306235.64	3.00
AC302		AC302	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168260.62	2306281.21	3.00
AC303		AC303	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168249.77	2306341.98	3.00
AC304		AC304	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168238.92	2306385.38	3.00
AC305		AC305	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168230.24	2306433.12	3.00
AC306		AC306	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168221.56	2306483.04	3.00
AC307		AC307	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168204.19	2306532.95	3.00
AC308		AC308	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168193.34	2306582.86	3.00
AC309		AC309	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168314.87	2306650.14	3.00
AC310		AC310	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168323.55	2306593.71	3.00
AC311		AC311	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168334.40	2306548.14	3.00
AC312		AC312	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168347.42	2306493.89	3.00
AC313		AC313	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168364.78	2306446.15	3.00
AC314		AC314	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168373.47	2306398.40	3.00
AC315		AC315	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168384.32	2306350.66	3.00
AC316		AC316	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168399.51	2306300.75	3.00
AC317		AC317	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168401.68	2306250.83	3.00
AC318		AC318	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168423.38	2306190.07	3.00
AC319		AC319	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168503.67	2306194.41	3.00
AC320		AC320	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168494.99	2306246.49	3.00
AC321		AC321	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168475.46	2306296.41	3.00
AC322		AC322	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168466.78	2306346.32	3.00
AC323		AC323	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168453.76	2306398.40	3.00
AC324		AC324	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168438.57	2306439.63	3.00
AC325		AC325	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168438.57	2306487.38	3.00
AC326		AC326	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168421.21	2306539.46	3.00
AC327		AC327	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168410.36	2306587.20	3.00
AC328		AC328	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168390.83	2306639.29	3.00
AC329		AC329	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168377.81	2306682.69	3.00
AC330		AC330	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168508.01	2306736.94	3.00
AC331		AC331	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168560.10	2306760.82	3.00
AC332		AC332	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168601.33	2306780.35	3.00
AC333		AC333	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168649.07	2306799.88	3.00
AC334		AC334	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168696.82	2306819.41	3.00
AC335		AC335	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168729.37	2306756.48	3.00
AC336		AC336	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168683.80	2306736.94	3.00
AC337		AC337	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168627.37	2306719.58	3.00
AC338		AC338	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168586.14	2306702.22	3.00
AC339		AC339	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168531.89	2306687.03	3.00
AC340		AC340	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168555.76	2306535.12	3.00
AC341		AC341	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168570.95	2306483.04	3.00
AC342		AC342	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168586.14	2306433.12	3.00
AC343		AC343	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168592.65	2306383.21	3.00
AC344		AC344	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168603.50	2306339.81	3.00
AC345		AC345	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168612.18	2306292.07	3.00
AC346		AC346	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168625.20	2306244.32	3.00
AC347		AC347	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168646.90	2306192.24	3.00
AC348		AC348	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168720.69	2306207.43	3.00
AC349		AC349	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168703.33	2306255.17	3.00
AC350		AC350	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168698.99	2306307.26	3.00
AC351		AC351	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168692.48	2306352.83	3.00
AC352		AC352	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168668.60	2306402.74	3.00
AC353		AC353	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168666.43	2306459.17	3.00
AC354		AC354	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168638.22	2306556.82	3.00
AC355		AC355	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168651.24	2306498.23	3.00
AC356		AC356	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168764.09	2306626.27	3.00
AC357		AC357	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168781.45	2306572.01	3.00
AC358		AC358	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168794.47	2306528.61	3.00
AC359		AC359	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168814.00	2306483.04	3.00
AC360		AC360	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168822.68	2306428.78	3.00
AC361		AC361	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168840.05	2306378.87	3.00
AC362		AC362	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168842.22	2306328.96	3.00
AC363		AC363	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168853.07	2306276.87	3.00
AC364		AC364	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168853.07	2306224.79	3.00
AC365		AC365	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168857.41	2306166.20	3.00
AC366		AC366	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168714.18	2307055.95	3.00
AC367		AC367	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168733.71	2307012.55	3.00
AC368		AC368	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168746.73	2306969.15	3.00
AC369		AC369	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168796.64	2307086.34	3.00
AC370		AC370	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168809.66	2307038.59	3.00
AC371		AC371	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168827.02	2306997.36	3.00
AC372		AC372	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168861.75	2307112.38	3.00
AC373		AC373	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168881.28	2307068.98	3.00
AC374		AC374	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168887.79	2307021.23	3.00
AC375		AC375	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168933.36	2307136.25	3.00
AC376		AC376	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a			

Name	M.	ID	Result. PWL			Lw / Li			Operating Time			Height		Coordinates		
			Day	Evening	Night	Type	Value	norm.	Day	Special	Night			X	Y	Z
			(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	(ft)		(ft)	(ft)	(ft)
AC377		AC377	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168968.08	2307049.44	3.00
AC378		AC378	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169054.89	2307142.76	3.00
AC379		AC379	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169089.61	2307153.61	3.00
AC380		AC380	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169139.52	2307173.14	3.00
AC381		AC381	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169074.42	2307060.29	3.00
AC382		AC382	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169119.99	2307075.49	3.00
AC383		AC383	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169167.74	2307095.02	3.00
AC384		AC384	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169109.14	2306995.19	3.00
AC385		AC385	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169146.03	2307014.72	3.00
AC386		AC386	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169187.27	2307027.74	3.00
AC387		AC387	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169130.84	2306919.24	3.00
AC388		AC388	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169167.74	2306934.43	3.00
AC389		AC389	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169208.97	2306949.62	3.00
AC390		AC390	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169152.55	2306856.30	3.00
AC391		AC391	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169193.78	2306869.32	3.00
AC392		AC392	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169239.35	2306886.68	3.00
AC393		AC393	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169189.44	2306776.01	3.00
AC394		AC394	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169221.99	2306806.39	3.00
AC395		AC395	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169261.05	2306806.39	3.00
AC396		AC396	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169208.97	2306721.75	3.00
AC397		AC397	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169243.69	2306730.43	3.00
AC398		AC398	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169289.26	2306747.79	3.00
AC399		AC399	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169235.01	2306626.27	3.00
AC400		AC400	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169274.07	2306650.14	3.00
AC401		AC401	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169310.97	2306665.33	3.00
AC402		AC402	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169330.50	2306595.88	3.00
AC403		AC403	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169287.09	2306576.35	3.00
AC404		AC404	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169245.86	2306576.35	3.00
AC405		AC405	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169269.73	2306480.87	3.00
AC406		AC406	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169304.45	2306502.57	3.00
AC407		AC407	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169347.86	2306502.57	3.00
AC408		AC408	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169365.22	2306433.12	3.00
AC409		AC409	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169321.82	2306428.78	3.00
AC410		AC410	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169278.41	2306426.61	3.00
AC411		AC411	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169291.43	2306344.15	3.00
AC412		AC412	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169326.16	2306355.00	3.00
AC413		AC413	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169371.73	2306355.00	3.00
AC414		AC414	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169382.58	2306279.04	3.00
AC415		AC415	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169339.18	2306276.87	3.00
AC416		AC416	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169295.77	2306276.87	3.00
AC417		AC417	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169304.45	2306194.41	3.00
AC418		AC418	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169337.01	2306200.92	3.00
AC419		AC419	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169386.92	2306196.58	3.00
AC420		AC420	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168050.11	2306517.76	3.00
AC421		AC421	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168100.03	2306526.44	3.00
AC422		AC422	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168141.26	2306537.29	3.00
AC423		AC423	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168162.96	2306457.00	3.00
AC424		AC424	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168117.39	2306448.32	3.00
AC425		AC425	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168076.16	2306439.63	3.00
AC426		AC426	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168080.50	2306374.53	3.00
AC427		AC427	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168130.41	2306376.70	3.00
AC428		AC428	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168173.81	2306389.72	3.00
AC429		AC429	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168193.34	2306307.26	3.00
AC430		AC430	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168149.94	2306309.43	3.00
AC431		AC431	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168106.54	2306296.41	3.00
AC432		AC432	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168121.73	2306229.13	3.00
AC433		AC433	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168162.96	2306233.47	3.00
AC434		AC434	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168204.19	2306242.15	3.00
AC435		AC435	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168221.56	2306166.20	3.00
AC436		AC436	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168178.15	2306159.69	3.00
AC437		AC437	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168139.09	2306151.01	3.00
AC438		AC438	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168149.94	2306077.22	3.00
AC439		AC439	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168186.83	2306090.24	3.00
AC440		AC440	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168236.75	2306101.09	3.00
AC441		AC441	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168254.11	2306016.46	3.00
AC442		AC442	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168208.53	2306014.29	3.00
AC443		AC443	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168169.47	2306005.61	3.00
AC444		AC444	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168202.02	2305832.00	3.00
AC445		AC445	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168247.60	2305836.34	3.00
AC446		AC446	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168295.34	2305847.19	3.00
AC447		AC447	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168312.70	2305743.02	3.00
AC448		AC448	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168271.47	2305738.68	3.00
AC449		AC449	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168223.73	2305736.51	3.00
AC450		AC450	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168243.26	2305654.04	3.00
AC451		AC451	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168280.15	2305654.04	3.00
AC452		AC452	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168323.55	2305662.73	3.00
AC453		AC453	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168254.11	2305573.75	3.00

Name	M.	ID	Result. P.WL			Lw / Li			Operating Time			Height		Coordinates		
			Day	Evening	Night	Type	Value	norm.	Day	Special	Night			X	Y	Z
			(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	(ft)		(ft)	(ft)	(ft)
AC454		AC454	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168295.34	2305580.26	3.00
AC455		AC455	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168338.74	2305593.28	3.00
AC456		AC456	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168351.76	2305517.33	3.00
AC457		AC457	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168308.36	2305508.65	3.00
AC458		AC458	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168262.79	2305497.79	3.00
AC459		AC459	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168280.15	2305430.52	3.00
AC460		AC460	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168314.87	2305434.86	3.00
AC461		AC461	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168358.27	2305441.37	3.00
AC462		AC462	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168375.64	2305354.57	3.00
AC463		AC463	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168332.23	2305365.42	3.00
AC464		AC464	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168288.83	2305352.40	3.00
AC465		AC465	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168293.17	2305285.12	3.00
AC466		AC466	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168338.74	2305287.29	3.00
AC467		AC467	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168386.49	2305295.97	3.00
AC468		AC468	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168397.34	2305217.85	3.00
AC469		AC469	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168345.25	2305211.34	3.00
AC470		AC470	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168306.19	2305198.32	3.00
AC471		AC471	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168314.87	2305131.04	3.00
AC472		AC472	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168353.93	2305137.55	3.00
AC473		AC473	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168410.36	2305144.06	3.00
AC474		AC474	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168410.36	2305057.26	3.00
AC475		AC475	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168371.30	2305065.94	3.00
AC476		AC476	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168323.55	2305059.43	3.00
AC477		AC477	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168334.40	2304989.98	3.00
AC478		AC478	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168369.12	2304992.15	3.00
AC479		AC479	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168410.36	2304992.15	3.00
AC480		AC480	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168425.55	2304918.37	3.00
AC481		AC481	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168377.81	2304907.52	3.00
AC482		AC482	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168349.59	2304911.86	3.00
AC483		AC483	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168345.25	2304723.06	3.00
AC484		AC484	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168384.32	2304723.06	3.00
AC485		AC485	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168432.06	2304729.57	3.00
AC486		AC486	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168432.06	2304642.76	3.00
AC487		AC487	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168382.15	2304647.10	3.00
AC488		AC488	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168340.91	2304649.27	3.00
AC489		AC489	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168340.91	2304582.00	3.00
AC490		AC490	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168384.32	2304573.32	3.00
AC491		AC491	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168436.40	2304584.17	3.00
AC492		AC492	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168438.57	2304497.36	3.00
AC493		AC493	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168384.32	2304503.87	3.00
AC494		AC494	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168349.59	2304501.70	3.00
AC495		AC495	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168345.25	2304417.07	3.00
AC496		AC496	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168384.32	2304430.09	3.00
AC497		AC497	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168434.23	2304430.09	3.00
AC498		AC498	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168436.40	2304347.62	3.00
AC499		AC499	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168388.66	2304349.79	3.00
AC500		AC500	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168347.42	2304351.96	3.00
AC501		AC501	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168347.42	2304278.18	3.00
AC502		AC502	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168382.15	2304273.84	3.00
AC503		AC503	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168429.89	2304282.52	3.00
AC504		AC504	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168427.72	2304193.54	3.00
AC505		AC505	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168384.32	2304206.56	3.00
AC506		AC506	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168336.57	2304193.54	3.00
AC507		AC507	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168340.91	2304124.10	3.00
AC508		AC508	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168386.49	2304134.95	3.00
AC509		AC509	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168427.72	2304130.61	3.00
AC510		AC510	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168429.89	2304043.80	3.00
AC511		AC511	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168386.49	2304050.31	3.00
AC512		AC512	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168338.74	2304052.48	3.00
AC513		AC513	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168336.57	2303989.55	3.00
AC514		AC514	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168377.81	2303980.87	3.00
AC515		AC515	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168427.72	2303983.04	3.00
AC516		AC516	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168421.21	2303889.72	3.00
AC517		AC517	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168377.81	2303900.57	3.00
AC518		AC518	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168345.25	2303907.08	3.00
AC519		AC519	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168338.74	2303835.47	3.00
AC520		AC520	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168375.64	2303837.64	3.00
AC521		AC521	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168423.38	2303835.47	3.00
AC522		AC522	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168325.72	2303748.66	3.00
AC523		AC523	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168373.47	2303746.49	3.00
AC524		AC524	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168423.38	2303744.32	3.00
AC525		AC525	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168423.38	2303692.24	3.00
AC526		AC526	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168369.12	2303687.90	3.00
AC527		AC527	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168332.23	2303694.41	3.00
AC528		AC528	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168325.72	2303605.43	3.00
AC529		AC529	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168382.15	2303605.43	3.00
AC530		AC530	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168503.67	2304113.25	3.00

Name	M.	ID	Result. PWL			Lw / Li			Operating Time			Height		Coordinates		
			Day	Evening	Night	Type	Value	norm.	Day	Special	Night	(ft)		X	Y	Z
			(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)			(ft)	(ft)	(ft)
AC531		AC531	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168555.76	2304108.91	3.00
AC532		AC532	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168468.95	2304072.01	3.00
AC533		AC533	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168473.29	2304022.10	3.00
AC534		AC534	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168499.33	2303987.38	3.00
AC535		AC535	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168549.25	2303998.23	3.00
AC536		AC536	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168551.42	2303946.15	3.00
AC537		AC537	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168503.67	2303952.66	3.00
AC538		AC538	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168468.95	2303922.27	3.00
AC539		AC539	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168468.95	2303870.19	3.00
AC540		AC540	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168488.48	2303835.47	3.00
AC541		AC541	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168549.25	2303844.15	3.00
AC542		AC542	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168547.08	2303794.24	3.00
AC543		AC543	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168503.67	2303802.92	3.00
AC544		AC544	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168468.95	2303770.36	3.00
AC545		AC545	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168466.78	2303718.28	3.00
AC546		AC546	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168497.16	2303683.56	3.00
AC547		AC547	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168549.25	2303690.07	3.00
AC548		AC548	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168664.26	2304108.91	3.00
AC549		AC549	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168690.31	2304067.67	3.00
AC550		AC550	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168738.05	2304072.01	3.00
AC551		AC551	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168681.62	2304024.27	3.00
AC552		AC552	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168738.05	2304022.10	3.00
AC553		AC553	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168766.26	2304104.57	3.00
AC554		AC554	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168820.51	2304104.57	3.00
AC555		AC555	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168853.07	2304076.35	3.00
AC556		AC556	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168840.05	2304026.44	3.00
AC557		AC557	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168840.05	2303907.08	3.00
AC558		AC558	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168742.39	2303911.42	3.00
AC559		AC559	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168688.14	2303915.76	3.00
AC560		AC560	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168690.31	2303872.36	3.00
AC561		AC561	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168733.71	2303868.02	3.00
AC562		AC562	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168657.75	2303828.96	3.00
AC563		AC563	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168655.58	2303785.56	3.00
AC564		AC564	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168688.14	2303748.66	3.00
AC565		AC565	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168729.37	2303748.66	3.00
AC566		AC566	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168677.28	2303700.92	3.00
AC567		AC567	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168735.88	2303703.09	3.00
AC568		AC568	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168835.70	2303703.09	3.00
AC569		AC569	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168848.73	2303748.66	3.00
AC570		AC570	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168820.51	2303785.56	3.00
AC571		AC571	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168761.92	2303787.73	3.00
AC572		AC572	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168761.92	2303828.96	3.00
AC573		AC573	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168820.51	2303837.64	3.00
AC574		AC574	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168848.73	2303863.68	3.00
AC575		AC575	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168842.22	2303596.75	3.00
AC576		AC576	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168740.22	2303592.41	3.00
AC577		AC577	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168683.80	2303592.41	3.00
AC578		AC578	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168583.97	2303592.41	3.00
AC579		AC579	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168523.20	2303592.41	3.00
AC580		AC580	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168414.70	2303592.41	3.00
AC581		AC581	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168410.36	2303546.84	3.00
AC582		AC582	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168445.08	2303512.12	3.00
AC583		AC583	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168503.67	2303512.12	3.00
AC584		AC584	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168536.23	2303540.33	3.00
AC585		AC585	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168573.12	2303544.67	3.00
AC586		AC586	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168601.33	2303507.78	3.00
AC587		AC587	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168655.58	2303505.61	3.00
AC588		AC588	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168685.97	2303544.67	3.00
AC589		AC589	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168731.54	2303540.33	3.00
AC590		AC590	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168753.24	2303505.61	3.00
AC591		AC591	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168814.00	2303503.44	3.00
AC592		AC592	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168848.73	2303535.99	3.00
AC593		AC593	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168850.90	2303438.33	3.00
AC594		AC594	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168831.36	2303386.25	3.00
AC595		AC595	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168811.83	2303462.20	3.00
AC596		AC596	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168757.58	2303464.37	3.00
AC597		AC597	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168722.86	2303438.33	3.00
AC598		AC598	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168725.03	2303381.91	3.00
AC599		AC599	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168677.28	2303379.74	3.00
AC600		AC600	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168683.80	2303425.31	3.00
AC601		AC601	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168659.92	2303462.20	3.00
AC602		AC602	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168601.33	2303464.37	3.00
AC603		AC603	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168570.95	2303427.48	3.00
AC604		AC604	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168575.29	2303390.59	3.00
AC605		AC605	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168516.69	2303381.91	3.00
AC606		AC606	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168525.37	2303418.80	3.00
AC607		AC607	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a			

Name	M.	ID	Result. PWL			Lw / Li			Operating Time			Height		Coordinates		
			Day	Evening	Night	Type	Value	norm.	Day	Special	Night	(ft)		X	Y	Z
			(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)			(ft)	(ft)	(ft)
AC608		AC608	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168449.42	2303460.03	3.00
AC609		AC609	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168412.53	2303425.31	3.00
AC610		AC610	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168423.38	2303377.57	3.00
AC611		AC611	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168809.66	2306855.87	3.00
AC612		AC612	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168856.54	2306884.51	3.00
AC613		AC613	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168952.89	2306923.58	3.00
AC614		AC614	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169010.18	2306933.99	3.00
AC615		AC615	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169046.64	2306837.64	3.00
AC616		AC616	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168942.48	2306868.89	3.00
AC617		AC617	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168963.31	2306829.83	3.00
AC618		AC618	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168913.83	2306811.60	3.00
AC619		AC619	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168900.81	2306853.26	3.00
AC620		AC620	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168848.73	2306769.93	3.00
AC621		AC621	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168864.35	2306712.64	3.00
AC622		AC622	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168887.79	2306767.33	3.00
AC623		AC623	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168906.02	2306733.47	3.00
AC624		AC624	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169004.98	2306811.60	3.00
AC625		AC625	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169015.39	2306780.35	3.00
AC626		AC626	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169062.27	2306788.16	3.00
AC627		AC627	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169007.58	2306736.08	3.00
AC628		AC628	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168955.50	2306725.66	3.00
AC629		AC629	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168963.31	2306665.76	3.00
AC630		AC630	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169020.60	2306686.60	3.00
AC631		AC631	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168900.81	2306621.49	3.00
AC632		AC632	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168950.29	2306624.10	3.00
AC633		AC633	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169062.27	2306663.16	3.00
AC634		AC634	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169106.54	2306689.20	3.00
AC635		AC635	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169119.56	2306631.91	3.00
AC636		AC636	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169070.08	2306624.10	3.00
AC637		AC637	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168960.70	2306585.03	3.00
AC638		AC638	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168919.04	2306553.78	3.00
AC639		AC639	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168994.56	2306558.99	3.00
AC640		AC640	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169051.85	2306579.83	3.00
AC641		AC641	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169064.87	2306535.56	3.00
AC642		AC642	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169012.79	2306504.31	3.00
AC643		AC643	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169148.20	2306525.14	3.00
AC644		AC644	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169101.33	2306512.12	3.00
AC645		AC645	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168994.56	2306470.45	3.00
AC646		AC646	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168942.48	2306470.45	3.00
AC647		AC647	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168963.31	2306405.35	3.00
AC648		AC648	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169002.37	2306426.18	3.00
AC649		AC649	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169111.75	2306462.64	3.00
AC650		AC650	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169158.62	2306473.06	3.00
AC651		AC651	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169176.85	2306371.49	3.00
AC652		AC652	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169080.50	2306426.18	3.00
AC653		AC653	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169044.04	2306392.33	3.00
AC654		AC654	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169096.12	2306379.31	3.00
AC655		AC655	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169049.25	2306348.06	3.00
AC656		AC656	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169127.37	2306345.45	3.00
AC657		AC657	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169127.37	2306311.60	3.00
AC658		AC658	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169182.06	2306308.99	3.00
AC659		AC659	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169187.27	2306210.03	3.00
AC660		AC660	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169145.60	2306199.62	3.00
AC661		AC661	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169111.75	2306223.06	3.00
AC662		AC662	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169106.54	2306275.14	3.00
AC663		AC663	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169023.20	2306308.99	3.00
AC664		AC664	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168965.91	2306314.20	3.00
AC665		AC665	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168976.33	2306254.31	3.00
AC666		AC666	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168976.33	2306163.16	3.00
AC667		AC667	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169020.60	2306142.33	3.00
AC668		AC668	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169057.06	2306176.18	3.00
AC669		AC669	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169057.06	2306225.66	3.00
AC670		AC670	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169031.02	2306259.51	3.00
AC671		AC671	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168596.12	2307009.51	3.00
AC672		AC672	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168622.16	2306957.43	3.00
AC673		AC673	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168525.81	2306983.47	3.00
AC674		AC674	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168546.64	2306926.18	3.00
AC675		AC675	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168445.08	2306947.01	3.00
AC676		AC676	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168468.52	2306894.93	3.00
AC677		AC677	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168372.16	2306913.16	3.00
AC678		AC678	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168393.00	2306855.87	3.00
AC679		AC679	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168296.64	2306881.91	3.00
AC680		AC680	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168322.68	2306827.22	3.00
AC681		AC681	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168215.91	2306850.66	3.00
AC682		AC682	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168241.95	2306798.58	3.00
AC683		AC683	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168148.20	2306822.01	3.00
AC684		AC684	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a			

Name	M.	ID	Result. PWL			Lw / Li			Operating Time			Height		Coordinates		
			Day	Evening	Night	Type	Value	norm.	Day	Special	Night	(ft)		X	Y	Z
			(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)			(ft)	(ft)	(ft)
AC685		AC685	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168075.29	2306785.56	3.00
AC686		AC686	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168098.73	2306733.47	3.00
AC687		AC687	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6167991.95	2306754.31	3.00
AC688		AC688	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168023.20	2306697.01	3.00
AC689		AC689	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6167932.06	2306707.43	3.00
AC690		AC690	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6167952.89	2306660.56	3.00
AC691		AC691	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6167866.95	2306512.12	3.00
AC692		AC692	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6167926.85	2306522.53	3.00
AC693		AC693	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6167947.68	2306449.62	3.00
AC694		AC694	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6167882.58	2306433.99	3.00
AC695		AC695	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6167893.00	2306350.66	3.00
AC696		AC696	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6167952.89	2306368.89	3.00
AC697		AC697	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6167919.04	2306280.35	3.00
AC698		AC698	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6167978.93	2306290.76	3.00
AC699		AC699	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6167929.45	2306197.01	3.00
AC700		AC700	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6167991.95	2306210.03	3.00
AC701		AC701	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6167958.10	2306113.68	3.00
AC702		AC702	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168007.58	2306129.31	3.00
AC703		AC703	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6167971.12	2306043.37	3.00
AC704		AC704	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168028.41	2306048.58	3.00
AC705		AC705	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6167978.93	2305960.03	3.00
AC706		AC706	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168038.83	2305970.45	3.00
AC707		AC707	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168033.62	2305769.93	3.00
AC708		AC708	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168080.50	2305788.16	3.00
AC709		AC709	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168049.25	2305689.20	3.00
AC710		AC710	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168101.33	2305707.43	3.00
AC711		AC711	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168064.87	2305616.28	3.00
AC712		AC712	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168114.35	2305626.70	3.00
AC713		AC713	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168070.08	2305530.35	3.00
AC714		AC714	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168129.98	2305543.37	3.00
AC715		AC715	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168085.70	2305449.62	3.00
AC716		AC716	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168135.18	2305460.03	3.00
AC717		AC717	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168093.52	2305374.10	3.00
AC718		AC718	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168148.20	2305384.51	3.00
AC719		AC719	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168109.14	2305290.76	3.00
AC720		AC720	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168158.62	2305298.58	3.00
AC721		AC721	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168111.75	2305212.64	3.00
AC722		AC722	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168166.43	2305217.85	3.00
AC723		AC723	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168127.37	2305131.91	3.00
AC724		AC724	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168189.87	2305139.72	3.00
AC725		AC725	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168129.98	2305053.78	3.00
AC726		AC726	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168189.87	2305058.99	3.00
AC727		AC727	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168140.39	2304970.45	3.00
AC728		AC728	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168197.68	2304975.66	3.00
AC729		AC729	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168150.81	2304889.72	3.00
AC730		AC730	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168202.89	2304892.33	3.00
AC731		AC731	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168218.52	2304736.08	3.00
AC732		AC732	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168156.02	2304738.68	3.00
AC733		AC733	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168163.83	2304647.53	3.00
AC734		AC734	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168218.52	2304650.14	3.00
AC735		AC735	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168174.25	2304564.20	3.00
AC736		AC736	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168228.93	2304558.99	3.00
AC737		AC737	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168166.43	2304467.85	3.00
AC738		AC738	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168221.12	2304473.06	3.00
AC739		AC739	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168166.43	2304389.72	3.00
AC740		AC740	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168213.31	2304389.72	3.00
AC741		AC741	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168166.43	2304298.58	3.00
AC742		AC742	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168213.31	2304295.97	3.00
AC743		AC743	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168156.02	2304215.24	3.00
AC744		AC744	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168213.31	2304215.24	3.00
AC745		AC745	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168169.04	2304121.49	3.00
AC746		AC746	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168213.31	2304124.10	3.00
AC747		AC747	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168166.43	2304043.37	3.00
AC748		AC748	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168215.91	2304038.16	3.00
AC749		AC749	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168166.43	2303949.62	3.00
AC750		AC750	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168215.91	2303949.62	3.00
AC751		AC751	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168163.83	2303868.89	3.00
AC752		AC752	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168210.70	2303871.49	3.00
AC753		AC753	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168166.43	2303782.95	3.00
AC754		AC754	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168205.50	2303780.35	3.00
AC755		AC755	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168150.81	2303697.01	3.00
AC756		AC756	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168202.89	2303694.41	3.00
AC757		AC757	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168153.41	2303605.87	3.00
AC758		AC758	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168200.29	2303605.87	3.00
AC759		AC759	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168161.23	2303522.53	3.00
AC760		AC760	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168202.89	2303519.93	3.00
AC761		AC761	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a			

Name	M.	ID	Result. PWL			Lw / Li			Operating Time			Height		Coordinates		
			Day	Evening	Night	Type	Value	norm.	Day	Special	Night	(ft)		X	Y	Z
			(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)			(ft)	(ft)	(ft)
AC762		AC762	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168200.29	2303428.78	3.00
AC763		AC763	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168161.23	2303342.85	3.00
AC764		AC764	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168202.89	2303348.06	3.00
AC765		AC765	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168145.60	2303256.91	3.00
AC766		AC766	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168197.68	2303251.70	3.00
AC767		AC767	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168338.31	2303264.72	3.00
AC768		AC768	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168338.31	2303210.03	3.00
AC769		AC769	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168429.45	2303254.31	3.00
AC770		AC770	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168424.25	2303204.83	3.00
AC771		AC771	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168510.18	2303262.12	3.00
AC772		AC772	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168507.58	2303204.83	3.00
AC773		AC773	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168601.33	2303259.51	3.00
AC774		AC774	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168598.73	2303204.83	3.00
AC775		AC775	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168679.45	2303251.70	3.00
AC776		AC776	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168679.45	2303202.22	3.00
AC777		AC777	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168778.41	2303256.91	3.00
AC778		AC778	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168773.20	2303207.43	3.00
AC779		AC779	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168859.14	2303251.70	3.00
AC780		AC780	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168851.33	2303191.81	3.00
AC781		AC781	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168947.68	2303251.70	3.00
AC782		AC782	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168950.29	2303202.22	3.00
AC783		AC783	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168215.91	2303025.14	3.00
AC784		AC784	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168218.52	2302965.24	3.00
AC785		AC785	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168218.52	2302905.35	3.00
AC786		AC786	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168221.12	2302835.03	3.00
AC787		AC787	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168213.31	2302660.56	3.00
AC788		AC788	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168215.91	2302595.45	3.00
AC789		AC789	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168215.91	2302525.14	3.00
AC790		AC790	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168208.10	2302460.03	3.00
AC791		AC791	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168307.06	2302462.64	3.00
AC792		AC792	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168314.87	2302548.58	3.00
AC793		AC793	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168312.27	2302624.10	3.00
AC794		AC794	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168314.87	2302876.70	3.00
AC795		AC795	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168320.08	2302936.60	3.00
AC796		AC796	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168314.87	2303009.51	3.00
AC797		AC797	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168465.91	2302996.49	3.00
AC798		AC798	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168468.52	2302907.95	3.00
AC799		AC799	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168468.52	2302837.64	3.00
AC800		AC800	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168390.39	2302795.97	3.00
AC801		AC801	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168403.41	2302673.58	3.00
AC802		AC802	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168473.73	2302670.97	3.00
AC803		AC803	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168471.12	2302585.03	3.00
AC804		AC804	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168465.91	2302517.33	3.00
AC805		AC805	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168465.91	2302454.83	3.00
AC806		AC806	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168562.27	2302449.62	3.00
AC807		AC807	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168564.87	2302509.51	3.00
AC808		AC808	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168567.48	2302569.41	3.00
AC809		AC809	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168564.87	2302644.93	3.00
AC810		AC810	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168629.98	2302681.39	3.00
AC811		AC811	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168723.73	2302681.39	3.00
AC812		AC812	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168728.93	2302608.47	3.00
AC813		AC813	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168726.33	2302548.58	3.00
AC814		AC814	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168726.33	2302483.47	3.00
AC815		AC815	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168820.08	2302444.41	3.00
AC816		AC816	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168820.08	2302506.91	3.00
AC817		AC817	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168820.08	2302569.41	3.00
AC818		AC818	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168898.20	2302582.43	3.00
AC819		AC819	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168965.91	2302574.62	3.00
AC820		AC820	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168973.73	2302512.12	3.00
AC821		AC821	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168965.91	2302460.03	3.00
AC822		AC822	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168580.50	2303004.31	3.00
AC823		AC823	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168575.29	2302926.18	3.00
AC824		AC824	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168572.68	2302832.43	3.00
AC825		AC825	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168635.18	2302790.76	3.00
AC826		AC826	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168721.12	2302803.78	3.00
AC827		AC827	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168723.73	2302889.72	3.00
AC828		AC828	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168723.73	2302983.47	3.00
AC829		AC829	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168838.31	2302991.28	3.00
AC830		AC830	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168838.31	2302928.78	3.00
AC831		AC831	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168859.14	2302863.68	3.00
AC832		AC832	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168934.66	2302861.08	3.00
AC833		AC833	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168984.14	2302913.16	3.00
AC834		AC834	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6168981.54	2302988.68	3.00
AC835		AC835	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169163.83	2302996.49	3.00
AC836		AC836	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169169.04	2302923.58	3.00
AC837		AC837	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169161.23	2302822.01	3.00
AC838		AC838	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a			

Name	M.	ID	Result. PWL			Lw / Li			Operating Time			Height		Coordinates		
			Day	Evening	Night	Type	Value	norm.	Day	Special	Night			X	Y	Z
			(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	(ft)		(ft)	(ft)	(ft)
AC839		AC839	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169312.27	2302822.01	3.00
AC840		AC840	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169320.08	2302905.35	3.00
AC841		AC841	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169314.87	2302983.47	3.00
AC842		AC842	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169320.08	2303051.18	3.00
AC843		AC843	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169153.41	2302436.60	3.00
AC844		AC844	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169156.02	2302491.28	3.00
AC845		AC845	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169163.83	2302551.18	3.00
AC846		AC846	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169169.04	2302621.49	3.00
AC847		AC847	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169241.95	2302631.91	3.00
AC848		AC848	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169325.29	2302631.91	3.00
AC849		AC849	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169320.08	2302556.39	3.00
AC850		AC850	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169322.68	2302486.08	3.00
AC851		AC851	76.0	76.0	76.0	Lw	76		675.00	0.00	270.00	3.00	a	6169320.08	2302415.76	3.00

APPENDIX 11.1:
CONSTRUCTION NOISE CALCULATIONS

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14368 - Vernola Ranch - Construction

CadnaA Noise Prediction Model: 14368-02_Construction.cna

Date: 12.04.23

Analyst: B. Maddux

Calculation Configuration

Configuration	
Parameter	Value
General	
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 Rcvr - 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 (TNM)	
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)
R1		R1	52.8	-50.2	49.8	0.0	0.0	0.0		x	Total	5.00	a 6167474.60	2306468.05	5.00
R2		R2	55.9	-47.1	52.9	0.0	0.0	0.0		x	Total	5.00	a 6169525.58	2306550.19	5.00
R3		R3	58.1	-44.9	55.1	0.0	0.0	0.0		x	Total	5.00	a 6169535.21	2305619.46	5.00
R4		R4	58.1	-44.9	55.1	0.0	0.0	0.0		x	Total	5.00	a 6169536.20	2304536.87	5.00
R5		R5	57.7	-45.3	54.7	0.0	0.0	0.0		x	Total	5.00	a 6169521.01	2302772.64	5.00

Point Source(s)

Name	M.	ID	Result. PWL			Lw / Li			Operating Time			Height	Coordinates		
			Day	Evening	Night	Type	Value	norm.	Day	Special	Night		X	Y	Z
			(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	(ft)	(ft)	(ft)	(ft)

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)

Name	ID	Height			Coordinates			
		Begin	End		x	y	z	Ground
		(ft)	(ft)		(ft)	(ft)	(ft)	(ft)

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		CONSTRUCTION1	118.6	15.6	15.6	59.4	-43.6	-43.6	PWL-Pt	115.6					8 a

Name	ID	Height		Coordinates			
		Begin	End	x	y	z	Ground
		(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
CONSTRUCTION	CONSTRUCTION1	8.00	a	6169238.00	2307257.04	8.00	0.00
				6169384.89	2306786.26	8.00	0.00
				6169418.79	2306643.14	8.00	0.00
				6169456.45	2306466.12	8.00	0.00
				6169490.35	2306330.54	8.00	0.00
				6169497.88	2306198.72	8.00	0.00
				6169501.64	2306078.19	8.00	0.00
				6169502.50	2304328.82	8.00	0.00
				6169495.99	2303982.46	8.00	0.00
				6169456.45	2301012.54	8.00	0.00
				6168461.11	2301009.06	8.00	0.00
				6168461.42	2301129.43	8.00	0.00
				6168424.41	2301144.55	8.00	0.00
				6168407.09	2301154.56	8.00	0.00
				6168374.75	2301179.82	8.00	0.00
				6168335.58	2301229.19	8.00	0.00
				6168271.53	2301222.44	8.00	0.00
				6168179.82	2301447.68	8.00	0.00
				6168147.61	2301544.73	8.00	0.00
				6168108.74	2301680.25	8.00	0.00
				6168089.74	2301759.08	8.00	0.00
				6168079.05	2301810.13	8.00	0.00
				6168058.89	2301918.28	8.00	0.00
				6168047.06	2301998.50	8.00	0.00
				6168037.64	2302079.04	8.00	0.00
				6168030.65	2302159.83	8.00	0.00
				6168023.95	2302321.85	8.00	0.00
				6168020.61	2303981.25	8.00	0.00
				6168025.41	2304340.97	8.00	0.00
				6168024.72	2304585.96	8.00	0.00
				6168020.79	2304705.90	8.00	0.00
				6168014.43	2304825.73	8.00	0.00
				6168005.65	2304945.40	8.00	0.00
				6167994.45	2305064.88	8.00	0.00
				6167980.83	2305184.10	8.00	0.00
				6167964.80	2305303.03	8.00	0.00
				6167790.84	2306136.08	8.00	0.00
				6167755.88	2306288.71	8.00	0.00
				6167728.95	2306406.24	8.00	0.00
				6167728.58	2306700.89	8.00	0.00
				6167783.68	2306721.84	8.00	0.00
				6167782.22	2306780.39	8.00	0.00
				6168914.10	2307177.95	8.00	0.00
				6169015.79	2307208.08	8.00	0.00
				6169094.89	2307234.44	8.00	0.00

Barrier(s)

Name	Sel.	M.	ID	Absorption		Z-Ext.	Cantilever		Height		Coordinates			
				left	right		horz.	vert.	Begin	End	x	y	z	Ground
						(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)

Building(s)

Name	Sel.	M.	ID	RB	Residents	Absorption	Height	Coordinates			
							Begin	x	y	z	Ground
							(ft)	(ft)	(ft)	(ft)	(ft)

Ground Absorption(s)

Name	Sel.	M.	ID	G	Coordinates	
					x	y
					(ft)	(ft)

Vertical Area Source(s)

Name	ID	Height		Coordinates			
		Begin	End	x	y	z	Ground
		(ft)	(ft)	(ft)	(ft)	(ft)	(ft)

Rail

Name	Sel.	M.	ID	Lw'		Train Class	Correct.	Vmax
				Day	Night		Track	
				(dBA)	(dBA)		(dB)	(km(mph))

Roads

Name	Sel.	M.	ID	Lme			Count Data		exact Count Data						Speed Limit		SCS	Surface		Gradient	Mult. Reflection		
				Day	Evening	Night	DTV	Str.class.	M			p (%)			Auto	Truck	Dist.	Dstro	Type		Dreft	Hbuild	Dist.
				(dBA)	(dBA)	(dBA)			Day	Evening	Night	Day	Evening	Night	(mph)	(mph)		(dB)		(%)	(dB)	(ft)	(ft)

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