

Appendix E Noise Impact Analysis



Yorba Linda 2021-2029 Housing Element Implementation Programs Noise and Vibration Impact Analysis

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CITY OF YORBA LINDA

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13763-03 Noise Study



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LIST OF ABBREVIATED TERMS

(1)	Reference
ADT	Average Daily Traffic
ANSI	American National Standards Institute
Calveno	California Vehicle Noise
CEQA	California Environmental Quality Act
CNEL	Community Noise Equivalent Level
dBA	A-weighted decibels
EPA	Environmental Protection Agency
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
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
PPV	Peak Particle Velocity
Project	Yorba Linda 2021-2029 Housing Element Implementation
	Programs
REMEL	Reference Energy Mean Emission Level
RMS	Root-mean-square
VdB	Vibration Decibels



EXECUTIVE SUMMARY

Urban Crossroads, Inc. has prepared this program-level Noise and Vibration Impact Analysis to evaluate the proposed Yorba Linda 2021-2029 Housing Element Implementation Programs ("Project"). To address the City of Yorba Linda's regional housing needs assessment (RHNA) allocation, the Housing Element proposes a rezoning program of 27 vacant or underutilized sites for multifamily residential use at densities of 10 to 35 units to the acre. The Yorba Linda 2021 – 2029 Housing Element will revise the General Plan land use and development intensities for the 27 sites to accommodate approximately 2,100 additional dwelling units for a total of 2,410 dwelling units (including the existing zoning).

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

Anghuis	Report	Significance Findings			
Analysis	Section	Unmitigated	Mitigated		
Off-Site Traffic Noise	8	Less Than Significant	-		
Stationary Source Noise	9	Potentially Significant	Less than Significant		
Stationary Source Vibration	9	Less Than Significant	-		
Construction Noise	10	Potentially Significant	Significant and Unavoidable		
Construction Vibration	10	Potentially Significant	Less than Signficant		

TABLE ES-1: SUMMARY OF CEQA SIGNIFICANCE FINDINGS



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1 INTRODUCTION

This program-level Noise and Vibration Impact Analysis has been completed to determine the noise impacts due to development associated with the Yorba Linda 2021-2029 Housing Element Implementation Programs ("Project"). This Noise and Vibration Impact Analysis briefly describes typical compliance conditions for the proposed Project, provides information regarding noise fundamentals, describes the local regulatory setting, provides the study methods and procedures for traffic noise analysis, and evaluates the future exterior noise environment. In addition, this study includes an analysis of the potential Project-related long-term operational and short-term construction noise impacts.

1.1 **PROJECT DESCRIPTION**

To address the City of Yorba Linda's regional housing needs assessment (RHNA) allocation, the Housing Element proposes a rezoning program of 27 vacant or underutilized sites for multifamily residential use at densities of 10 to 35 units to the acre. The Yorba Linda 2021 – 2029 Housing Element will revise the General Plan land use and development intensities for the 27 sites to accommodate approximately 2,100 additional dwelling units for a total of 2,410 dwelling units (including the existing zoning).

The Noise and Vibration Impact Analysis will evaluate the proposed development intensities expected for the 27 sites and assess the potential off-site traffic noise level increases that result from the implementation of the rezoning and changes to land use. Exhibit 1-A identifies the locations of each of the Housing Element sites summarized on Table 1-1.

1.2 PROJECT RELATED NOISE SOURCE ACTIVITIES

The Yorba Linda 2021-2029 Housing Element Implementation Programs is not expected to include any specific type of stationary source levels beyond the typical noise sources associated with the planned multifamily residential land use. This includes residents moving around each of the sites, residential air conditioning units, and parking lot activities. Residential land use is generally considered a noise-sensitive receiving land use and is not expected to generate meaningful stationary source noise levels.



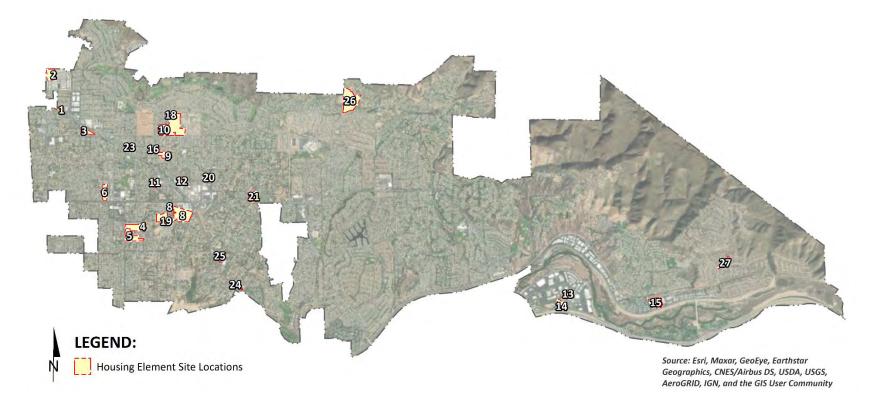


EXHIBIT 1-A: HOUSING ELEMENT SITE LOCATION MAP

#	HE Site ID	Site	Current Zoning	Proposed Zoning	Acres	Total Net Unit Potential
1	S1-021	W. of 16951 Imperial Highway	CG	Commercial Mixed Use Overlay	1.76	62
2	S1-200	SEC Rose Dr. & Blake Rd.	RE	RM-20 w/ Affordable Overlay	5.94	208
3	S2-008	17151 Bastanchury Rd.	RE	Congregational Land Overlay	4.92	60
4	S3-012	5320 Richfield Rd.	RU	Congregational Land Overlay	9.48	55
5	S3-207	5300-5392 Richfield Rd.	RU	RM-20 w/ Affordable Overlay	9.7	340
6	S2-013	4861 Liverpool St.	RU	Congregational Land Overlay	6.2	40
7	S3-074	18132 Yorba Linda Bl.	CG	RM-20 w/ Affordable Overlay	0.42	15
8	S3-024	Friends Church Overflow Parking	RE	Congregational Land Overlay	17.45	48
9	S3-033	4382 Eureka Av.	RS	Congregational Land Overlay	3.88	30
10	S3-210	18111 Bastanchury Rd.	PD-26	Congregational Land Overlay	9.23	105
11	S3-082	4791 & 4811 Eureka Av.	CG	RM-20 w/ Affordable Overlay	1.75	61
12	S4-075	4742 Plumosa Dr.	CG	RM-20 w/ Affordable Overlay	1.62	57
13	S6-015	22722 Old Canal Rd.	PD	Affordable Housing Overlay	2.56	89
14	S6-020	22711 Oak Crest Circle	PD	RM-20 w/ Affordable Housing Overlay	10.35	143
15	S7-001	Bryant Ranch Shopping Center	CG	Commercial Mixed Use Overlay	9.15	320
16	S3-034	4341 Eureka Av.	RS	RM	2.19	22
18	S3-203	18101-18251 Bastanchury Rd.	PD	PD	22.83	228
19	S3-205A	5225 & 5227 Highland Av.	RE	RM	7.08	71
20	S4-200	18597-18602 Altrudy Ln.	RS	RM-20	2	40
21	S4-204A	19045 Yorba Linda Bl.	RE	Congregational Land Overlay	1.85	17
	S4-204B	19081-19111 Yorba Linda Bl.	RE	RM-20	3.9	78
23	S3-211	17651 Imperial Highway	RS	RM	2.32	23
24	S4-053	SWC of Kellogg Dr. & Grandview Av.	RE	RM	0.98	10
25	S4-060	5541 S. Ohio St.	RE	RM	0.96	10
	S4-201	5531 S. Ohio St.	RE	RM	1.82	18
26	S5-008	Fairmont Bl.	PD	RM	23.01	230
27	S7-005	NEC of Camino del Bryant & Meadowland	RU	RM	3.06	30
				TOTAL	166.41	2,410

TABLE 1-1: SUMMARY OF HOUSING ELEMENT UNITS PER SITE



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2 FUNDAMENTALS

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

COMMON OUTDOOR ACTIVITIES	COMMON INDOOR ACTIVITIES	A - WEIGHTED SOUND LEVEL dBA	SUBJECTIVE LOUDNESS	EFFECTS OF NOISE
THRESHOLD OF PAIN		140		
NEAR JET ENGINE		130	INTOLERABLE OR	
the second s		120	DEAFENING	HEARING LOSS
JET FLY-OVER AT 300m (1000 ft)	ROCK BAND	110		no nu so so s
LOUD AUTO HORN		100	11	
GAS LAWN MOWER AT 1m (3 ft)		90	VERY NOISY	
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	SPEECH INTERFERENCE
HEAVY TRAFFIC AT 90m (300 ft)	NORMAL SPEECH AT 1m (3 ft)	60	2000	
QUIET URBAN DAYTIME	LARGE BUSINESS OFFICE	50	MODERATE	SLEEP
QUIET URBAN NIGHTTIME	THEATER, LARGE CONFERENCE ROOM (BACKGROUND)	40		DISTURBANCE
QUIET SUBURBAN NIGHTTIME	LIBRARY	30		
QUIET RURAL NIGHTTIME	BEDROOM AT NIGHT, CONCERT HALL (BACKGROUND)	20	FAINT	
	BROADCAST/RECORDING STUDIO	10	VERY FAINT	NO EFFECT
LOWEST THRESHOLD OF HUMAN HEARING	LOWEST THRESHOLD OF HUMAN HEARING	0	VERT FAIN)	

EXHIBIT 2-A: TYPICAL NOISE LEVELS

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. (2) 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 1,000 feet, which can cause serious discomfort. (3) Another important aspect of noise is the duration of the sound and the way it is described and distributed in time.

2.2 NOISE DESCRIPTORS

Environmental noise descriptors are generally based on averages, rather than instantaneous, noise levels. The most used metric 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.

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 noise can become more intrusive. CNEL does not represent the actual sound level heard at any time, but rather represents the total sound exposure. The City of Yorba Linda 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. (2)

2.3.2 GROUND ABSORPTION

The propagation path of noise from a highway to a receiver is usually very close to the ground. Noise attenuation from ground absorption and reflective wave canceling adds to the attenuation associated with geometric spreading. Traditionally, the excess attenuation has also been expressed in terms of attenuation per doubling of distance. This approximation is usually



sufficiently accurate for distances of less than 200 ft. For acoustically hard sites (i.e., sites with a reflective surface between the source and the receiver, such as a parking lot or body of water), no excess ground attenuation is assumed. For acoustically absorptive or soft sites (i.e., those sites with an absorptive ground surface between the source and the receiver such as soft dirt, grass, or scattered bushes and trees), an excess ground attenuation value of 1.5 dB per doubling of distance is normally assumed. When added to the cylindrical spreading, the excess ground attenuation results in an overall drop-off rate of 4.5 dB per doubling of distance from a line source. (4)

2.3.3 ATMOSPHERIC EFFECTS

Receivers located downwind from a source can be exposed to increased noise levels relative to calm conditions, whereas locations upwind can have lowered noise levels. Sound levels can be increased at large distances (e.g., more than 500 feet) due to atmospheric temperature inversion (i.e., increasing temperature with elevation). Other factors such as air temperature, humidity, and turbulence can also have significant effects. (2)

2.3.4 SHIELDING

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

2.4 NOISE CONTROL

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

2.5 Noise Barrier Attenuation

Effective noise barriers can reduce noise levels by 10 to 15 dBA, cutting the loudness of traffic noise in half. A noise barrier is most effective when placed close to the noise source or receiver. Noise barriers, however, do have limitations. For a noise barrier to work, it must block the line-of-sight path of sound from the noise source.



2.6 LAND USE COMPATIBILITY WITH NOISE

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

2.7 COMMUNITY RESPONSE TO NOISE

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

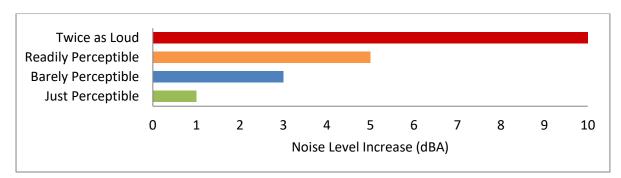
- Fear associated with noise producing activities;
- Socio-economic status and educational level;
- Perception that those affected are being unfairly treated;
- Attitudes regarding the usefulness of the noise-producing activity;
- Belief that the noise source can be controlled.

Approximately sixteen 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 may occur. Twenty to thirty percent of the population will not complain even in very severe noise environments. (7 pp. 8-6) Thus, a variety of reactions can be expected from people exposed to any given noise environment.

Surveys have shown that community response to noise varies from no reaction to vigorous action for newly introduced noises averaging from 10 dB below existing to 25 dB above existing. (8) According to research originally published in the Noise Effects Handbook (7), the percentage of high annoyance ranges from approximately 0 percent at 45 dB or less, 10 percent are highly annoyed around 60 dB, and increases rapidly to approximately 70 percent being highly annoyed at approximately 85 dB or greater. Despite this variability in behavior on an individual level, the population can be expected to exhibit the following responses to changes in noise levels as shown on Exhibit 2-B. A change of 3 dBA is considered barely perceptible, and changes of 5 dBA are considered readily perceptible. (4)







2.8 VIBRATION

Per the Federal Transit Administration (FTA) *Transit Noise Impact and Vibration Impact Assessment Manual* (8), vibration is the periodic oscillation of a medium or object. The rumbling sound caused by the vibration of room surfaces is called structure-borne noise. Sources of ground-borne vibrations include natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) or human-made causes (e.g., explosions, machinery, traffic, trains, construction equipment). Vibration sources may be continuous, such as factory machinery, or transient, such as explosions. As is the case with airborne sound, ground-borne vibrations may be described by amplitude and frequency.

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

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

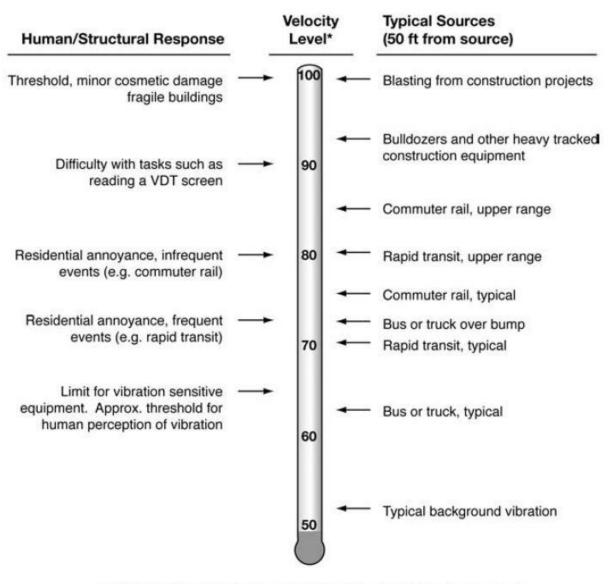


EXHIBIT 2-C: TYPICAL LEVELS OF GROUND-BORNE VIBRATION

* RMS Vibration Velocity Level in VdB relative to 10⁻⁶ inches/second

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



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). (9) 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 STANDARDS

The State of California's noise insulation standards are codified in the California Code of Regulations, Title 24, Building Standards Administrative Code, Part 2, and the California Building Code. These noise standards are applied to new construction in California for controlling interior noise levels resulting from exterior noise sources. The regulations specify that acoustical studies must be prepared when noise-sensitive structures, such as residential buildings, schools, or hospitals, are developed near major transportation noise sources, and where such noise sources create an exterior noise level of 60 dBA CNEL or higher. Acoustical studies that accompany building plans for noise-sensitive land uses must demonstrate that the structure has been designed to limit interior noise in habitable rooms to acceptable noise levels. For new residential buildings, schools, and hospitals, the acceptable interior noise limit for new construction is 45 dBA CNEL.

3.3 CITY OF YORBA LINDA ADOPTED GENERAL PLAN NOISE ELEMENT

City of Yorba Linda previously adopted a Noise Element of the General Plan (Chapter 12), to protect citizens from excessive exposure to noise conflicts and problems. (10) The Noise Element Policy Program identifies the following goals and polices related to noise:

Goal N-1: Indoor and outdoor living areas that are adequately protected from excessive transportation noise impacts.



Policies:

N-1.1	Ensure existing transportation no	ise sources comply with a	the City's noise ordinance.
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- *N-1.2* Consider appropriate technologies to mitigate excessive noise levels where necessary or where feasible
- *N-1.3* Ensure noise mitigation measures are clearly articulated and implemented prior to the approval of new roadway projects.
- *N-1.4* Ensure potentially excessive noise generators provide for the highest feasible level of noise mitigation and compliance with local, state, and federal noise standards.
- *N-1.5 Promote alternative transportation modes such as walking, bicycling, equestrian transportation, and transit to contribute to reducing or minimizing potential noise impacts*
- *Goal N-2:* Noise and land use compatibility.

Policies:

N-2.1	Ensure compliance with the (ity's established noise	thresholds for various land uses
IN-2.1	Lisure compliance with the C	ity s estublished house	chiesholus joi various lana ases

- *N-2.2* Ensure compliance with the City's established noise thresholds for noise sensitive receptors, land uses, and activities.
- *N-2.3* Ensure noise producing land uses and activities are designed and located to consider impacts to adjacent uses and activities.
- **Goal N-3:** Mitigate noise impacts from non-transportation sources

Policies:

- *N-3.1* Ensure compliance with standards and procedures for mitigating construction related activities that introduce excessive noise levels.
- *N-3.2 Promote coordination among City agencies involved in noise abatement.*
- Goal N-4: Mitigate noise impacts from non-transportation sources

Policies:

- *N-4.1* Consider noise impacts in the siting, design, and construction of new development to minimize noise impacts.
- *N-4.2 Consider alternative architectural layouts as a means of meeting noise requirements.*
- *N-4.3* Consider a combination of noise barriers, landscape berms, and architectural design treatments when needed to mitigate noise impacts.
- *N-4.4* Consider measures which alter, prohibit or mitigate noise generating uses through site design.



3.3.1 LAND USE COMPATIBILITY

The Noise Element provides several policies to ensure compatibility of land uses with their existing and future noise environments (Goal N-2) that includes establishing acceptable noise levels for various land uses. The City of Yorba Linda has adopted the transportation noise criteria contained in the California Office of Planning and Research (OPR) *General Plan Guidelines*. (11) The OPR land use/noise compatibility standards are used by many California cities and counties and specify the maximum noise levels allowable for new developments impacted by transportation noise sources. The OPR land use/noise compatibility criteria, found in Figure 2 of the *General Plan Guidelines*, *Appendix D: Noise Element Guidelines*. (11) The noise criteria identified in the City of Yorba Linda General Plan Noise Element, are guidelines to evaluate the land use compatibility of transportation-related noise. The compatibility criteria, shown on Exhibit 3-A, provide City of Yorba Linda with a planning tool to gauge the compatibility of land uses relative to existing and future exterior noise environment.

Single-family residential uses are considered *normally acceptable* with exterior noise levels of up to 60 CNEL and *conditionally acceptable* up to 70 CNEL. Multi-family residential land use is considered *normally acceptable* in exterior noise environments up to 65 CNEL and *conditionally acceptable* up to 70 CNEL. Schools, libraries, and churches are considered *normally acceptable* up to 70 CNEL, as are office buildings and business, commercial and professional uses. (10) A *conditionally acceptable* designation indicates that *new construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features are incorporated in the design. Conventional construction, but with windows closed and fresh air supply systems or air conditioning will normally suffice. By comparison, a <i>normally acceptable* designation indicates that standard construction can occur with no special noise reduction requirements.

3.3.2 TRANSPORTATION NOISE STANDARDS

To control transportation-related noise sources such as arterial roads, freeways, airports, and railroads, City of Yorba Linda has established the land use compatibility guidelines for exterior noise levels as previously described, and shown on Exhibit 3-A. For noise-sensitive uses, the Noise Element identifies the exterior noise level of 65 dBA CNEL for *conditionally acceptable* use. In addition, an interior noise level standard of 45 dBA CNEL for noise-sensitive interior uses is utilized in this Noise and Vibration Impact Analysis consistent with California Code of Regulations, Title 24, Building Standards for residential use.



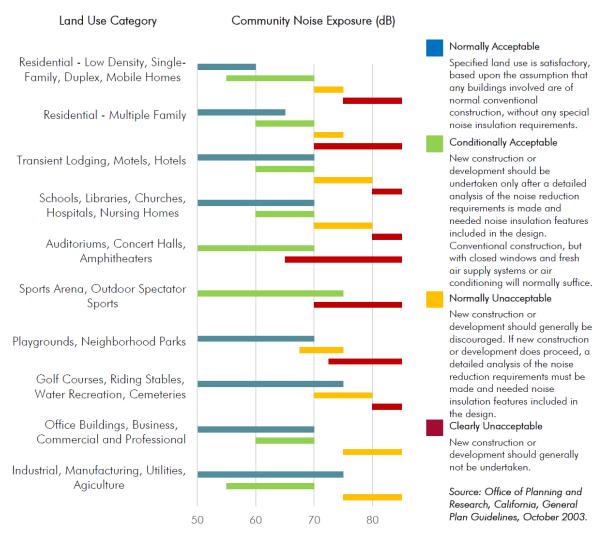


EXHIBIT 3-A: CRITERIA FOR NOISE-COMPATIBLE LAND USE

Source: City of Yorba Linda General Plan Noise Element Adopted October 2016, Page N-9.

3.4 CITY OF YORBA LINDA MUNICIPAL CODE

To analyze noise impacts originating from a designated fixed location or private property such as the Yorba Linda 2021-2029 Housing Element Implementation Programs, stationary-source (operational) noise such as the expected residents moving around each of the sites, residential air conditioning units, and parking lot activities are typically evaluated against standards established under a jurisdiction's Municipal Code. For all noise-sensitive residential properties, Section 8.32.060 of the Municipal Code identifies stationary source noise level limits for the daytime (7:00 a.m. to 10:00 p.m.) hours of 55 dBA L_{eq} and 50 dBA L_{eq} during the nighttime (10:00 p.m. to 7:00 a.m.) hours. (12) The exterior noise level standards shall apply for a cumulative period of more than 30 minutes in any hour, or the standard plus 10 dBA for a cumulative period of more than 15 minutes in any hour, or the standard plus 15 dBA for a cumulative period of more than 5 minutes in any hour, or the standard plus 15 dBA for a cumulative period of more than 5 minutes in any hour, or the standard plus 15 dBA for a cumulative period of more than 5 minutes in any hour, or the standard plus 15 dBA for a cumulative period of more than 5 minutes in any hour, or the standard plus 15 dBA for a cumulative period of more than 5 minutes in any hour, or the standard plus 15 dBA for a cumulative period of more than 5 minutes in any hour, or the standard plus 15 dBA for a cumulative period of more than 1 minute in any hour, or the standard plus 20 dBA for any period of time. Further, Section



8.32.060 indicates that if the existing ambient noise level already exceeds any of the exterior noise level limit categories, then the standard shall be adjusted to reflect the ambient conditions. The City of Yorba Linda Municipal Code noise standards are shown on Table 3-1 and included in Appendix 3.1.

	Time Period	Exterior Noise Level Standards (dBA) ²				
Land Use		L ₅₀ (30 mins)	L ₂₅ (15 mins)	L ₈ (5 mins)	L₂ (1 min)	L _{max} (Anytime)
Residential ¹	Daytime (7:00 a.m. to 10:00 p.m.)	55	60	65	70	75
Residential	Nighttime (10:00 p.m. to 7:00 a.m.)	50	55	60	65	70

TABLE 3-1: STATIONARY SOURCE NOISE LEVEL STANDARDS

¹Noise Zone 1 includes all residential properties in the City (Municipal Code, Section 8.32.050).

² Exterior noise standards (Municipal Code, Section 8.32.060).

The percent noise level is the level exceeded "n" percent of the time during the measurement period. L_{50} is the noise level exceeded 50% of the time.

The percentile noise descriptors are provided to ensure that the duration of the noise source is fully considered. However, due to the relatively constant intensity of the Project stationary source activities, the L_{50} or average L_{eq} noise level metrics best describe the residents moving around each of the sites, residential air conditioning units, and parking lot activities. In addition, the L_{eq} noise level metric accounts for noise fluctuations over time by averaging the louder and quieter events and giving more weight to the louder events. In addition, due to the mathematical relationship between the median (L_{50}) and the mean (L_{eq}), the L_{eq} will always be larger than or equal to the L_{50} . The more variable the noise becomes, the larger the L_{eq} becomes in comparison to the L_{50} . Therefore, this noise study conservatively relies on the average L_{eq} sound level limits to describe the Project stationary source noise levels.

3.5 CONSTRUCTION NOISE STANDARDS

According to Section 8.32.090[D] of the Municipal Code, noise sources associated with construction-related activities are typically exempt provided the activities do not take place between the hours of 7:00 a.m. to 8:00 p.m. on weekdays, including Saturday, or at any time on Sunday or federal holidays. While the City establishes limits to the hours during which construction activity may take place, neither the City of Yorba Linda General Plan or Municipal Codes establish numeric maximum acceptable construction source noise levels at potentially affected receivers, which would allow for a quantified determination of what CEQA constitutes a *substantial temporary or periodic noise increase*. Therefore, a numerical construction threshold based on Federal Transit Administration (FTA) *Transit Noise and Vibration Impact* Assessment Manual is used for analysis of daytime construction impacts, as discussed below.

According to the FTA, local noise ordinances are typically not very useful in evaluating construction noise. They usually relate to nuisance and hours of allowed activity, and sometimes specify limits in terms of maximum levels, but are generally not practical for assessing the impact of a construction project. Project construction noise criteria should account for the existing noise environment, the absolute noise levels during construction activities, the duration of the



construction, and the adjacent land use. Due to the lack of standardized construction noise thresholds, the FTA provides guidelines that can be considered reasonable criteria for construction noise assessment. The FTA considers a daytime exterior construction noise level of 80 dBA L_{eq} as a reasonable threshold for noise sensitive residential land use with a nighttime exterior construction noise level of 70 dBA L_{eq} (8 p. 179).

3.6 VIBRATION STANDARDS

Construction activity can result in varying degrees of ground-borne vibration, depending on the equipment and methods used, distance to the affected structures and soil type. Construction vibration is generally associated with pile driving and rock blasting. Other construction equipment such as air compressors, light trucks, hydraulic loaders, etc., generates little or no ground vibration (8).

To analyze vibration impacts associated with the Yorba Linda 2021-2029 Housing Element Implementation Programs, vibration-generating activities are appropriately evaluated against standards established under a City's Municipal Code if such standards exist. However, the City of Yorba Linda does not identify specific construction vibration level limits. Therefore, for analysis purposes, the Caltrans *Transportation and Construction Vibration Guidance Manual*, (13 p. 38) Table 19, vibration damage are used in this noise study to assess potential temporary construction-related impacts at adjacent building locations. Most buildings near the 27 vacant or underutilized sites can best be described as "older residential structures" with a maximum acceptable continuous vibration threshold of 0.3 PPV (in/sec).

While ground vibrations from construction activities do not often reach the levels that can damage structures, fragile buildings must receive special consideration. Fragile buildings represent structures and/or finishes that are possibly weakened due to the method of construction (such as unreinforced masonry) and deterioration with age and/or lack of adequate maintenance. Therefore, a more conservative maximum acceptable continuous vibration threshold for fragile buildings of 0.10 PPV (in/sec) is used.



4 SIGNIFICANCE CRITERIA

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

- A. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?
- B. Generation of excessive ground-borne vibration or ground-borne noise levels?
- C. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

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 ambient noise levels, and the location of noise-sensitive receivers to determine if a noise increase represents a significant adverse environmental impact. This approach *recognizes that there is no single noise increase that renders the noise impact significant.* (14) This is primarily because of the wide variation in individual thresholds of annoyance and differing individual experiences with noise. Thus, an important way of determining a person's subjective reaction to a new noise is the comparison of it to the existing environment to which one has adapted—the so-called *ambient* environment.

In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will typically be judged. The Federal Interagency Committee on Noise (FICON) (15) developed guidance to be used for the assessment of project-generated increases in noise levels that consider the ambient noise level. The FICON recommendations are based on studies that relate aircraft noise levels to the percentage of persons highly annoyed by aircraft noise. Although the FICON recommendations were specifically developed to assess aircraft noise impacts, these recommendations are often used in environmental noise impact assessments involving the use of cumulative noise exposure metrics, such as the average-daily noise level (CNEL) and equivalent continuous noise level (L_{eq}). The FICON guidance provides an established source of criteria to assess the impacts of substantial temporary or permanent increase in ambient noise levels. Based on the FICON criteria, the amount to which a given noise level increase is considered acceptable is reduced when the without Project noise levels are already shown to exceed certain land-use specific exterior noise level criteria. The specific levels are based on typical responses to noise level increases of 5 dBA or readily perceptible, 3 dBA or barely perceptible, and 1.5 dBA depending on the underlying without Project noise levels for noisesensitive uses. These levels of increases and their perceived acceptance are consistent with guidance provided by both the Federal Highway Administration (4 p. 9) and Caltrans (16 p. 2 48).

4.2 VIBRATION (THRESHOLD B)

As described in Section 3.6, the vibration impacts originating from the construction of the Yorba Linda 2021-2029 Housing Element Implementation Programs, vibration-generating activities are appropriately evaluated using the Caltrans vibration damage thresholds to assess potential temporary construction-related impacts at adjacent building locations. Most buildings near the 27 vacant or underutilized sites can best be described as "older residential structures" with a maximum acceptable continuous vibration threshold of 0.3 PPV (in/sec). A more conservative maximum acceptable continuous vibration threshold for fragile buildings of 0.10 PPV (in/sec) is used.

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 airport is the John Wayne Airport located roughly 13 miles southwest of the City. 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.

Amelyaia	Condition(c)	Significance Criteria			
Analysis	Condition(s)	Daytime	Nighttime		
Off-Site Traffic ¹	If ambient is < 60 dBA CNEL	≥ 5 dBA CNEL Project increase			
	If ambient is 60 - 65 dBA CNEL	≥ 3 dBA CNEL Project increase			
	If ambient is > 65 dBA CNEL	≥ 1.5 dBA CNEL Project increase			
Stationary- Source	Exterior Noise Level Standards ²	55 dBA L _{eq}	50 dBA L _{eq}		
	If ambient is < 60 dBA Leq ¹	\geq 5 dBA L _{eq} Project increase			
	If ambient is 60 - 65 dBA Leq ¹	\geq 3 dBA L _{eq} Project increase			
	If ambient is > 65 dBA Leq ¹	≥ 1.5 dBA L _{eq} Project increase			
Construction	Exempt provided the activities do not take place between the hours of eight p.m. and seven a.m. on weekdays, including Saturday, or at any time on Sunday or federal holidays. ³				
	Noise Level Threshold ⁴	80 dBA L _{eq}	70 dBA L _{eq}		
	Vibration Level Threshold ⁵	0.3 PPV (in/sec) ⁶			
		0.1 PPV (in/sec) ⁷			

TABLE 4-1: SIGNIFICANCE CRITERIA SUMMARY

¹ FICON, 1992.

² City of Yorba Linda Municipal Code, Section 8.32.060 (See Table 3-1)

³ City of Yorba Linda Municipal Code, Section 8.32.090[D] (See Table 3-1)

⁴ Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual.

⁵ Caltrans Transportation and Construction Vibration Manual, April 2020 Table 19.

⁶ Older Residential Structures.

⁷ Fragile Buildings.

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



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5 EXISTING NOISE LEVEL MEASUREMENTS

To assess the existing noise level environment, noise level measurements were taken at fourteen sensitive receiver locations near the vacant or underutilized sites for multifamily residential use. The receiver locations were selected to describe and document the existing noise environment within the Project study area. Exhibit 5-A provides the boundaries of the Project study area and the noise level measurement locations. To fully describe the existing noise conditions, noise level measurements were collected by Urban Crossroads, Inc. on Thursday, May 5, 2022. Appendix 5.1 includes study area photos and details the individual noise level measurement locations.

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 equivalent daytime and nighttime hourly noise levels. The long-term noise readings were recorded using Piccolo Type 2 integrating sound level meter and dataloggers. The Piccolo sound level meters were calibrated using a Larson-Davis calibrator, Model CAL 150. All noise meters were programmed in "slow" mode to record noise levels in "A" weighted form. The sound level meters and microphones were equipped with a windscreen during all measurements. All noise level measurement equipment satisfies the American National Standards Institute (ANSI) standard specifications for sound level meters ANSI S1.4-2014/IEC 61672-1:2013. (17)

5.2 NOISE MEASUREMENT LOCATIONS

The long-term noise level measurements were positioned as close to the nearest sensitive receiver locations as possible to assess the existing ambient hourly noise levels surrounding the Project site. Both Caltrans and the FTA recognize that it is not reasonable to collect noise level measurements that can fully represent every part of a private yard, patio, deck, or balcony normally used for human activity when estimating impacts for new development projects. This is demonstrated in the Caltrans general site location guidelines which indicate that, *sites must be free of noise contamination by sources other than sources of interest. Avoid sites located near sources such as barking dogs, lawnmowers, pool pumps, and air conditioners unless it is the express intent of the analyst to measure these sources. (2) 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 (8).*

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 (8). In other words, the area represented by the receiver shares similar shielding, terrain, and geometric relationship to the reference noise source. Receivers represent a location of noise sensitive areas and are used to estimate the



future noise level impacts. Collecting reference ambient noise level measurements at the nearby sensitive receiver locations allows for a comparison of the before and after Project noise levels and is necessary to assess potential noise impacts due to the Project's contribution to the ambient noise levels.

5.3 NOISE MEASUREMENT RESULTS

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

Location ¹	Housing Element Site ID ²	Description	Energy Average Noise Level (dBA L _{eq}) ³		CNEL
			Daytime	Nighttime	
L1	1	Site S1-021 - West of 16951 Imperial Highway	55.4	51.9	59.5
L2	3	Site S2-008 - 17151 Bastanchury Road	60.3	55.3	63.1
L3	4	Site S2-012 - 5320 Richfield Road	49.0	42.1	50.7
L4	6	Site S2-013 - 4861 Liverpool Street	61.4	45.8	60.1
L5	10	Site S3-210 - 18111 Bastanchury Road	58.0	52.5	60.6
L6	12	Site S4-075 - 4742 Plumosa Drive	51.9	47.6	55.4
L7	13	Site S6-015 - 22722 Old Canal Road	59.1	56.9	64.0
L8	15	Site S7-001 - Bryant Ranch Shopping Center	66.1	67.9	74.4
L9	16	Site S3-034 - 4341 Eureka Avenue	60.0	52.6	61.5
L10	26	Site S5-008 - Vacant Parcel on Fairmont Boulevard	66.0	60.0	68.3
L11	27	Site S7-005 - Vacant Parcel on Camino de Bryant	57.6	54.0	61.5
L12	8	Site S3-103 - Friend Church Overflow Parking	55.1	47.6	56.7
L13	25	Site S4-060 - 5541 South Ohio Street	55.5	50.4	58.1
L14	21	Site S4-204A - 19045 Yorba Linda Boulevard	57.8	52.0	60.1

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

¹ See Exhibit 5-A for the noise level measurement locations.

² Housing element site locations are shown on Exhibit 1-A

³ Energy (logarithmic) average levels. The long-term 24-hour measurement worksheets are included in Appendix 5.2.

"Day" = 7:00 a.m. to 6:00 p.m.; "Evening" = 6:00 p.m. to 10:00 p.m.; "Night" = 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, L₁, L₂, L₅, L₈, L₂₅, L₅₀, L₉₀, L₉₅, and L₉₉ percentile noise levels observed during the daytime and nighttime periods.



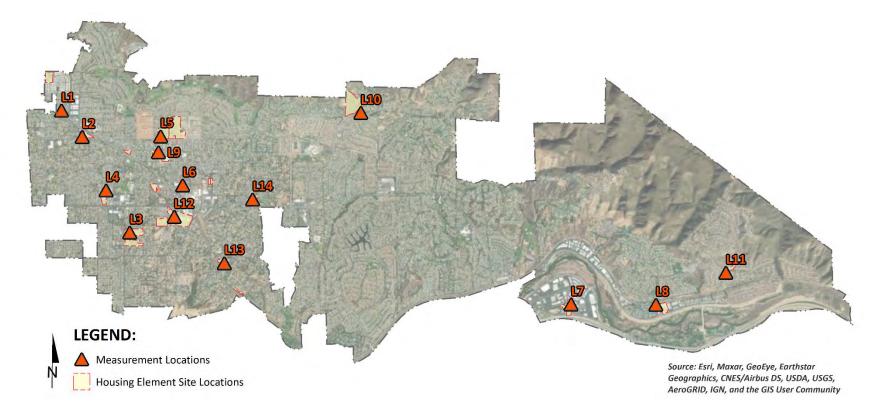


EXHIBIT 5-A: NOISE MEASUREMENT LOCATIONS

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6 NOISE/LAND USE COMPATIBLITY

The Noise Element identifies several polices to minimize the impacts of excessive noise levels throughout the community and establishes noise level requirements for all land uses. 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 *Criteria for Noise Compatible Land Use* describes categories of compatibility and not specific noise standards. Table 6-1 summarizes the existing ambient noise level conditions in relation to the compatibility guidelines identified in the City of Yorba Linda Noise Element (Exhibit 3-A).

The General Plan Noise/Land Use Compatibility guidelines are provided to address potential noise impacts to future residents of the Yorba Linda 2021-2029 Housing Element Implementation Programs. While the General Plan considers potential impacts from the environment to future Project developments, land use compatibility and potential impacts from the existing environment on future Project development is not considered under CEQA. Therefore, no determination of significance is provided for General Plan Noise/Land Use Compatibility.

Table 6-1 shows that the majority of the proposed Yorba Linda 2021-2029 Housing Element Implementation Programs multifamily residential land uses are generally considered as *normally acceptable* with the *Criteria for Noise Compatible Land Use*. *Normally acceptable* land use is considered satisfactory, based upon the assumption that any buildings involved are of normal conventional construction without any special noise insulation requirements. However, Table 6-1 indicates that General Plan Noise/Land Use Compatibility for Housing Element Site S5-008 (Location L10) representing the vacant parcel on Fairmont Boulevard is considered *conditionally acceptable*. For *conditionally acceptable* land use, new construction or development should be undertaken only after detailed analysis of the noise reduction requirements are made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

Table 6-1 shows that only one location is considered *normally unacceptable*. The existing noise level measurements collected at Housing Element Site S7-001 (Location L8) representing the Bryant Ranch Shopping Center indicate that the unmitigated exterior noise levels are 74.4 dBA CNEL. According to the *Criteria for Noise Compatible Land Use* for *normally unacceptable* land use, 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 insulation features included in the design.



Location ¹	Housing Element Site ID ²	Description	Proposed Zoning	CNEL ³	General Plan Noise/Land Use Compatibility⁴
L1	1	Site S1-021 - West of 16951 Imperial Highway	Commercial Mixed-Use Overlay	59.5	Normally Acceptable
L2	3	Site S2-008 - 17151 Bastanchury Road	Congregational Land Overlay	63.1	Normally Acceptable
L3	4	Site S2-012 - 5320 Richfield Road	Congregational Land Overlay	50.7	Normally Acceptable
L4	6	Site S2-013 - 4861 Liverpool Street	Congregational Land Overlay	60.1	Normally Acceptable
L5	10	Site S3-210 - 18111 Bastanchury Road	Congregational Land Overlay	60.6	Normally Acceptable
L6	12	Site S4-075 - 4742 Plumosa Drive	RM-20 w/Affordable Overlay	55.4	Normally Acceptable
L7	13	Site S6-015 - 22722 Old Canal Road	Affordable Housing Overlay	64.0	Normally Acceptable
L8	15	Site S7-001 - Bryant Ranch Shopping Center	Commercial Mixed-Use Overlay	74.4	Normally Unacceptable
L9	16	Site S3-034 - 4341 Eureka Avenue	Residential Medium	61.5	Normally Acceptable
L10	26	Site S5-008 - Vacant Parcel on Fairmont Boulevard	Residential Medium	68.3	Conditionally Acceptable
L11	27	Site S7-005 - Vacant Parcel on Camino de Bryant	Congregational Land Overlay	61.5	Normally Acceptable
L12	8	Site S3-103 - Friend Church Overflow Parking	Congregational Land Overlay	56.7	Normally Acceptable
L13	25	Site S4-060 - 5541 South Ohio Street	Residential Medium	58.1	Normally Acceptable
L14	21	Site S4-204A - 19045 Yorba Linda Boulevard	Congregational Land Overlay	60.1	Normally Acceptable

TABLE 6-1: GENERAL PLAN NOISE/LAND USE COMPATIBILITY

¹ See Exhibit 5-A for the noise level measurement locations.

² Housing element site locations are shown on Exhibit 1-A

³ The long-term 24-hour measurement worksheets are included in Appendix 5.2.

⁴ General Plan compatibility criteria for the proposed multifamily residential use.



7 TRAFFIC NOISE METHODS AND PROCEDURES

The following section outlines the methods and procedures used to estimate and analyze the future traffic noise environment. Consistent with the City of Yorba Linda *Land Use Compatibility* guidelines, all transportation related noise levels are presented in terms of the 24-hour CNELs.

7.1 FHWA TRAFFIC NOISE PREDICTION MODEL

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

7.1.1 OFF-SITE TRAFFIC NOISE PREDICTION MODEL INPUTS

Table 7-1 presents the roadway parameters used to assess the Project's off-site transportation noise impacts. Table 7-1 identifies the 22 off-site study area roadway segments, the distance from the centerline to adjacent receiving land use based on the functional roadway classifications per the City of Yorba Linda General Plan Circulation Element, and the vehicle speeds. The ADT volumes used in this study are presented on Table 7-2 are based on the *Yorba Linda 2021-2029 Housing Element Implementation Programs Traffic Analysis* prepared by Urban Crossroads, Inc. (21) for the following traffic conditions:

- Existing (2022) Without Project Conditions
- Existing (2022) With Project Conditions
- Horizon Year (2045) Without Project Conditions
- Horizon Year (2045) With Project Conditions



ID	Roadway	Segment	Classification ¹	Distance from Centerline to Receiving Land Use (Feet) ³	Vehicle Speed (mph)
1	Rose Dr.	s/o Imperial Hwy.	Modified Primary	40'	50
2	Imperial Hwy.	e/o Roase Dr.	Smart Street	50'	55
3	Imperial Hwy.	w/o Prospect Av.	Smart Street	50'	55
4	Imperial Hwy.	e/o Prospect Av.	Smart Street	50'	55
5	Imperial Hwy.	n/o Bastanchury Rd.	Smart Street	50'	55
6	Bastanchury Rd.	w/o Imperial Hwy.	Modified Primary	40'	50
7	Bastanchury Rd.	e/o Imperial Hwy.	Modified Primary	40'	50
8	Imperial Hwy.	n/o Lemon Dr.	Smart Street	50'	55
9	Imperial Hwy.	s/o Lemon Dr.	Smart Street	50'	55
10	Lakeview Av.	n/o Buena Vista Av.	Primary	50'	45
11	Lakeview Av.	s/o Buena Vista Av.	Primary	50'	45
12	Buena Vista Av.	w/o Lakeview Av.	Secondary	40'	45
13	Bastanchury Rd.	e/o Plumosa Dr.	Modified Primary	40'	50
14	Lakeview Av.	s/o Bastanchury Rd.	Secondary	40'	45
15	Bastanchury Rd.	w/o Lakeview Av.	Modified Primary	40'	50
16	Bastanchury Rd.	e/o Lakeview Av.	Modified Primary	40'	50
17	Lakeview Av.	n/o Yorba Linda Bl.	Secondary	40'	45
18	Lakeview Av.	s/o Yorba Linda Bl.	Primary	50'	45
19	Yorba Linda Bl.	w/o Lakeview Av.	Modified Major	50'	50
20	Bastanchury Rd.	w/o Fairmont Bl.	Modified Primary	40'	50
21	Gypsum Canyon Rd.	s/o La Palma Av.	Secondary	40'	45
22	La Palma Av.	e/o Gypsum Canyon Rd.	Modified Primary	40'	50

TABLE 7-1: OFF-SITE ROADWAY PARAMETERS

¹ City of Yorba Linda General Plan Circulation Element

² Distance to receiving land use is based upon the right-of-way distances.

The ADT volumes vary for each roadway segment based on the existing traffic volumes and the combination of project traffic distributions. Table 7-3 provides the time of day (daytime, evening, and nighttime) vehicle splits and Table 7-4 presents the traffic flow distributions (vehicle mix) used for this analysis. The vehicle mix provides the hourly distribution percentages of automobile, medium trucks, and heavy trucks for input into the FHWA noise prediction model.



			Average Daily Traffic Volumes ¹					
ID	Roadway	Ecomont	Exist	ting	HY (2045)			
טו	Roadway	Segment	Without Project	With Project	Without Project	With Project		
1	Rose Dr.	s/o Imperial Hwy.	12,450	13,250	14,700	15,500		
2	Imperial Hwy.	e/o Roase Dr.	41,600	43,500	46,500	48,400		
3	Imperial Hwy.	w/o Prospect Av.	42,850	44,100	46,350	47,600		
4	Imperial Hwy.	e/o Prospect Av.	40,450	41,600	43,800	44,950		
5	Imperial Hwy.	n/o Bastanchury Rd.	38,900	39,650	44,200	44,950		
6	Bastanchury Rd.	w/o Imperial Hwy.	14,650	16,650	19,100	21,100		
7	Bastanchury Rd.	e/o Imperial Hwy.	17,150	19,150	22,350	24,350		
8	Imperial Hwy.	n/o Lemon Dr.	35,800	36,800	38,800	39,800		
9	Imperial Hwy.	s/o Lemon Dr.	34,150	35,150	36,950	37,950		
10	Lakeview Av.	n/o Buena Vista Av.	14,000	15,100	16,300	17,400		
11	Lakeview Av.	s/o Buena Vista Av.	11,900	13,050	12,250	13,400		
12	Buena Vista Av.	w/o Lakeview Av.	7,050	8,900	8,150	10,000		
13	Bastanchury Rd.	e/o Plumosa Dr.	15,650	16,100	16,900	17,350		
14	Lakeview Av.	s/o Bastanchury Rd.	8,850	10,100	9,100	10,350		
15	Bastanchury Rd.	w/o Lakeview Av.	14,950	16,850	17,600	19,500		
16	Bastanchury Rd.	e/o Lakeview Av.	17,600	18,200	19,850	20,450		
17	Lakeview Av.	n/o Yorba Linda Bl.	12,350	13,800	14,350	15,800		
18	Lakeview Av.	s/o Yorba Linda Bl.	14,000	15,250	16,250	17,500		
19	Yorba Linda Bl.	w/o Lakeview Av.	27,700	28,400	24,750	25,450		

TABLE 7-2: AVERAGE DAILY TRAFFIC VOLUMES

¹ Yorba Linda Housing Element & General Plan Update Traffic Analysis, Urban Crossroads, Inc.

TABLE 7-3: TIME OF DAY VEHICLE SPLITS

		Total of Time of		
Vehicle Type	Daytime	Evening	Nighttime	Day Splits
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%

¹Typical Southern 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 7-4: TRAFFIC FLOW BY VEHICLE TYPE (VEHICLE MIX)

Cleasification		Total % Traffic Flow		Tatal
Classification	Autos	Medium Trucks	Heavy Trucks	Total
All Roadways ¹	97.42%	1.84%	0.74%	100.00%

¹ Typical Southern California vehicle mix.



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8 OFF-SITE TRAFFIC NOISE ANALYSIS

To assess the off-site transportation CNEL noise level impacts associated with development of the proposed Project, noise contours were developed based on the on the *Yorba Linda 2021-2029 Housing Element Implementation Programs Traffic Analysis* prepared by Urban Crossroads, Inc. (21). Noise contour boundaries represent the equal levels of noise exposure and are measured in CNEL from the center of the roadway.

8.1 NOISE CONTOURS

Noise contours were used to assess the Project's incremental 24-hour dBA CNEL traffic-related noise impacts at receiving 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. To be conservative, 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 8-4 present a summary of the exterior dBA CNEL traffic noise levels without barrier attenuation. Appendix 8.1 includes a summary of the dBA CNEL traffic noise level contours for each of the traffic scenarios.

ID	Road	Segment	CNEL at Receiving	Distance to Contour from Centerline (Feet)		
	Noau	Segment	Land Use (dBA) ¹	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Rose Dr.	s/o Imperial Hwy.	71.6	51	110	238
2	Imperial Hwy.	e/o Roase Dr.	77.4	156	337	725
3	Imperial Hwy.	w/o Prospect Av.	77.6	159	343	740
4	Imperial Hwy.	e/o Prospect Av.	77.3	153	330	712
5	Imperial Hwy.	n/o Bastanchury Rd.	77.1	149	322	694
6	Bastanchury Rd.	w/o Imperial Hwy.	72.3	57	123	265
7	Bastanchury Rd.	e/o Imperial Hwy.	73.0	63	137	294
8	Imperial Hwy.	n/o Lemon Dr.	76.8	141	305	656
9	Imperial Hwy.	s/o Lemon Dr.	76.6	137	295	636
10	Lakeview Av.	n/o Buena Vista Av.	68.9	43	92	197
11	Lakeview Av.	s/o Buena Vista Av.	68.2	38	82	177
12	Buena Vista Av.	w/o Lakeview Av.	67.1	26	55	119
13	Bastanchury Rd.	e/o Plumosa Dr.	72.6	60	129	277
14	Lakeview Av.	s/o Bastanchury Rd.	68.1	30	64	139
15	Bastanchury Rd.	w/o Lakeview Av.	72.4	58	125	269

TABLE 8-1: EXISTING WITHOUT PROJECT CONTOURS



5	Deed	Compat	CNEL at Receiving	Distance to Contour from Centerline (Feet)		
	ID Road	Segment	Land Use (dBA) ¹	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
16	Bastanchury Rd.	e/o Lakeview Av.	73.1	65	139	300
17	Lakeview Av.	n/o Yorba Linda Bl.	69.6	37	81	173
18	Lakeview Av.	s/o Yorba Linda Bl.	68.9	43	92	197
19	Yorba Linda Bl.	w/o Lakeview Av.	74.6	101	218	471
20	Bastanchury Rd.	w/o Fairmont Bl.	72.5	58	126	271
21	Gypsum Canyon Rd.	s/o La Palma Av.	69.6	38	81	175
22	La Palma Av.	e/o Gypsum Canyon Rd.	70.2	41 89 192		192

 $^{1}\,\mbox{The CNEL}$ 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.

Distance to Contour from CNEL at **Centerline (Feet)** Receiving ID Road Segment Land Use 70 dBA 65 dBA 60 dBA (dBA)¹ CNEL CNEL CNEL Rose Dr. s/o Imperial Hwy. 71.9 53 115 248 1 2 Imperial Hwy. e/o Roase Dr. 77.6 161 347 747 3 Imperial Hwy. w/o Prospect Av. 77.7 162 350 754 4 Imperial Hwy. e/o Prospect Av. 77.4 156 337 725 5 77.2 151 702 Imperial Hwy. n/o Bastanchury Rd. 326 6 72.9 62 134 289 Bastanchury Rd. w/o Imperial Hwy. 7 Bastanchury Rd. e/o Imperial Hwy. 73.5 68 147 317 8 Imperial Hwy. n/o Lemon Dr. 76.9 144 310 668 9 s/o Lemon Dr. 76.7 140 301 648 Imperial Hwy. 10 Lakeview Av. n/o Buena Vista Av. 69.3 45 96 208 11 Lakeview Av. s/o Buena Vista Av. 68.6 41 87 188 12 Buena Vista Av. w/o Lakeview Av. 68.1 30 65 139 13 Bastanchury Rd. e/o Plumosa Dr. 72.7 61 131 282 14 Lakeview Av. s/o Bastanchury Rd. 68.7 33 70 152 15 Bastanchury Rd. w/o Lakeview Av. 72.9 63 135 291 73.3 142 306 16 Bastanchury Rd. e/o Lakeview Av. 66 17 Lakeview Av. n/o Yorba Linda Bl. 70.0 40 87 187 18 Lakeview Av. s/o Yorba Linda Bl. 69.3 45 97 209 19 Yorba Linda Bl. w/o Lakeview Av. 74.7 103 222 479 20 Bastanchury Rd. w/o Fairmont Bl. 72.6 60 129 278 70.3 42 90 21 Gypsum Canyon Rd. s/o La Palma Av. 194 22 e/o Gypsum Canyon Rd. 71.2 48 104 224 La Palma Av.

TABLE 8-2: EXISTING WITH PROJECT CONTOURS



 1 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.

ID	Road	Segment	CNEL at Receiving	Distance to Contour from Centerline (Feet)		
	Noau	Jegment	Land Use (dBA) ¹	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Rose Dr.	s/o Imperial Hwy.	72.3	57	123	266
2	Imperial Hwy.	e/o Roase Dr.	77.9	168	363	781
3	Imperial Hwy.	w/o Prospect Av.	77.9	168	362	779
4	Imperial Hwy.	e/o Prospect Av.	77.6	162	348	751
5	Imperial Hwy.	n/o Bastanchury Rd.	77.7	163	351	755
6	Bastanchury Rd.	w/o Imperial Hwy.	73.5	68	147	316
7	Bastanchury Rd.	e/o Imperial Hwy.	74.2	76	163	351
8	Imperial Hwy.	n/o Lemon Dr.	77.1	149	321	692
9	Imperial Hwy.	s/o Lemon Dr.	76.9	144	311	670
10	Lakeview Av.	n/o Buena Vista Av.	69.6	47	101	218
11	Lakeview Av.	s/o Buena Vista Av.	68.4	39	84	181
12	Buena Vista Av.	w/o Lakeview Av.	67.8	28	61	131
13	Bastanchury Rd.	e/o Plumosa Dr.	72.9	63	135	292
14	Lakeview Av.	s/o Bastanchury Rd.	68.2	30	66	142
15	Bastanchury Rd.	w/o Lakeview Av.	73.1	65	139	300
16	Bastanchury Rd.	e/o Lakeview Av.	73.6	70	151	325
17	Lakeview Av.	n/o Yorba Linda Bl.	70.2	41	89	192
18	Lakeview Av.	s/o Yorba Linda Bl.	69.6	47	101	218
19	Yorba Linda Bl.	w/o Lakeview Av.	74.1	94	203	437
20	Bastanchury Rd.	w/o Fairmont Bl.	72.9	63	135	292
21	Gypsum Canyon Rd.	s/o La Palma Av.	72.2	56	120	260
22	La Palma Av.	e/o Gypsum Canyon Rd.	72.6	59	128	276

TABLE 8-3: HORIZON YEAR (2045) WITHOUT PROJECT CONTOURS

¹ 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.



ID	Road	Segment	CNEL at Receiving	Distance to Contour from Centerline (Feet)		
U	Noau	Segment	Land Use (dBA) ¹	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Rose Dr.	s/o Imperial Hwy.	72.6	59	128	275
2	Imperial Hwy.	e/o Roase Dr.	78.1	173	372	802
3	Imperial Hwy.	w/o Prospect Av.	78.0	171	368	793
4	Imperial Hwy.	e/o Prospect Av.	77.8	165	354	764
5	Imperial Hwy.	n/o Bastanchury Rd.	77.8	165	354	764
6	Bastanchury Rd.	w/o Imperial Hwy.	73.9	73	157	338
7	Bastanchury Rd.	e/o Imperial Hwy.	74.5	80	173	372
8	Imperial Hwy.	n/o Lemon Dr.	77.2	152	327	704
9	Imperial Hwy.	s/o Lemon Dr.	77.0	147	317	682
10	Lakeview Av.	n/o Buena Vista Av.	69.9	49	106	228
11	Lakeview Av.	s/o Buena Vista Av.	68.8	41	89	192
12	Buena Vista Av.	w/o Lakeview Av.	68.6	32	70	151
13	Bastanchury Rd.	e/o Plumosa Dr.	73.1	64	138	297
14	Lakeview Av.	s/o Bastanchury Rd.	68.8	33	72	154
15	Bastanchury Rd.	w/o Lakeview Av.	73.6	69	149	321
16	Bastanchury Rd.	e/o Lakeview Av.	73.8	71	154	331
17	Lakeview Av.	n/o Yorba Linda Bl.	70.6	44	95	204
18	Lakeview Av.	s/o Yorba Linda Bl.	69.9	49	106	229
19	Yorba Linda Bl.	w/o Lakeview Av.	74.2	96	206	445
20	Bastanchury Rd.	w/o Fairmont Bl.	73.1	64	138	298
21	Gypsum Canyon Rd.	s/o La Palma Av.	72.6	59	128	276
22	La Palma Av.	e/o Gypsum Canyon Rd.	73.2	65	141	304

TABLE 8-4: HORIZON YEAR (2045) WITH PROJECT CONTOURS

¹ 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 EXISTING WITH PROJECT TRAFFIC NOISE LEVEL INCREASES

An analysis of existing traffic noise levels plus traffic noise generated by the proposed Project has been included in this report to fully analyze all the existing traffic scenarios identified in the *Yorba Linda 2021-2029 Housing Element Implementation Programs Traffic Analysis*. This condition realistically would not occur, since the Project will not be fully developed and occupied under Existing conditions. Table 8-1 shows the Existing without Project conditions CNEL noise levels. The Existing without Project exterior noise levels are expected to range from 67.1 to 77.6 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 8-2 shows the Existing with Project conditions will range from 68.1 to 77.7 dBA CNEL. Table 8-5 shows that the Project off-site traffic noise level impacts will range from 0.1 to 1.0 dBA CNEL. Based on the significance criteria for off-site traffic noise presented in Table 4-1, 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.

ID	Road	Segment	CNEL at Receiving Land Use (dBA) ¹			Incremental Noise Level Increase Threshold ²	
			No Project	With Project	Project Addition	Limit	Exceeded?
1	Rose Dr.	s/o Imperial Hwy.	71.6	71.9	0.3	1.5	No
2	Imperial Hwy.	e/o Roase Dr.	77.4	77.6	0.2	1.5	No
3	Imperial Hwy.	w/o Prospect Av.	77.6	77.7	0.1	1.5	No
4	Imperial Hwy.	e/o Prospect Av.	77.3	77.4	0.1	1.5	No
5	Imperial Hwy.	n/o Bastanchury Rd.	77.1	77.2	0.1	1.5	No
6	Bastanchury Rd.	w/o Imperial Hwy.	72.3	72.9	0.6	1.5	No
7	Bastanchury Rd.	e/o Imperial Hwy.	73.0	73.5	0.5	1.5	No
8	Imperial Hwy.	n/o Lemon Dr.	76.8	76.9	0.1	1.5	No
9	Imperial Hwy.	s/o Lemon Dr.	76.6	76.7	0.1	1.5	No
10	Lakeview Av.	n/o Buena Vista Av.	68.9	69.3	0.4	1.5	No
11	Lakeview Av.	s/o Buena Vista Av.	68.2	68.6	0.4	1.5	No
12	Buena Vista Av.	w/o Lakeview Av.	67.1	68.1	1.0	1.5	No
13	Bastanchury Rd.	e/o Plumosa Dr.	72.6	72.7	0.1	1.5	No
14	Lakeview Av.	s/o Bastanchury Rd.	68.1	68.7	0.6	1.5	No
15	Bastanchury Rd.	w/o Lakeview Av.	72.4	72.9	0.5	1.5	No
16	Bastanchury Rd.	e/o Lakeview Av.	73.1	73.3	0.2	1.5	No
17	Lakeview Av.	n/o Yorba Linda Bl.	69.6	70.0	0.4	1.5	No
18	Lakeview Av.	s/o Yorba Linda Bl.	68.9	69.3	0.4	1.5	No
19	Yorba Linda Bl.	w/o Lakeview Av.	74.6	74.7	0.1	1.5	No
20	Bastanchury Rd.	w/o Fairmont Bl.	72.5	72.6	0.1	1.5	No
21	Gypsum Canyon Rd.	s/o La Palma Av.	69.6	70.3	0.7	1.5	No
22	La Palma Av.	e/o Gypsum Canyon Rd.	70.2	71.2	1.0	1.5	No

TABLE 8-5: EXISTING WITH PROJECT TRAFFIC NOISE LEVEL INCREASES

¹ The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.

² Does the Project create an incremental noise level increase exceeding the significance criteria (Table 4-1)?



8.3 HORIZON YEAR (2045) PROJECT TRAFFIC NOISE LEVEL INCREASES

Table 8-3 presents the Horizon Year (2045) without Project conditions CNEL noise levels. The Horizon Year (2045) without Project exterior noise levels are expected to range from 67.8 to 77.9 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 8-4 shows the Horizon Year (2045) with Project conditions will range from 68.6 to 78.1 dBA CNEL. Table 8-6 shows that the Project off-site traffic noise level increases will range from 0.1 to 0.8 dBA CNEL. Based on the significance criteria for off-site traffic noise presented in Table 4-1, 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.

ID	Road	Segment	CNEL at Receiving Land Use (dBA) ¹			Incremental Noise Level Increase Threshold ²	
			No Project	With Project	Project Addition	Limit	Exceeded?
1	Rose Dr.	s/o Imperial Hwy.	72.3	72.6	0.3	1.5	No
2	Imperial Hwy.	e/o Roase Dr.	77.9	78.1	0.2	1.5	No
3	Imperial Hwy.	w/o Prospect Av.	77.9	78.0	0.1	1.5	No
4	Imperial Hwy.	e/o Prospect Av.	77.6	77.8	0.2	1.5	No
5	Imperial Hwy.	n/o Bastanchury Rd.	77.7	77.8	0.1	1.5	No
6	Bastanchury Rd.	w/o Imperial Hwy.	73.5	73.9	0.4	1.5	No
7	Bastanchury Rd.	e/o Imperial Hwy.	74.2	74.5	0.3	1.5	No
8	Imperial Hwy.	n/o Lemon Dr.	77.1	77.2	0.1	1.5	No
9	Imperial Hwy.	s/o Lemon Dr.	76.9	77.0	0.1	1.5	No
10	Lakeview Av.	n/o Buena Vista Av.	69.6	69.9	0.3	1.5	No
11	Lakeview Av.	s/o Buena Vista Av.	68.4	68.8	0.4	1.5	No
12	Buena Vista Av.	w/o Lakeview Av.	67.8	68.6	0.8	1.5	No
13	Bastanchury Rd.	e/o Plumosa Dr.	72.9	73.1	0.2	1.5	No
14	Lakeview Av.	s/o Bastanchury Rd.	68.2	68.8	0.6	1.5	No
15	Bastanchury Rd.	w/o Lakeview Av.	73.1	73.6	0.5	1.5	No
16	Bastanchury Rd.	e/o Lakeview Av.	73.6	73.8	0.2	1.5	No
17	Lakeview Av.	n/o Yorba Linda Bl.	70.2	70.6	0.4	1.5	No
18	Lakeview Av.	s/o Yorba Linda Bl.	69.6	69.9	0.3	1.5	No
19	Yorba Linda Bl.	w/o Lakeview Av.	74.1	74.2	0.1	1.5	No
20	Bastanchury Rd.	w/o Fairmont Bl.	72.9	73.1	0.2	1.5	No
21	Gypsum Canyon Rd.	s/o La Palma Av.	72.2	72.6	0.4	1.5	No
22	La Palma Av.	e/o Gypsum Canyon Rd.	72.6	73.2	0.6	1.5	No

TABLE 8-6: HORIZON YEAR (2045) WITH PROJECT TRAFFIC NOISE LEVEL INCREASES

¹ The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.

² Does the Project create an incremental noise level increase exceeding the significance criteria (Table 4-1)?

9 STATIONARY SOURCE NOISE ANALYSIS

The proposed residential development is considered a noise-sensitive receiving land use and is not expected to include any specific type of stationary noise levels beyond those typically associated with residential land use in the Project study area. However, since the individual locations of potential stationary source noise activities for the 27 vacant or underutilized sites are not known at this time, this section considers several potential stationary source noise activities.

9.1 POTENTIAL STATIONARY SOURCE NOISE ACTIVITIES

The stationary source noise activities are expected to include residents moving around each of the sites, residential air conditioning units, and parking lot activities. Since the actual plans for the 27 vacant or underutilized sites are not known at this time, the potential stationary source noise activities may also include trash enclosures, dog parks, pool/spas, or other similar source of outdoor activity. To ensure that stationary source noise activity does not represent a nuisance, the Project shall satisfy the exterior noise level limits outlined in the City of Yorba Linda Municipal Code Section 8.32.060 and satisfy any conditions of approval.

9.2 REFERENCE NOISE LEVELS

To estimate the Project stationary source noise level impact to existing nearby noise sensitive receivers, reference sound power levels (L_w) were collected from similar types of activities to represent the noise levels expected with the development of the 27 vacant or underutilized sites. 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 reference stationary source sound power noise levels used to estimate the potential stationary source noise activities are summarized below:

- <u>Residential Air Conditioning Units</u>: 75 dBA L_w according to the reference product data sheet for the Carrier model 24ACC4 Air Conditioner Unit.
- <u>Parking Lot Activities</u>: 88 dBA L_w based on reference noise level measurements collected by Urban Crossroads, Inc. The residential parking lot noise levels are mainly due to cars pulling in and out of spaces and residents going to and from their homes. Additional noise sources include key fob horn activities as well as vehicle loading and unloading activities.
- <u>Trash Enclosure Activities</u>: 89 dBA L_w based on reference noise level measurements collected by Urban Crossroads, Inc. at an existing trash enclosure containing two dumpster bins.
- <u>Dog Park Activities</u>: 79 dBA L_w based on reference noise level measurements collected by Urban Crossroads, Inc. at the La Paws Dog Park in the City of Mission Viejo. The reference noise level measurement describes large and small dogs with people talking, dogs running, playing fetch, chasing each other, growling, barking, and owners talking on cell phones.



- <u>Pool/Spa Activities</u>: 86 dBA L_w based on reference noise level measurements collected by Urban Crossroads, Inc. The pool activity noise levels include kids playing, running, screaming, splashing, playing with a ball, and parents talking.
- <u>Outdoor Activity</u>: 75 dBA L_w based on reference outdoor noise level measurements collected by Urban Crossroads, Inc. describing picnic tables, tot lots and areas of outdoor use.

9.3 Noise Prediction Calculations

To describe the exterior stationary source noise levels from the Project, Urban Crossroads, Inc. calculated the potential Project stationary source noise levels at distances ranging from 25 to 200 feet. The stationary source noise levels were estimated using the ISO 9613-2 protocol in the CadnaA (Computer Aided Noise Abatement) computer program. Consistent with the ISO 9613-2 protocol, the CadnaA noise prediction model relies on a reference sound power level (L_w) to describe individual noise sources. The stationary source 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 9.1 includes the detailed stationary source noise model calculations.

9.4 PROJECT STATIONARY SOURCE NOISE LEVELS

Using the reference noise levels to represent the proposed Project operations that include residents moving around each of the sites, residential air conditioning units, and parking lot activities as well as trash enclosures, dog parks, pool/spas, or other similar source of outdoor activity, Urban Crossroads, Inc. calculated the stationary source noise levels. Table 9-1 shows that the Project operational noise levels at the off-site receiver locations are expected to range from 47.2 to 61.2 dBA L_{eq} at 25 feet.

Distance		Potential S	Stationary S	ource Noise	e Activity di	BA (Leq)1	
to Const. Activity (Feet)	Air- Conditioning Units	Parking	Trash Enclosure	Dog Park	Pool/Spa	Outdoor	Highest Noise Level
25'	47.2	60.2	61.2	51.2	58.2	61.2	61.2
50'	39.6	52.6	53.6	43.6	50.6	53.6	53.6
100'	30.8	43.8	44.8	34.8	41.8	44.8	44.8
150'	20.5	33.5	34.5	24.5	31.5	34.5	34.5
200'	16.5	29.5	30.5	20.5	27.5	30.5	30.5

TABLE 9-1: PROJECT STATIONARY SOURCE NOISE LEVELS

¹ Stationary source noise calculations are provided in Appendix 9.1.



9.5 PROJECT STATIONARY SOURCE NOISE LEVEL COMPLIANCE

To demonstrate compliance with local noise regulations, the unmitigated Project stationary source noise levels are evaluated against the exterior noise level limits outlined in City of Yorba Linda Municipal Code Section 8.32.060. Table 9-2 shows the operational noise levels associated with the Yorba Linda 2021-2029 Housing Element Implementation Programs will satisfy the City of Yorba Linda daytime and nighttime exterior noise level limits at distances of greater than 50 feet from the stationary noise source activity. However, the existing noise sensitive receivers located within 50 feet of parking lot activities, trash enclosures, dog parks, pool/spas, or other similar source of outdoor activity may experience unmitigated exterior noise levels exceeding the exterior noise level limits. Therefore, the unmitigated stationary source noise impacts due to Project-related stationary source activities are considered less than *potentially significant*.

Distance to Const.	Project Operational	Noise Lev (dBA	vel Limits Leq) ²	Noise Level Limits Exceeded? ³		
Activity (Feet)	Noise Levels (dBA Leq) ¹	Daytime	Nighttime	Daytime	Nighttime	
25'	61.2	55	50	Yes	Yes	
50'	53.6	55	50	No	Yes	
100'	44.8	55	50	No	No	
150'	34.5	55	50	No	No	
200'	30.5	55	50	No	No	

TABLE 9-2: PROJECT STATIONARY SOURCE NOISE LEVEL COMPLIANCE

¹ Highest potential stationary source noise activity (Table 9-1).

² Exterior noise standards (Municipal Code, Section 8.32.060).

⁶ Do the estimated Project stationary source noise activities exceed the noise level limits?

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

9.6 PROJECT STATIONARY SOURCE NOISE REGULATIONS

To minimize the noise exposure to the existing noise sensitive residential areas, potential stationary source noise activities should be considered as part of the site planning process. This is consistent with Goal N-4 of the City of Yorba Linda General Plan Noise Element to *mitigate noise impacts from non-transportation sources*. Goal N-4 includes the following policies that are designed to minimize the *potentially significant* stationary source noise activities.

- *N-4.1* Consider noise impacts in the siting, design, and construction of new development to minimize noise impacts.
- *N-4.2 Consider alternative architectural layouts as a means of meeting noise requirements.*
- *N-4.3* Consider a combination of noise barriers, landscape berms, and architectural design treatments when needed to mitigate noise impacts.
- *N-4.4* Consider measures which alter, prohibit or mitigate noise generating uses through site design.

With the implementation of Goal N-4 of the City of Yorba Linda General Plan Noise Element and compliance with the exterior noise level limits outlined in the City of Yorba Linda Municipal Code Section 8.32.060, the Project stationary source impacts are considered *less than significant*.



9.7 PROJECT STATIONARY SOURCE NOISE MITIGATION

Prior to issuance of any construction permits, applicants for individual projects that are within 50 feet of a sensitive receptor, shall prepare and submit to the City of Yorba Linda Planning Department a study to evaluate potential operational-related stationary source noise impacts. The noise report shall be prepared by an acoustical engineer using the ISO 9613-2 protocol in the CadnaA (Computer Aided Noise Abatement) computer program. If the study determines a potential exceedance of the City's thresholds (55 dBA L_{eq} daytime, or 50 dBA L_{eq} nighttime), measures shall be identified that ensure noise levels are reduced to below the thresholds. Identified measures shall be included on all construction and building documents and submitted for verification to the City of Yorba Linda Planning Department.

9.8 STATIONARY SOURCE VIBRATION LEVELS

The Project's residential development is not expected to include any specific type of stationary vibration sources, and therefore, the potential stationary source vibration impacts for the Yorba Linda 2021-2029 Housing Element Implementation Programs residential land use are considered *less than significant.*



10 CONSTRUCTION IMPACTS

This section analyzes potential impacts resulting from the construction activities associated with the development of the Project. To prevent high levels of construction noise from impacting noise-sensitive land uses, Section 8.32.090[D] the City of Yorba Linda Municipal Code, indicates that construction activity is considered exempt provided the activities do not take place between the hours of 7:00 a.m. to 8:00 p.m. on weekdays, including Saturday, or at any time on Sunday or federal holidays.

10.1 CONSTRUCTION NOISE LEVELS

Noise generated by the Project construction equipment will include a combination of trucks, power tools, concrete mixers, and portable generators that when combined can reach high levels. Noise levels generated by heavy construction equipment can range from approximately 68 dBA to more than 80 dBA when measured at 50 feet. Hard site conditions are commonly used in the construction noise analysis which result in noise levels that attenuate (or decrease) at a rate of 6 dBA for each doubling of distance from a point source (i.e. construction equipment). For example, a noise level of 80 dBA measured at 50 feet from the noise source to the receiver would be reduced to 74 dBA at 100 feet from the source to the receiver and would be further reduced to 68 dBA at 200 feet from the source to the receiver.

10.2 CONSTRUCTION NOISE LEVEL COMPLIANCE

The highest construction noise levels will occur when construction activities take place at the closest point from the edge of primary construction activity to each of the nearby receiver locations. The development of the 27 vacant or underutilized sites would likely occur in close proximity to existing noise sensitive receivers and elevate the ambient noise environment. Furthermore, the construction of future development projects could last for prolonged periods and result in a substantial or periodic increase in the ambient noise levels. Therefore, construction noise impacts from the Project are considered *potentially significant*.

10.3 CONSTRUCTION NOISE REGULATIONS

The City of Yorba Linda General Plan Noise Element includes the following policies that are designed to minimize the *potentially significant* construction related noise activities.

- *N-3.1* Ensure compliance with standards and procedures for mitigating construction related activities that introduce excessive noise levels.
- *N-4.1* Consider noise impacts in the siting, design, and construction of new development to minimize noise impacts.

These measures would contribute to minimizing construction-related noise. However, due to the unknown number of construction activities that could occur at one time, proximity of construction activities to sensitive receivers, and other factors that cannot be quantified at this time, such as the longevity of activities, construction-related noise impacts may not be reduced



to less than significant levels for some projects. Therefore, construction noise impacts would remain *significant and unavoidable*.

10.4 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 area was estimated by data published by the Federal Transit Administration (FTA). (8) While vehicular traffic is rarely perceptible, construction has the potential to result in varying degrees of temporary ground vibration, depending on the specific construction activities and equipment used.

Ground vibration levels associated with various types of construction equipment are summarized on Table 10-1. Based on the representative vibration levels presented for various construction equipment types, it is possible to estimate the potential Project construction vibration levels using the following vibration assessment methods defined by the FTA. To describe the human response (annoyance) associated with vibration impacts the FTA provides the following equation: $PPV_{equip} = PPV_{ref} \times (25/D)^{1.5}$

Equipment	PPV (in/sec) at 25 feet
Vibratory Roller	0.210
Small bulldozer	0.003
Jackhammer	0.035
Loaded Trucks	0.076
Large bulldozer	0.089

TABLE 10-1: VIBRATION SOURCE LEVELS FOR CONSTRUCTION EQUIPMENT

Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual

Using the vibration source levels of construction equipment provided on Table 10-1 and the construction vibration assessment methodology published by the FTA, it is possible to estimate the Project vibration impacts. Based on the reference vibration levels provided by the FTA, a vibratory roller represents the peak source of vibration with a reference velocity of 0.21 in/sec PPV at 25 feet. Table 10-2 presents the expected Project related vibration levels at distances ranging from 25 to 200 feet from construction activity. Table 10-2 shows that construction vibration levels are expected to range from 0.009 to 0.210 in/sec PPV.

Based on maximum acceptable continuous vibration threshold of 0.3 PPV (in/sec), the typical Project construction vibration levels for nearby "older residential structures" will fall below the building damage thresholds at 25 feet. Therefore, the Project-related vibration impacts are considered *less than significant* during typical construction activities.



Distance to Const.	Typical Construction Vibration Levels PPV (in/sec) ¹					
Activity (Feet)	Vibratory Roller	Small bulldozer	Jackhammer	Loaded Trucks	Large bulldozer	Highest Vibration Level
25'	0.210	0.210	0.035	0.076	0.089	0.210
50'	0.074	0.074	0.012	0.027	0.031	0.074
100'	0.026	0.026	0.004	0.010	0.011	0.026
150'	0.014	0.014	0.002	0.005	0.006	0.014
200'	0.009	0.009	0.002	0.003	0.004	0.009

TABLE 10-2: CONSTRUCTION EQUIPMENT VIBRATION LEVELS

¹Based on the Vibration Source Levels of Construction Equipment included on Table 10-1. "PPV" = Peak Particle Velocity

10.5 CONSTRUCTION NOISE AND VIBRATION MITIGATION MEASURES

The following construction noise mitigation measures would reduce noise and vibration levels produced by construction equipment to nearby noise-sensitive uses.

- **NOI-1** Construction contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers, consistent with manufacturers' standards, and all stationary construction equipment shall be placed so that emitted noise is directed away from the noise-sensitive use nearest the construction activity.
- **NOI-2** The construction contractor shall locate equipment staging in areas that will create the greatest distance between construction-related noise sources and noise-sensitive receiver nearest to the construction activity.
- **NOI-3** The construction contractor shall limit haul truck deliveries to the same hours specified for construction equipment by Section 8.32.090[D] of the City of Yorba Linda Municipal Code. The contractor shall design delivery routes to minimize the exposure of sensitive land uses to delivery truck noise.
- **NOI-4** Prior to issuance of any construction permits, applicants for individual projects that involve vibration-intensive construction activities, such as pile drivers, jack hammers, and vibratory rollers, within 25 feet of sensitive receptors (e.g., residences and fragile structures), shall prepare and submit to the City of Yorba Linda Planning Department a study to evaluate potential construction-related vibration impacts. The vibration assessment shall be prepared by an acoustical engineer and be based on recognized vibration-induced architectural damage criterion. If the study determines a potential exceedance of the thresholds, measures shall be identified that ensure vibration levels are reduced to below the thresholds. Identified measures shall be included on all construction and building documents and submitted for verification to the City of Yorba Linda Planning Department.



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11 REFERENCES

- 1. State of California. California Environmental Quality Act, Appendix G. 2018.
- 2. California Department of Transportation Environmental Program. *Technical Noise Supplement A Technical Supplement to the Traffic Noise Analysis Protocol.* Sacramento, CA : s.n., September 2013.
- 3. Environmental Protection Agency Office of Noise Abatement and Control. Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety. March 1974. EPA/ONAC 550/9/74-004.
- 4. U.S. Department of Transportation, Federal Highway Administration, Office of Environment and Planning, Noise and Air Quality Branch. *Highway Traffic Noise Analysis and Abatement Policy and Guidance*. December 2011.
- 5. U.S. Department of Transportation Federal Highway Administration. *Highway Noise Barrier Design Handbook*. 2001.
- 6. U.S. Department of Transportation, Federal Highway Administration. *Highway Traffic Noise in the United States, Problem and Response.* April 2000. p. 3.
- 7. U.S. Environmental Protection Agency Office of Noise Abatement and Control. *Noise Effects Handbook-A Desk Reference to Health and Welfare Effects of Noise*. October 1979 (revised July 1981). EPA 550/9/82/106.
- 8. U.S. Department of Transportation, Federal Transit Administration. *Transit Noise and Vibration Impact Assessment Manual.* September 2018.
- 9. Office of Planning and Research. State of California General Plan Guidelines. 2019.
- 10. City of Yorba Linda. General Plan Noise Element. 2016.
- 11. Office of Planning and Research. State of California General Plan Guidlines. 2017.
- 12. City of Yorba Linda. Municipal Code, Chapter 8.32 Noise Control.
- 13. California Department of Transportation. *Transportation and Construction Vibration Guidance Manual.* April 2020.
- 14. California Court of Appeal. *Gray v. County of Madera, F053661.* 167 Cal.App.4th 1099; Cal.Rptr.3d, October 2008.
- 15. Federal Interagency Committee on Noise. Federal Agency Review of Selected Airport Noise Analysis Issues. August 1992.
- 16. California Department of Transportation. Technical Noise Supplement. November 2009.
- 17. American National Standards Institute (ANSI). Specification for Sound Level Meters ANSI S1.4-2014/IEC 61672-1:2013.
- 18. U.S. Department of Transportation, Federal Highway Administration. FHWA Highway Traffic Noise Prediction Model. December 1978. FHWA-RD-77-108.
- 19. California Department of Transportation Environmental Program, Office of Environmental Engineering. Use of California Vehicle Noise Reference Energy Mean Emission Levels (Calveno REMELs) in FHWA Highway Traffic Noise Prediction. September 1995. TAN 95-03.
- 20. **California Department of Transportation.** *Traffic Noise Attenuation as a Function of Ground and Vegetation Final Report.* June 1995. FHWA/CA/TL-95/23.



21. **Urban Crossroads, Inc.** Yorba Linda Housing Element & General Plan Update Traffic Analysis. May 2, 2022.



12 CERTIFICATION

The contents of this noise study report represent an accurate depiction of the noise environment and impacts associated with the proposed Yorba Linda 2021-2029 Housing Element Implementation Programs Project. The information contained in this noise study report is based on the best available data at the time of preparation. If you have any questions, please contact me directly at (949) 584-3148.

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EDUCATION

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

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

PROFESSIONAL REGISTRATIONS

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

PROFESSIONAL AFFILIATIONS

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

PROFESSIONAL CERTIFICATIONS

Certified Acoustical Consultant – County of San Diego • March, 2018 Certified Acoustical Consultant – County of Orange • February, 2011 FHWA-NHI-142051 Highway Traffic Noise Certificate of Training • February, 2013



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APPENDIX 3.1:

CITY OF YORBA LINDA MUNICIPAL CODE



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Yorba Linda, California Municipal Code

Title 8 HEALTH AND SAFETY

Chapter 8.32 NOISE CONTROL

Article I. Noise Standards

- 8.32.010 Purpose and intent of provisions.
- 8.32.020 Definitions.
- 8.32.030 Enforcement authority.
- 8.32.040 Measurement criteria.
- 8.32.050 Noise zones designated.
- 8.32.060 Noise standards—Exterior.
- 8.32.070 Noise standards—Interior.
- 8.32.080 Exterior and interior noise level measurement.
- 8.32.090 Exemptions.
- 8.32.100 Noise standards—Schools, hospitals and churches.
- 8.32.110 Special provisions for air-conditioning and refrigeration.
- 8.32.120 Variance procedure.
- 8.32.130 Noise Variance Board—Composition and duties of.
- 8.32.140 Appeals procedure.

Article II. Sound Amplifying Equipment

- 8.32.150 Permit required.
- 8.32.160 Application for permit—Procedure—Term.
- 8.32.170 Permit—Terms and conditions.

8.32.180 Permit—Display of required.

8.32.190 Permit—Revocation when.

8.32.200 Violation—Penalty.

Article I. Noise Standards

8.32.010 Purpose and intent of provisions.

A. In order to control unnecessary, excessive and annoying sounds emanating from incorporated areas of the City, it is hereby declared to be the policy of the City to prohibit such sounds generated from all sources as specified in this chapter.

B. It is determined that certain sound levels are detrimental to the public health, welfare and safety, and contrary to public interest. (Prior code § 19A-1)

8.32.020 Definitions.

The following words, phrases and terms, as used in this chapter, shall have the meaning indicated below:

"Ambient noise level" means the all-encompassing noise level associated with a given environment, being a composite of sounds from all sources, excluding the alleged offensive noise, at the location and approximate time at which a comparison with the alleged offensive noise is to be made.

"Cumulative period" means an additive period of time composed of individual time segments which may be continuous or interrupted.

"Decibel (dB)" means a unit which denotes the ratio between two quantities which are proportional to power; the number of decibels corresponding to the ratio of two amounts of power is ten times the logarithm to the base ten of this ratio.

"Emergency machinery, vehicle or work" means any machinery, vehicle or work used, employed or performed in an effort to protect, provide or restore safe conditions in the community or for the citizenry, or work by private or public utilities when restoring utility service.

"Fixed noise source" means a stationary device which creates sounds while fixed or motionless, including but not limited to industrial and commercial machinery and equipment, pumps, fans, compressors, generators, air conditioners and refrigeration equipment.

"Impact noise" means and includes the noise produced by the collision of one mass in motion with a second mass which may be either in motion or at rest.

"Mobile noise source" any noise source other than a fixed noise source.

"Noise level" means the A-weighted sound pressure level in decibels obtained by using a sound level meter at slow response with a reference pressure of twenty micronewtons per square meter. The unit of measurement shall be designated as dB(A).

"Person" means a person, firm, association, copartnership, joint venture, corporation or any entity, public or private in nature.

"Residential property" means a parcel of real property which is developed and used either in part or in whole for residential purposes, other than transient uses such as hotels and motels.

"Simple tone noise" means a noise characterized by a predominant frequency or frequencies so that other frequencies cannot be readily distinguished.

"Sound amplifying equipment" means and includes any machine or device for the amplification of the human voice, music or any other sound or by which the human voice, music or any other sound is amplified. Sound amplifying equipment shall not include warning devices on authorized emergency vehicles or horns or other warning devices on any vehicle used only for traffic safety purposes.

"Sound level meter" means an instrument meeting American National Standard Institute's Standard S1.4-1971 for Type 1 or Type 2 sound level meters or an instrument, and the associated recording and analyzing equipment, which will provide equivalent data.

"Sound pressure level" of a sound, in decibels, means twenty times the logarithm to the base ten of the ratio of the pressure of the sound to a reference pressure, which reference pressure is explicitly stated. (Prior code § 19A-2)

8.32.030 Enforcement authority.

A. The Council Health Officer and his or her duly authorized representatives are directed to enforce the provisions of this chapter. The County Health Officer and his or her duly authorized representatives are authorized, pursuant to Penal Code Section 836.5, to arrest any person without a warrant when they have reasonable cause to believe that such person has committed a misdemeanor in their presence.

B. No person shall interfere with, oppose or resist any authorized person charged with the enforcement of this chapter which such person is engaged in the performance of his or her duty. (Prior code § 19A-11)

8.32.040 Measurement criteria.

Any noise level measurements made pursuant to the provisions of this chapter shall be performed using a sound level meter as defined in Section 8.32.020 of this chapter. (Prior code § 19A-3)

8.32.050 Noise zones designated.

The residential properties hereinafter described are assigned to the following noise zones:

Noise Zone 1: All residential properties in the City. (Prior code § 19A-4)

8.32.060 Noise standards—Exterior.

A. The following noise standards, unless otherwise specifically indicated, shall apply to all residential property within a designated noise zone:

Noise Standards

Noise Zone	Noise Level	Time Period
I	55 dB(A)	7 a.m.—10 p.m.
	50 dB(A)	10 p.m.—7 a.m.

B. It is unlawful for any person, at any location within the City, to create any noise which causes the noise level when measured on any residential property to exceed:

1. The noise standard for a cumulative period of more than thirty minutes in any hour;

2. The noise standard plus five dB(A) for a cumulative period of more than fifteen minutes in any hour;

3. The noise standard plus ten dB(A) for a cumulative period of more than five minutes in any hour;

4. The noise standard plus fifteen dB(A) for a cumulative period of more than one minute in any hour; or

5. The noise standard plus twenty dB(A) for any period of time.

C. In the event the ambient noise level exceeds any of the five noise limit categories stated in subsection B of this section, the cumulative period applicable to said category shall be increased to reflect said ambient noise level. Furthermore, the maximum permissible noise level shall never exceed the maximum ambient noise level.

D. Each of the noise limits specified in this section shall be reduced by five dB(A) for impact or simple tone noises or for noises consisting of speech or music. (Prior code § 19A-5)

8.32.070 Noise standards—Interior.

A. It is unlawful for any person at any location within the City to create any noise which causes the noise level when measured within a dwelling unit on any residential property during the period ten p.m. to seven a.m. to exceed:

1. Forty-five dB(A) for a cumulative period of more than five minutes in any hour;

- 2. Fifty dB(A) for a cumulative period of more than one minute in any hour; or
- 3. Fifty-five dB(A) for any period of time.

B. In the event that the ambient noise level exceeds any of the above three noise limit categories, the cumulative period applicable to said category shall be increased to reflect said ambient noise level. Furthermore, the maximum permissible noise level shall never exceed the maximum ambient noise level. (Prior code § 19A-6)

8.32.080 Exterior and interior noise level measurement.

The location selected for measuring exterior noise levels shall be at any point on the affected residential property. In the case of interior noise measurement, the windows shall be closed and the measurements shall be made at a point at least four feet from the wall, ceiling or floor nearest the noise source. (Prior code § 19A-10)

8.32.090 Exemptions.

The following activities shall be exempt from the provisions of this chapter:

A. School bands, school athletic and school entertainment events;

B. Activities otherwise lawfully conducted on parks, public playgrounds and school grounds, provided such parks, playgrounds and school grounds are owned and operated by a public entity;

C. Any mechanical device, apparatus or equipment used, related to or connected with emergency machinery, vehicles or work;

D. Noise sources associated with construction, repair, remodeling, or grading of any real property, provided said activities do not take place between the hours of eight p.m. and seven a.m. on weekdays, including Saturday, or at any time on Sunday or a Federal holiday;

E. All mechanical devices, apparatus or equipment which are utilized for the protection or salvage of agricultural crops during periods of potential or actual frost damage or other adverse weather conditions;

F. Mobile noise sources associated with agricultural operations, provided such operations do not take place between the hours of eight p.m. and seven a.m. on weekdays, including Saturday, or at any time on Sunday or a Federal holiday;

G. Mobile noise sources associated with agricultural pest control through pesticide application, provided that the application is made in accordance with restricted material permits issued by or regulations enforced by the Agricultural Commissioner;

H. Noise sources associated with the maintenance of real property used for residential purposes, provided said activities take place between the hours of seven a.m. and eight p.m. on any day except Sunday, or between the hours of nine a.m. and eight p.m. on Sunday;

I. Any activity to the extent regulation thereof has been preempted by State or Federal law.

J. Noise sources associated with the maintenance of real property owned or operated by a public entity, such as but not limited to golf courses, libraries, municipal buildings, parks, playgrounds, recreation facilities, and school grounds. (Ord. 2008-922, § 1, 2008; prior code § 19A-7)

8.32.100 Noise standards—Schools, hospitals and churches.

It is unlawful for any person to create any noise which causes the noise level at any school, hospital or church, while the same is in use, to exceed the noise limits as specified in Section 8.32.060 prescribed for the assigned noise zone in which the school, hospital or church is located, or which noise level unreasonably interferes with the use of such institution or which unreasonably disturbs or annoys patients in the hospital, provided conspicuous signs are displayed in three separate locations within one-tenth of a mile of the institution indicating the presence of a school, church, or hospital. (Prior code § 19A-8)

8.32.110 Special provisions for air-conditioning and refrigeration.

During the five year period following the effective date of the ordinance codified in this chapter, the noise standards enumerated in Sections 8.32.060 and 8.32.070 shall be increased eight dB(A) where the alleged offensive noise source is an air-conditioning or refrigeration system or associated equipment which was installed prior to the effective date of the ordinance codified in this chapter. (Prior code § 19A-9)

8.32.120 Variance procedure.

A. The owner or operator of a noise source which violates any of the provisions of this chapter may file an application with the Health Officer for a variance from the provisions thereof wherein the owner or operator shall set forth all actions taken to comply with said provisions, the reasons why immediate compliance cannot be achieved, a proposed method of achieving compliance, and a proposed time schedule for its accomplishment.

B. The application shall be accompanied by a fee set by resolution of the City Council, which may be updated from time to time.

C. A separate application shall be filed for each noise source; provided, however, that several mobile sources under common ownership, or several fixed sources of a single property, may be combined into one application.

D. Upon receipt of said application and fee, the Health Officer shall refer it with his or her recommendation thereon within thirty days to the noise variance board for action thereon in accordance with the provisions of this chapter.

E. An applicant for a variance shall remain subject to prosecution under the terms of this chapter until the variance is granted. (Ord. 2019-1061 § 2; prior code § 19A-12)

8.32.130 Noise Variance Board—Composition and duties of.

A. There is hereby created a Noise Variance Board consisting of five members. Two of the members shall be professional engineers, registered in this State, one of whom shall have demonstrated knowledge and experience in the field of acoustics; the other shall be a registered mechanical engineer. One member shall be a physician, licensed in this state and qualified in the field of physiological effects of noise; one, a representative of business and industry, and one, a representative of the general public.

B. The Noise Variance Board shall evaluate all applications for variance from the requirements of this chapter and may grant variances with respect to time for compliance, subject to such terms, conditions and requirements as it may deem reasonable to achieve maximum compliance with the provisions of this chapter.

C. Terms, conditions, and requirements may include, but shall not be limited to, limitations on noise levels and operating hours. Each such variance shall set forth in detail the approved method of achieving maximum compliance and a time schedule for its accomplishment. In its determinations the Board shall consider:

- 1. The magnitude of nuisance caused by the offensive noise;
- 2. The uses of property within the area of impingement by the noise;
- 3. The time factors related to study, design, financing and construction of remedial work;
- 4. The economic factors related to age and useful life of equipment; and
- 5. The general public interest and welfare.

D. Any variance granted by the Board shall be by enforcement. Any violation of the terms of said variance shall be unlawful.

E. Members of the Variance Board shall be appointed by, and shall serve at the pleasure of, the Orange County Board of Supervisors. The Variance Board shall adopt reasonable rules and regulations for its own procedures in carrying out its functions under the provisions of this chapter.

F. Three members shall constitute a quorum and at least three affirmative votes shall be required in support of any action.

G. The Health Officer, or his or her appointed representative, shall be a nonvoting ex-officio member of the Variance Board, and shall act as secretary of the Board.

H. Meetings of the Noise Variance Board shall be held at the call of the secretary and at such times and locations as said board shall determine. All such meetings shall be open to the public. (Prior code § 19A-13)

8.32.140 Appeals procedure.

A. Within fifteen days following the decision of the Variance Board on an application, the applicant, the Health Officer, or any member of the City Council, may appeal the decision to the City Council by filing a notice of appeal with the secretary of the Variance Board. In the case of an appeal by the applicant for a variance, the notice of appeal shall be accompanied by a fee to be computed by the secretary on the basis of the estimated cost of preparing the materials required to be forwarded to the city council as discussed hereafter. If the actual cost of such preparation differs from the estimated cost, the applicant shall pay the amount of any deficiency to the secretary and the secretary shall pay the amount of any excess to the applicant.

B. Within fifteen days following receipt of a notice of appeal and the appeal fee, the secretary of the Variance Board shall forward to the City Council:

- 1. Copies of the application for variance;
- 2. The recommendation of the Health Officer;
- 3. The notice of appeal;

4. All evidence concerning the application received by the variance board and its decision thereon.

C. In addition, any person may file with the City Council written arguments supporting or attacking the decision and the City Council may in its discretion hear oral arguments thereon.

D. The City Clerk shall mail the applicant a notice of the date set for hearing of the appeal. The notice shall be mailed at least ten days prior to the hearing date.

E. Within sixty days following its receipt of the notice of appeal, the City Council shall either affirm, modify or reverse the decision of the Variance Board. Such decision shall be based upon the Council's evaluation of the matters submitted to the Council in light of the powers conferred on the Variance Board and the factors to be considered, both as enumerated in Sections 8.32.120 and 8.32.130.

F. As part of its decision, the Council may direct the Variance Board to conduct further proceedings on the application. Failure of the City Council to affirm, modify or reverse the decision of the Variance Board within the sixty-day period shall constitute an affirmance of the decision. (Prior code § 19A-14)

Article II. Sound Amplifying Equipment

8.32.150 Permit required.

A. No person shall operate a loudspeaker, public address system or sound amplification system or play any musical instrument anywhere in the City if such loudspeaker, public address system or sound amplification system or musical instrument can be heard outside any building, save and excepting as follows:

1. If the loudspeaker, public address system or sound amplification system is to be operated or musical instrument is to be played from a motor vehicle, it must be done in accordance with Section 10.04.140 and any other applicable ordinances of the City.

2. If the loudspeaker, public address system or sound amplification system is to be operated, or musical instrument is to be played, other than from an automobile at any time of the day or night, such operation must first be approved by the City Manager by the issuance of a permit.

3. If the loudspeaker, public address system, sound amplification system or musical instrument is used in connection with a parade for which a permit has been obtained, this section shall not be applicable.

4. No person shall use or operate any sound amplifying equipment so that the sound being emitted therefrom is raucous, jarring, or disturbing to those within the area of audibility. (Prior code § 19A-15)

8.32.160 Application for permit—Procedure—Term.

The application for any such permit shall be in writing signed by an applicant at least eighteen years of age and filed with the City Clerk at least three business days prior to the event unless excused for cause by the City Manager. It shall state the following:

- A. Name and home address of the applicant;
- B. Address and place of business of applicant;

C. Name and address of person having direct charge of the sound amplifying equipment desired to be used;

- D. The purpose for which the sound amplifying equipment will be used;
- E. The address and type of place where the sound amplifying equipment will be used;
- F. The hours during which such sound amplifying equipment will be used;
- G. Proposed days and number of days of operation;
- H. A general description of the sound amplifying equipment which is to be used;
- I. The maximum sound producing power of the sound amplifying equipment to be used; and
 - 1. The wattage to be used,

2. The approximate maximum distance for which sound will be thrown from the room, stadium, structure, public place or lot in or on which such sound amplifying equipment will be located;

J. The form of application for permit shall be provided by the City and shall provide for the above information together with a reference to Civil Code Section 1714.1 for the information of the applicant.

K. All permits shall be issued for one day at a time. (Prior code § 19A-16)

8.32.170 Permit—Terms and conditions.

All such permits issued for the use of such sound amplifying equipment shall be issued subject to the following conditions:

A. The sound amplifying equipment shall not be used between the hours of eleven p.m. and eight a.m., except that for Easter sunrise services such equipment may be permitted starting at six a.m.

B. Sound from the sound amplifying equipment shall not be cast such a distance that it will interfere with or disturb the occupants of any hospital, sanitarium, school, church, courtroom, place of residence or public assemblage.

C. The sound amplifying equipment shall be used only for the producing of human speech or song or music and the speech or song shall not be profane, lewd, indecent, slanderous or of such character as to tend to incite riot or other public disorder nor shall such speech or song advocate disloyalty to or the overthrow of the government of the United States by arms or other unlawful means nor shall such speech or song urge any unlawful conduct or encourage or reasonably tend to encourage a breach of the public peace of the community.

D. The sound from the sound amplifying equipment shall not interfere unreasonably with the rest, repose, peace or normal activities of those persons within the vicinity of the location of such sound amplifying equipment.

E. The sound amplifying equipment shall be used only in accordance with and in compliance with the statements set forth in the application for the permit. (Prior code § 19A-17)

8.32.180 Permit—Display of required.

It shall be the duty of the applicant to display any permit received pursuant to this chapter at any event in which said permit is utilized. (Prior code § 19A-19)

8.32.190 Permit—Revocation when.

After the issuance of the permit, the City Manager shall revoke such permit if the sound amplifying equipment permitted to be used thereby is used or operated contrary to any of the provisions of this chapter. (Prior code § 19A-18)

8.32.200 Violation—Penalty.

Any person violating any of the provisions of this chapter is guilty of a misdemeanor. Each day such violation is committed or permitted to continue constitutes a separate offense and is punishable as such. The provisions of this chapter shall not be construed as permitting conduct not prescribed herein and shall not affect the enforceability of any other applicable provisions of law. (Prior code § 19A-20)

APPENDIX 5.1:

NOISE MEASUREMENT STUDY AREA PHOTOS



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JN: 13763 Study Area Photos



L1_E 33, 54' 13.850000"117, 50' 20.330000"



L1_N 33, 54' 13.830000"117, 50' 20.280000"



L1_S 33, 54' 13.860000"117, 50' 20.280000"



L1_W 33, 54' 13.890000"117, 50' 20.390000"



L2_E 33, 53' 58.520000"117, 50' 5.420000"



L2_N 33, 53' 58.580000"117, 50' 5.450000"



L2_S 33, 53' 58.550000"117, 50' 5.450000"



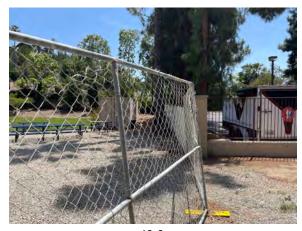
L2_W 33, 53' 58.520000"117, 50' 5.470000"



L3_E 33, 53' 2.840000"117, 49' 30.950000"



L3_N 33, 53' 2.840000"117, 49' 31.030000"



L3_S 33, 53' 2.810000"117, 49' 31.010000"



L3_W 33, 53' 2.810000"117, 49' 30.950000"



L4_E 33, 53' 27.270000"117, 49' 48.120000"



L4_N 33, 53' 27.400000"117, 49' 48.170000"



L4_S 33, 53' 27.320000"117, 49' 48.140000"



L4_W 33, 53' 27.250000"117, 49' 48.140000"



L5_E 33, 53' 59.520000"117, 49' 10.130000"



L5_N 33, 53' 59.550000"117, 49' 10.190000"



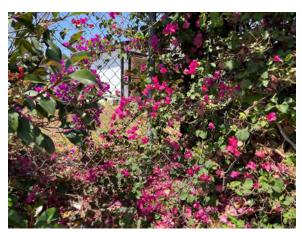
L5_S 33, 53' 59.540000"117, 49' 10.190000"



L5_W 33, 53' 59.500000"117, 49' 10.160000"



L6_E 33, 53' 30.990000"117, 48' 54.040000"



L6_N 33, 53' 30.950000"117, 48' 54.120000"



L6_S 33, 53' 30.950000"117, 48' 54.120000"



L6_W 33, 53' 30.990000"117, 48' 54.060000"



L7_E 33, 52' 24.420000"117, 44' 19.410000"



L7_N 33, 52' 24.400000"117, 44' 19.520000"



L7_S 33, 52' 24.410000"117, 44' 19.490000"



L7_W 33, 52' 24.440000"117, 44' 19.380000"



L8_E 33, 52' 24.930000"117, 43' 19.670000"



L8_N 33, 52' 24.890000"117, 43' 19.780000"



L8_S 33, 52' 24.920000"117, 43' 19.690000"



L8_W 33, 52' 24.950000"117, 43' 19.640000"



L9_E 33, 53' 50.200000"117, 49' 11.700000"



L9_N 33, 53' 50.210000"117, 49' 11.810000"



L9_S 33, 53' 50.230000"117, 49' 11.780000"



L9_W 33, 53' 50.190000"117, 49' 11.780000"



L10_E 33, 54' 15.100000"117, 46' 49.450000"



L10_N 33, 54' 15.170000"117, 46' 49.480000"



L10_S 33, 54' 15.070000"117, 46' 49.450000"



L10_W 33, 54' 15.070000"117, 46' 49.420000"



L11_E 33, 52' 44.160000"117, 42' 30.590000"



L11_N 33, 52' 44.300000"117, 42' 30.560000"



L11_S 33, 52' 44.300000"117, 42' 30.560000"



L11_W 33, 52' 44.120000"117, 42' 30.640000"



L12_E 33, 53' 12.860000"117, 48' 59.720000"



L12_N 33, 53' 12.930000"117, 48' 59.500000"



L12_S 33, 53' 12.870000"117, 48' 59.670000"



L12_W 33, 53' 12.860000"117, 48' 59.780000"



L13_E 33, 52' 45.630000"117, 48' 23.930000"



L13_N 33, 52' 45.600000"117, 48' 23.910000"



L13_S 33, 52' 45.570000"117, 48' 23.930000"



L13_W 33, 52' 45.630000"117, 48' 23.960000"



L14_E 33, 53' 23.270000"117, 48' 4.710000"



L14_N 33, 53' 23.310000"117, 48' 4.740000"



L14_S 33, 53' 23.280000"117, 48' 4.710000"



L14_W 33, 53' 23.240000"117, 48' 4.740000"

Site S1-021 – West of 16951 Imperial Highway



Site Acreage: 1.76 acres Current Zoning: CG Proposed Zoning: Commercial Mixed Use Overlay Total Unit Potential: 62 Realistic Unit Development: 53 Description of Site and Factors Supporting Development: This flat, vacant parcel is located immediately west of an existing LA Fitness. The proposal would create a commercial mixed use overlay zone to apply to the property to incentivize housing production while still allowing for potential commercial development.

Site S2-008 – 17151 Bastanchury Road

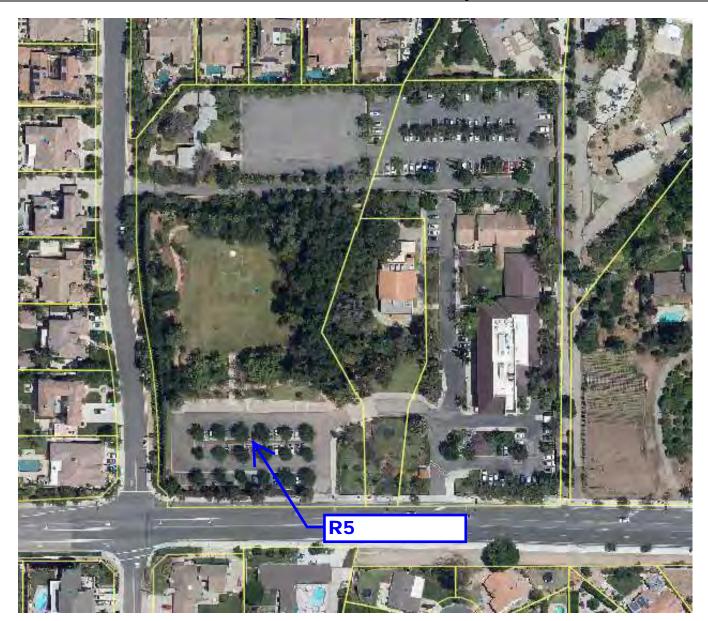


Site Acreage: 4.92 acres Current Zoning: RE Proposed Zoning: Congregational Land Overlay Total Unit Potential: 60 Realistic Unit Potential: 60 **Description of Site and Factors Supporting Development:** Friendship Baptist Church owns the property at the northwest corner of Imperial Highway/ Bastanchury Road. The church property itself has approximately 2.5 acres of vacant land and parking area that could potentially be developed for housing purposes pursuant to Assembly Bill 1851. The church began construction on an accessory structure over a decade ago, but never completed the project. <u>The church pastor sees this as an</u> <u>opportunity to have a housing developer help complete the accessory building and</u> <u>in exchange the church would provide the land for development of affordable</u> <u>housing on their property</u>. The <u>2.5 acre undeveloped portion of the</u> site could accommodate approximately 60 housing units, with all existing structures to remain.

Site	S2-012 – 5320 Richfield Road
Site Acreage: 9.48 acres Current Zoning: RU Proposed Zoning: Congregational Land Overlay Total Unit Potential: 55 <u>Realistic Unit Potential: 55</u>	Description of Site and Factors Supporting Development: Site S2-012 is currently home to the Richfield Community Church and comprises 9.48 acres on the east side of Richfield Road south of YorbaLinda Blvd. The property has approximately 3 acres of underutilized land and parking lot area which could be utilized for housing purposes in compliance with Assembly Bill 1851. The site could accommodate approximately 55 housing units, with all existing structures to remain.

Site S2-013 – 4861 Liverpool Street Site Acreage: 6.2 acres **Description of Site and Factors Supporting Development:** This site currently home to the Messiah Lutheran Church and comprises 6.2 Current Zoning: RU acres on the northwest corner of Yorba Linda Blvd and Liverpool St. The Proposed Zoning: Congregational property has approximately 1.5 acres of underutilized land and parking lot area Land Overlay which could be utilized for housing purposes in compliance with Assembly Bill Total Unit Potential: 40 1851. The site could accommodate approximately 40 housing units, with all Realistic Unit Potential: 40 existing structures to remain.

Site S3-210 – 18111 Bastanchury Road



Acreage: 9.23 acres **Description of Site and Factors Supporting Development:** Current Zoning: PD This property is currently home to the Shinnyo-En USA and comprises 9.23 acres located on the north side of Bastanchury Rd and east of Eureka Ave. It is part of the Proposed Zoning: Congregational Housing West Bastanchury Planned Development and is proposed to have an affordable Overlav housing overlay placed on the property to allow for approximately 4.09 acres of Total Unit Potential: 105 underutilized land and parking lot area to be utilized for housing purposes in compliance **Realistic Unit Potential:** with Assembly Bill 1851. The site could accommodate approximately 105 housing units. 105 This site is also located adjacent to Site S3-203.

Site S4-075 – 4742 Plumosa Drive **R6** Site Acreage: 1.62 acres **Description of Site and Factors Supporting Development:**

Current Zoning: CG Proposed Zoning: RM-20 with Affordable Overlay Total (Net) Unit Potential: 57 Realistic Unit Potential: 48 This underutilized site is currently developed with an older, single-family home. City staff have met with the property owner who is very interested in having their property rezoned for multi-family residential use. The location of this parcel in the Town Center makes it ideal for introducing housing in the downtown area, a key goal of the Town Center Specific Plan. The site is flat, and while it does contain several large trees, none of these are protected species. Rezoning this parcel to RM-20 with the Affordable Housing Overlay would yield a net 57 dwelling units at 35 units/acre, or 48 units at the realistic density of 30 units/acre.

Site S6-015 – 22722 Old Canal Road



Site Acreage: 2.56 acres Current Zoning: PD Proposed Zoning: Affordable Housing Overlay

Net Unit Potential: 89 Realistic Unit Potential: 77

Description of Site and Factors Supporting Development:

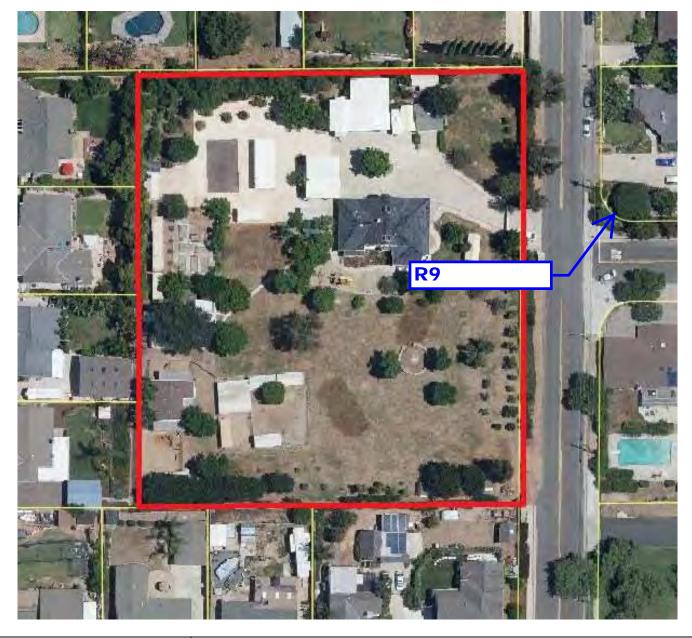
This <u>34,000 square foot</u> industrial building <u>developed in 1991</u> is the prior John Force Racing Headquarters whose business operations have been relocated to the facility in Indiana <u>and the building is currently for lease</u>. This underutilized building is located across the street from a successful housing element development from the 5th Cycle. This 2.56 acre site is flat, has good access, and with application of the <u>affordable housing overlay</u> could <u>accommodate</u> approximately 89 housing units. <u>The property owner is supportive of being designated with an affordable housing</u> <u>overlay (AHO)</u>. A residual land analysis conducted in December 2021 estimates the value of the land under the AHO zoning to be \$17.3 million, whereas the annual rental income on the existing structure is estimated at \$567,000, requiring approximately 20 years to exceed the proceeds of a potential sale. As such, the property owner could obtain a higher rate of return by selling the property under the AHO zoning as opposed to leasing the structure.

Site S7-001 – Bryant Ranch Shopping Center



Site Acreage: 9.15 acres	Description of Site and Factors Supporting Development:
Current Zoning: CG	The Bryant Ranch Shopping Center is located at the east end of the City <u>near</u>
Proposed Zoning: Commercial	Savi Ranch. The anchor tenant is an ice skating rink ("The Rinks Yorba Linda"),
Mixed Use Overlay	who took over the 45,000 square foot space after two failed grocery stores. The
Total Unit Potential: 320	Rinks is only expected to remain at this location for another year as their lease
	has expired, and there are no other anchor tenants looking at the site. Most of the
Realistic Unit Potential: 272	other 21 tenants at the center are service related, such as salons, gyms,
	veterinarian and dentist offices, and just one has a lease extending beyond 2022.
	There have been a number of inquiries with the City about potentially
	redeveloping the center either partially or completely for residential use, and the
	property owner has recently submitted preliminary conceptual plans to the City for
	development of 160 townhome units on the site. The City is proposing to overlay
	a mixed use zone on this site, allowing for up to 320 units with a requirement to
	integrate a minimum of 10,000 square feet of neighborhood-serving commercial
	uses to service neighborhoods located in the eastern end of Yorba Linda.
	Realistic capacity is calculated at 85% of the maximum, or 272 units.

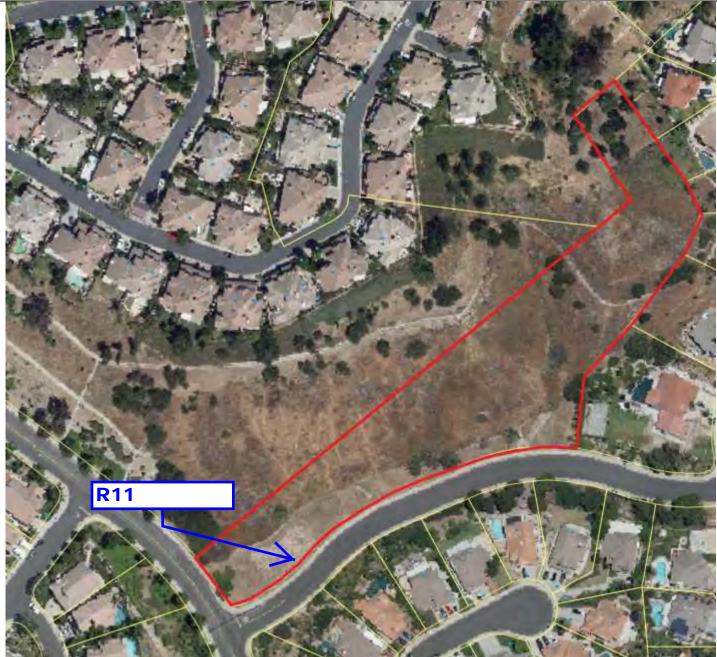
Site S3-034 – 4341 Eureka Avenue



Site Acreage: 2.19 acres Current Zoning: RS Proposed Zoning: RM Total (Net) Unit Potential: 22 Realistic Unit Potential: <u>19</u> **Description of Site and Factors Supporting Development:** This property is an equestrian property and is developed with a single family home with a number of accessory structures. The property owner has expressed interest in having the property rezoned to allow for higher density. City staff has met several times with the property owner to discuss rezoning the property. The property owner has also attended all of the City's Housing Element workshops since being notified of being considered as a potential candidate housing site. The most appropriate density given the surrounding land uses would be Residential Medium Density, which would allow for up to 10 dwelling units per acre. This would yield approximately 22 units on this parcel.

Site St	5-008 – Vacant Parcel on Fairmont Boulevard
Site Acreage: 23.01 acres Current Zoning: PD Proposed Zoning: RM Total Unit Potential: 230 Realistic Unit Potential: 196	Description of Site and Factors Supporting Development: This site is currently owned by The Church of Jesus Christ of Latter-day Saints; however the property has been on the market recently. The City has received many inquiries about potential housing development on the site. The upper portion of the property is constrained by topography, though the unit potential from the non-developable portions of the site could be transferred to the flatter, more developable areas of the site. At 10 units/acre, the site could yield 230 units, with a realistic capacity of 196 units (85% of total capacity).

Site S7-005 – Vacant Parcel Located at the Northeast Corner of Camino de Bryant and Meadowland



Site Acreage: 3.06 acres Current Zoning: RU Proposed Zoning: RM Total Unit Potential: 30 Realistic Unit Potential: 10

Description of Site and Factors Supporting Development:

This is a vacant approximately 3-acre parcel. The property owner has expressed a desire to have the property upzoned and has committed to develop the site with at least 10% of the units at a moderate income level of affordability, as documented in written correspondence to the City. Given the hillside constraints on this property, the City has assumed a development potential of 10 units, rather than the 30 units that would be permitted under RM zoning.

Site S3-103 – Friends Church Overflow Parking Core Predision Yorba Unda/Vegatormer Pilates, Inc EleoloLoc 15-1 21.2 Chills Ciii 8 m Real Packing House Square a Linda he UPS Sto Baked Hams Monson iends Christian Schoo **R12** Friends Church Amigos, tu iglesia

Site Acreage:

17.45 acres (church site) 1.61 acres (overflow parking) Current Zoning: RE Proposed Zoning: Congregational Land Overlay Total Unit Potential: <u>48</u> Realistic Unit Potential: <u>48</u>

Description of Site and Factors Supporting Development:

This property is currently home to the Friends Church and comprises 17.45 acres primarily on the east side of Mountain View south of Yorba Linda Blvd. <u>The church has</u> a 1.61 acre overflow parking lot on the west side of Mountain View which could yield 48 housing units under the Congregational Land Overlay; however, if combined with the 0.42 adjacent Yorba Linda Preschool, the combined project site could yield a greater number of units (refer to prior Site S3-074).

Site S4-060 – 5541 South Ohio Street Site S4-201 – 5531 South Ohio Street



Site S4-60 Acreage: 0.96acres Current Zoning: RE Proposed Zoning: RM Total (Net) Unit Potential: 10 Realistic Unit Potential: <u>9</u>

Site S4-201 Acreage: 1.82 acres Current Zoning: RE Proposed Zoning: RM Net Unit Potential: 18 Realistic Unit Potential: 15

Description of Site and Factors Supporting Development:

The property owner for Site S4-201 has expressed interest in having their property rezoned. The site currently has a single-family home. The property owner for S4-060 has asked questions about the City's outreach efforts related to rezoning the property, but has not expressly stated that they are interested in rezoning their property. Site S4-201 on its own could yield 18 housing units if rezoned to 10 dwelling units per acre. If S4-060 were included, the two sites combined could yield approximately 28 housing units.

Site S4-204A – 19045 Yorba Linda Boulevard S4-204B – 19081-19111 Yorba Linda Boulevard



Site S4-204A Acreage: 1.85 acres Current Zoning: RE Proposed Zoning: Congregational Land Overlay Total Unit Potential: 17 Realistic Unit Potential: 17

Site S4-204B Acreage: 3.9 acres_ Current Zoning: RE Proposed Zoning: RM-20 Total (Net) Unit Potential: 78 Realistic Unit Potential: 66 **Description of Site and Factors Supporting Development:** This property is currently home to the Chabad Center and comprises 1.85 acres. <u>The Chabad is very interested in providing parsonage units on their property.</u> Applying an Affordable Housing Overlay to the site would allow for approximately 0.5 acres of underutilized land and parking lot area to be utilized for housing purposes, accommodating 17 housing units.

<u>To augment the unit capacity</u>, the Chabad site could also be combined with the adjacent Site S4-204B, <u>which is currently underdeveloped with two detached</u> <u>single-family units</u>. <u>The units</u> were developed in the early 1950s, <u>and have an</u> <u>improvement-to-land value ratio under 1.0</u>. This parcel has been on the market recently and the City has been receiving many inquiries about potential housing development on the site. <u>The Congregational Land Overlay allows for transfer of development rights to adjacent properties</u>, providing an opportunity to develop housing on this underutilized parcel in partnership with the Chabad.

APPENDIX 5.2:

NOISE LEVEL MEASUREMENT WORKSHEETS



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						24-Ho	ur Noise Le	evel Meas	urement S	ummary						
	Thursday, N				Location	11 - Site S1-(21 - West of	16951 Imper	ial Highway		Meter:	Piccolo II				13763
Project:	Yorba Linda	a Housing an	d General Pla	n	Source	:		•	с ,						Analyst:	A. Khan
							Hourly L _{eq} (dBA Readings	(unadjusted)							
85.0	0															
85.0 80.0 75.0 70.0 65.0 65.0 1	0															
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- 60.0 - 60.0	0															
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									eginning							
Timeframe	Hour	L _{eq}	L max	L _{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L _{eq}	Adj.	Adj. L _{eq}
	0	48.6 50.7	53.8 59.7	45.7 45.2	53.6 59.3	53.3 58.9	52.5 57.8	51.8 56.4	49.2 48.9	47.4 46.9	46.1 45.6	45.9 45.4	45.8 45.2	48.6 50.7	10.0 10.0	58.6 60.7
	2	47.1	59.7	45.2	59.5	58.9	57.8	50.4	48.9	46.9	45.6	45.4 44.8	45.2	47.1	10.0	57.1
Night	3	48.6	54.2	45.4	54.0	53.6	52.9	52.4	49.2	47.0	45.8	45.7	45.5	48.6	10.0	58.6
Ũ	4	50.0	55.4	46.5	55.1	54.7	53.9	53.3	50.7	48.9	47.0	46.8	46.6	50.0	10.0	60.0
	5	54.7	60.8	50.3	60.3	59.9	58.9	58.2	55.2	53.5	51.3	50.9	50.5	54.7	10.0	64.7
	6	55.8	62.0	50.5	61.6	61.3	60.1	59.3	56.7	54.5	51.3	50.9	50.6	55.8	10.0	65.8
	7 8	56.6 55.6	62.1 61.2	51.5 50.6	61.7 60.8	61.4 60.4	60.4 59.5	59.7 58.8	57.5 56.3	55.6 54.6	52.6 51.7	52.0 51.2	51.7 50.7	56.6 55.6	0.0 0.0	56.6 55.6
	9	55.2	62.6	48.2	61.8	61.3	60.2	59.7	55.7	53.3	49.5	48.9	48.4	55.2	0.0	55.2
	10	54.4	61.5	49.2	60.9	60.3	59.0	57.9	54.9	53.1	50.3	49.8	49.3	54.4	0.0	54.4
	11	58.2	63.3	55.2	63.0	62.8	61.9	61.0	58.4	57.3	55.9	55.6	55.3	58.2	0.0	58.2
	12	53.6	68.2	48.3	67.0	65.9	63.2	61.1	57.2	54.1	49.6	49.0	48.5	53.6	0.0	53.6
Dav	13 14	54.2 56.7	60.3 67.4	48.3 49.6	59.8 66.5	59.3 65.0	58.4 61.7	57.6 60.0	55.1 56.6	53.1 54.2	49.5 50.8	48.9 50.3	48.4 49.8	54.2 56.7	0.0 0.0	54.2 56.7
Day	14	55.7	62.3	49.8 50.8	61.7	61.1	59.9	58.9	56.3	54.2 54.6	51.9	50.5	49.8 50.9	55.7	0.0	55.7
	16	55.2	60.8	50.7	60.4	59.9	59.0	58.4	55.8	54.2	51.9	51.3	50.8	55.2	0.0	55.2
	17	54.0	62.2	49.0	61.0	59.8	58.3	57.0	54.5	52.8	50.1	49.6	49.1	54.0	0.0	54.0
	18	54.9	61.5	49.0	61.0	60.4	59.2	58.4	55.7	53.8	50.2	49.6	49.1	54.9	0.0	54.9
	19	55.0	62.8	47.9	62.5	62.1	61.0	59.4	55.1	52.9	49.3	48.6	48.1	55.0	5.0	60.0
	20 21	56.0 53.6	62.1 59.5	48.3 47.6	61.9 59.2	61.6 58.9	60.8 58.1	60.1 57.4	57.1 54.6	54.3 52.2	49.7 48.6	49.0 48.2	48.5 47.7	56.0 53.6	5.0 5.0	61.0 58.6
	21	52.9	59.5	47.0	59.2	57.9	57.1	56.5	53.7	51.6	48.0	48.6	47.7	52.9	10.0	62.9
Night	23	50.9	56.2	47.2	55.9	55.5	54.7	54.1	51.6	49.7	47.8	47.6	47.3	50.9	10.0	60.9
Timeframe	Hour	L _{eq}	L _{max}	L _{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%		L _{eq} (dBA)	
Day	Min	53.6	59.5	47.6	59.2	58.9	58.1	57.0	54.5	52.2	48.6	48.2	47.7	24-Hour	Daytime	Nighttime
Energy	Max Average	58.2 55.4	68.2 Ave	55.2 erage:	67.0 62.0	65.9 61.4	63.2 60.0	61.1 59.0	58.4 56.1	57.3 54.0	55.9 50.8	55.6 50.2	55.3 49.8	CNEL	(7am-10pm)	(10pm-7am)
	Min	47.1	52.5	44.5	52.3	51.9	50.9	50.1	47.4	45.7	44.9	44.8	44.6	59.5	55.4	51.9
Night	Max	55.8	62.0	50.5	61.6	61.3	60.1	59.3	56.7	54.5	51.3	50.9	50.6			
Energy	Average	51.9	Ave	erage:	56.7	56.3	55.4	54.7	51.4	49.5	47.6	47.4	47.2			



						24-Ho	ur Noise Le	evel Meas	urement S	ummary						
Date:	Thursday, N	/lay 5, 2022			Location	12 - Site S2-0	008 - 17151 Ba	astanchurv R	load		Meter:	Piccolo II			JN:	13763
Project:	Yorba Linda	Housing and	d General Pla	in	Source	:		abtanionary n							Analyst:	A. Khan
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e 65.0	Ď										σ					
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± 40.0 35.0	0 - 7	49.	47	<u> </u>											- M	
	0	1 2	3	4 5	6	7 8	9 1	.0 11	12 1	.3 14	15 16	5 17	18 19	20	21 22	23
	-		-		-				eginning							
Timeframe	Hour	L _{eq}	L max	L _{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L _{eq}	Adj.	Adj. L _{eq}
	0	48.9 49.2	57.7 58.0	43.4 43.2	57.5 57.6	57.1 57.0	55.3 55.6	53.8 54.3	48.1 48.7	45.6 45.3	43.9 43.8	43.7 43.6	43.5 43.4	48.9 49.2	10.0	58.9 59.2
	2	49.2	58.0	43.2	57.6	57.0	55.6	54.3	48.7	45.3	43.8	43.6	43.4	49.2	10.0 10.0	59.2
Night	3	47.6	56.1	43.3	55.8	55.4	53.7	51.9	46.5	45.0	43.7	43.6	43.4	47.6	10.0	57.6
-	4	50.4	58.6	45.2	58.4	58.1	56.4	54.7	49.9	47.7	45.8	45.6	45.3	50.4	10.0	60.4
	5	54.6	63.4	48.2	63.1	62.7	61.1	59.4	53.8	51.0	48.9	48.6	48.3	54.6	10.0	64.6
	6	62.9 61.2	74.5 67.6	50.5 52.7	74.0	73.5	71.2	68.4 65.2	59.0 62.6	55.8 59.8	51.5 54.0	51.0 53.3	50.6 52.8	62.9 61.2	10.0 0.0	72.9
	8	61.1	68.8	51.6	68.5	68.1	66.6	65.7	62.0	58.8	53.2	52.4	51.7	61.1	0.0	61.1
	9	63.3	75.1	50.4	74.9	74.3	70.7	67.6	60.5	56.9	51.8	51.1	50.6	63.3	0.0	63.3
	10	59.2	67.8	50.8	67.5	67.0	64.7	63.2	59.6	56.7	52.3	51.7	51.0	59.2	0.0	59.2
	11	58.2	66.7	49.1	66.4	65.9	64.0	62.6	58.8	55.4	50.2	49.8	49.3	58.2	0.0	58.2
	12 13	57.3 59.8	64.9 70.4	48.7 48.4	64.6 70.0	64.2 69.0	62.9 66.5	62.0 64.0	58.4 59.3	54.6 55.2	49.9 50.1	49.3 49.2	48.8 48.6	57.3 59.8	0.0 0.0	57.3 59.8
Day	14	58.5	65.8	48.3	65.5	65.1	63.9	62.9	59.9	56.1	50.1	49.2	48.5	58.5	0.0	58.5
	15	59.9	68.5	49.6	68.0	67.3	65.4	64.1	60.7	57.7	51.6	50.6	49.8	59.9	0.0	59.9
	16	64.9	79.5	50.5	77.8	75.8	71.0	67.6	61.9	58.7	53.8	52.4	51.0	64.9	0.0	64.9
	17 18	58.5 59.3	65.7 66.4	49.1 48.8	65.5 66.1	65.0 65.8	63.5 64.5	62.6 63.5	59.7 60.4	56.7 57.6	50.8 50.8	50.0 49.8	49.3 49.0	58.5 59.3	0.0 0.0	58.5 59.3
	18	59.5	67.3	40.0	66.8	65.9	63.7	62.1	58.7	57.0	48.3	49.8	49.0	59.5	5.0	62.8
	20	58.0	67.6	47.4	67.2	66.4	64.1	62.4	58.5	54.7	49.2	48.2	47.5	58.0	5.0	63.0
	21	55.9	64.2	46.8	63.9	63.6	62.2	60.7	56.4	52.5	47.7	47.2	46.9	55.9	5.0	60.9
Night	22 23	53.8 51.6	61.9 60.7	46.8 45.2	61.7 60.4	61.4 60.0	59.9 58.0	58.7 56.4	54.0 51.3	50.3 47.8	47.6 45.8	47.2 45.6	46.9 45.3	53.8 51.6	10.0 10.0	63.8 61.6
Timeframe	23 Hour	51.6 L _{eq}	60.7 L _{max}	45.2 L _{min}	60.4 L1%	60.0 L2%	58.0 L5%	56.4 L8%	L25%	47.8 L50%	45.8 L90%	45.6 L95%	45.3 L99%	51.0	L _{eq} (dBA)	01.0
	Min	55.9	64.2	46.8	63.9	63.6	62.2	60.7	56.4	52.5	47.7	47.2	46.9	24-Hour	Daytime	Nighttime
Day	Max	64.9	79.5	52.7	77.8	75.8	71.0	67.6	62.6	59.8	54.0	53.3	52.8	CNEL	(7am-10pm)	(10pm-7am)
Energy	Average	60.2		erage:	68.0	67.4	65.3	63.8	59.8	56.4	50.9	50.1	49.5	62.1	60.2	FF 2
Night	Min Max	47.1 62.9	56.1 74.5	41.8 50.5	55.8 74.0	55.4 73.5	53.7 71.2	51.9 68.4	45.2 59.0	43.6 55.8	42.3 51.5	42.2 51.0	42.0 50.6	63.1	60.2	55.3
Energy	Average	55.3		erage:	60.5	60.1	58.4	56.6	50.7	48.0	45.9	45.7	45.4			

						24-1	lour Noise I	Level Meas	urement	Summary						
Date:	Thursday, I	May 5, 2022			Location	1: 13 - Sito S	2-012 - 5320 R	ichfield Road			Mete	r: Piccolo II			JN:	13763
Project:	Yorba Linda	a Housing ar	d General Pl	an	Source	22	2 012 3320 1								Analyst:	A. Khan
							Hourly L _{eq}	dBA Reading	s (unadjusted	d)						
	_															
85.0 80.0 75.0 70.0 65.0 65.0 1 65.0	3 — — — — — — — — — — — — — — — — — — —															
8 75.0	2															
e 65.0	5 —															
60.0 ت۔ 55.0 ح	3															
1 /JINOH 40.0		mi c	. œ	၈ ၀		<u>,</u>		v. 4	56.1	49.8 47.3	<mark>ە:</mark>	o. o.	4 0	<u> </u>	44.0 43.0	<u> </u>
H 40.0	6	38		45.	45.	46.6	47	47.7 49.4	<u>0</u>	49.		47.0 46.9	47. 45.		- <mark>44</mark>	42.
35.0		1 7		4 5			0	10 11	12	12 14	15	16 17	18 10	20	21 22	
	0	1 2	3	4 5	6	7 8	9	10 11 Hour B	12 eginning	13 14	15	16 17	18 19	20	21 22	23
Timeframe	Hour	L _{eq}	L max	L _{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L _{eq}	Adj.	Adj. L _{eq}
	0	40.7	45.8	37.2	45.5	45.1	44.5	44.1	41.3	39.1	37.9	37.7	37.4	40.7	10.0	50.7
	1	38.3	42.2	36.4	41.7	41.3	40.6	40.2	38.8	37.7	36.8	36.7	36.5	38.3	10.0	48.3
Night	2	37.0 38.8	39.5 41.3	35.9 37.4	39.3 41.1	39.1 40.9	38.6 40.4	38.3 40.1	37.2 39.1	36.7 38.5	36.2 37.9	36.1 37.7	36.0 37.5	37.0 38.8	10.0 10.0	47.0 48.8
Night	4	40.9	44.0	39.0	43.7	43.5	40.4	40.1	41.4	40.6	39.5	39.3	39.1	40.9	10.0	50.9
	5	45.0	50.2	42.2	49.7	49.1	47.8	47.2	45.5	44.3	42.9	42.7	42.4	45.0	10.0	55.0
	6	45.5	49.7	42.7	49.2	48.8	48.1	47.6	46.1	44.9	43.4	43.1	42.9	45.5	10.0	55.5
	7 8	46.6 48.1	52.2 54.9	42.8 42.3	51.8 54.6	51.4 54.3	50.1 53.4	49.4 52.7	47.2 48.5	45.5 45.5	43.6 43.1	43.3 42.8	42.9 42.5	46.6 48.1	0.0 0.0	46.6 48.1
	8 9	48.1 47.8	54.9 54.3	42.3	54.6	54.3	53.4	52.7	48.5	45.5 45.7	43.1 42.5	42.8 41.9	42.5	48.1 47.8	0.0	48.1 47.8
	10	47.7	54.5	42.0	54.1	53.7	52.9	52.1	47.9	45.7	43.4	42.7	42.2	47.7	0.0	47.7
	11	49.4	54.5	44.3	54.1	53.7	53.0	52.5	50.5	48.3	45.5	45.0	44.4	49.4	0.0	49.4
	12	56.1	69.9	57.5	69.0	68.0	66.2	65.2	62.9	59.5	58.2	58.0	57.6	56.1	0.0	56.1
Day	13 14	49.8 47.3	71.6 52.8	51.5 42.4	70.1 52.5	68.6 52.1	65.9 51.3	64.4 50.5	60.5 48.2	57.9 46.1	54.2 43.5	52.9 43.0	51.8 42.5	49.8 47.3	0.0 0.0	49.8 47.3
Day	14	47.5	52.8	42.4	52.5	55.6	51.5	50.5	48.2	46.1	45.5	43.0	42.5	47.5	0.0	47.5
	16	47.0	54.0	42.3	53.5	53.0	51.8	50.7	47.5	45.4	43.2	42.8	42.4	47.0	0.0	47.0
	17	46.9	54.8	42.0	54.2	53.6	51.5	50.6	47.1	45.2	43.0	42.6	42.1	46.9	0.0	46.9
	18	47.4	55.5	41.0	55.2	54.7	53.2	52.1	47.2	44.8	42.2	41.7	41.2	47.4	0.0	47.4
	19 20	45.6 43.6	52.7 49.2	40.3 39.3	52.2 48.9	51.6 48.5	50.4 47.5	49.6 46.7	45.8 44.5	43.9 42.4	41.3 40.0	40.9 39.7	40.4 39.4	45.6 43.6	5.0 5.0	50.6 48.6
	20	43.0	49.2	39.8	48.9	48.5	47.3	40.7	44.3	42.4	40.0	40.2	40.0	43.0	5.0	48.0
Night	22	43.0	48.0	39.6	47.8	47.5	46.8	46.3	43.5	41.8	40.1	39.9	39.8	43.0	10.0	53.0
0	23	42.1	48.9	38.5	48.5	47.9	47.0	46.4	42.2	40.2	39.1	38.8	38.6	42.1	10.0	52.1
Timeframe	Hour Min	L _{eq} 43.6	L _{max} 49.1	L _{min} 39.3	L1% 48.9	L2% 48.5	L5% 47.5	<i>L8%</i> 46.7	L25%	L50% 42.4	<i>L90%</i> 40.0	L95% 39.7	L99% 39.4	24-Hour	L _{eq} (dBA) Daytime	Nighttime
Day	Max	43.0 56.1	71.6	59.5	70.1	48.5 68.6	66.2	65.2	62.9	42.4 59.5	58.2	58.0	59.4 57.6	CNEL	(7am-10pm)	(10pm-7am)
Energy A	Average	49.0	Av	erage:	55.3	54.7	53.4	52.6	49.4	47.0	44.6	44.1	43.6			
Night	Min	37.0	39.5	35.9	39.3	39.1	38.6	38.3	37.2	36.7	36.2	36.1	36.0	50.7	49.0	42.1
0	Max	45.5	50.2	42.7	49.7	49.1	48.1	47.6	46.1	44.9	43.4	43.1	42.9			
Energy A	Average	42.1	AV	erage:	45.2	44.8	44.1	43.6	41.7	40.4	39.3	39.1	38.9			



						24-Ho	our Noise L	evel Meas	urement S	ummary						
Date:	Thursday, N	May 5, 2022			Location	; 11 - Site S2-0)13 - 4861 Liv	ernool Stree	+		Meter:	Piccolo II			JN:	13763
Project:	Yorba Linda	a Housing an	d General Pla	an	Source	:	/15 - 4001 LIV	erpoor stree	L						Analyst:	A. Khan
							Hourly L _{eq}	dBA Readings	(unadjusted)							
85.0	n															
₹ 80.0	ğ ———															
g 75.0	5															
65.0 م 60.0 ت	3							0	9.	N						
₹ 55.0	2					∞		<mark>67</mark>		<u>, o</u>	<mark> </mark>					
85.((80.0 (VB) ^b " (VB) ^b " (V	45.0	41.0 40.6	2.1	44.5 47.5	49.5	51.9	28			<mark>28</mark>	59 54 9	48.0	<mark>50.5</mark> 47.3	20.3	47.1	44.3
35.0	5					•										
	0	1 2	3	4 5	6	7 8	9 1	10 11		3 14	15 10	5 17	18 19	20	21 22	23
									eginning							
Timeframe	Hour	L _{eq}	L _{max}	L _{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L _{eq} 45.0	Adj.	Adj. L _{eq}
	0 1	45.0 41.0	54.3 43.3	40.7 39.9	53.5 43.0	52.9 42.8	51.6 42.3	50.1 42.0	43.4 41.3	42.1 40.8	41.1 40.2	41.0 40.1	40.8 40.0	45.0 41.0	10.0 10.0	55.0 51.0
	2	40.6	43.7	39.6	43.4	43.0	42.3	41.7	40.7	40.3	39.9	39.8	39.7	40.6	10.0	50.6
Night	3	42.1	44.4	40.9	44.2	44.0	43.7	43.4	42.5	41.9	41.2	41.1	41.0	42.1	10.0	52.1
	4	44.5	49.7	42.8	49.4	49.0	47.7	46.5	44.4	43.7	43.1	43.0	42.9	44.5	10.0	54.5
	5	47.5	51.2	45.8	50.8	50.4	49.6	49.0	47.8	47.1	46.3	46.2	45.9	47.5	10.0	57.5
	6	49.5 51.9	56.7 60.5	47.4	56.4 60.0	56.0 59.3	51.8 57.2	50.5 55.7	49.1	48.5 49.7	47.8 48.3	47.7 48.0	47.5 47.8	49.5 51.9	10.0 0.0	59.5 51.9
	8	56.8	62.7	49.3	62.4	62.1	61.4	60.9	58.1	55.2	50.9	50.3	49.5	56.8	0.0	56.8
	9	58.9	63.5	51.5	63.2	63.0	62.4	62.0	60.0	58.6	54.0	53.1	51.8	58.9	0.0	58.9
	10	67.2	71.5	61.4	71.3	71.0	70.5	70.1	68.2	66.4	63.5	62.8	61.6	67.2	0.0	67.2
	11	66.0	73.7	61.5	72.2	71.0	68.8	67.9	66.5	65.3	63.1	62.5	61.8	66.0	0.0	66.0
	12 13	67.6 63.2	76.3 75.4	58.4 51.4	75.0 73.8	74.2 72.3	72.2 68.5	71.2 66.7	68.6 62.9	66.3 59.9	60.4 54.2	59.7 53.2	58.8 51.9	67.6 63.2	0.0 0.0	67.6 63.2
Day	15	58.0	65.5	53.6	64.9	64.4	63.1	62.0	57.9	59.9	54.2	53.2	53.8	58.0	0.0	58.0
2017	15	59.2	64.8	53.7	64.5	64.1	63.3	62.5	59.9	58.2	55.4	54.8	53.9	59.2	0.0	59.2
	16	54.9	61.0	49.8	60.7	60.4	59.2	58.3	55.8	53.6	50.7	50.3	49.9	54.9	0.0	54.9
	17	48.0	56.0	43.6	55.6	55.0	53.1	51.8	47.8	45.8	44.2	44.0	43.7	48.0	0.0	48.0
	18	50.5	58.3	44.1	57.9	57.5	56.2	55.2	50.7	47.6	44.9	44.5	44.2	50.5	0.0	50.5
	19 20	47.3 50.3	55.8 57.4	42.5 43.9	55.2 57.0	54.5 56.7	52.6 55.8	51.3 54.9	47.3 51.1	44.9 47.5	43.1 44.9	42.9 44.5	42.6 44.1	47.3 50.3	5.0 5.0	52.3 55.3
	20	47.1	53.1	43.9	52.5	52.0	50.9	50.0	47.5	47.3	44.5	44.3	44.1	47.1	5.0	52.1
Night	22	48.4	56.0	44.8	55.7	55.3	53.9	52.9	47.6	46.1	45.2	45.1	44.9	48.4	10.0	58.4
0	23	44.3	48.7	42.6	48.5	48.1	47.1	46.1	44.3	43.7	43.0	42.9	42.7	44.3	10.0	54.3
Timeframe	Hour Min	L _{eq} 47.1	L _{max} 53.1	L _{min} 42.5	L1% 52.5	L2% 52.0	L5% 50.9	L8% 50.0	L25%	L50% 44.9	43.1	L95% 42.9	L99% 42.6	24-Hour	L _{eq} (dBA) Daytime	Nighttime
Day	Max	67.6	76.3	42.5 61.5	75.0	74.2	72.2	71.2	68.6	66.4	63.5	62.8	42.0 61.8	CNEL	(7am-10pm)	(10pm-7am)
Energy	Average	61.4	Ave	erage:	63.1	62.5	61.0	60.0	57.0	54.7	51.8	51.3	50.6			
Night	Min	40.6	43.3	39.6	43.0	42.8	42.3	41.7	40.7	40.3	39.9	39.8	39.7	60.1	61.4	45.8
<u> </u>	Max	49.5	56.7	47.4	56.4	56.0	53.9	52.9	49.1	48.5	47.8	47.7	47.5			
Energy /	Average	45.8	AVE	erage:	49.4	49.1	47.8	46.9	44.6	43.8	43.1	43.0	42.8			

						24-Ho	our Noise L	evel Meas	urement S	ummary						
Date:	Thursday, N	/lay 5, 2022			Location	: 15 - Sito S3-	210 - 18111 B	lastanchury R	Road		Meter:	Piccolo II			JN:	13763
Project:	Yorba Linda	Housing an	d General Pla	an	Source	25 - 5ite 55-	210 - 10111 L	astancinary i	loau						Analyst:	A. Khan
							Hourly L _{eq}	dBA Readings	(unadjusted)							
0F (0															
85.0 80.0 75.0 70.0 65.0 60.0																
16 75.0 70.0	0															
e 65.0	0															
→ 55.0	0		_			<u>ь</u> о		0.1 62.9		»	- <mark>4</mark>	<mark>л _ п</mark>	<u>ه</u> م			
1 55.0 1 55.0 1 50.0 1 50.0 1 50.0 1 50.0 1 50.0 1 55.0	23.1	51.1	50.2	49.8	55.6	28. 27.	22	<mark></mark>	56.2	57.0	2 <mark>-2</mark> -2		<mark>56.5</mark>	55.2	<mark>53.5</mark> 52.5	I .6
± 40.0 35.0	0 - 13 -	52.	- <u>n</u>	- 4											<u>ю </u>	51.
	0	1 2	3	4 5	6	7 8	9	10 11	12 1	.3 14	15 10	5 17	18 19	20	21 22	23
	-		-		-		-		eginning							
Timeframe	Hour	L _{eq}	L max	L min	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L _{eq}	Adj.	Adj. L _{eq}
	0	53.1	58.2	45.5	57.7	57.3	56.5	56.0	54.3	52.6	48.5	47.5	46.1	53.1	10.0	63.1
	1 2	51.1 52.4	56.8 60.5	44.5 43.7	56.4 59.8	56.1 59.3	55.3 58.0	54.5 56.8	52.1 52.8	50.1 50.4	46.5 46.1	45.8 45.2	44.9 44.1	51.1 52.4	10.0 10.0	61.1 62.4
Night	3	50.2	56.1	43.7	55.5	55.2	54.3	53.5	51.2	49.0	45.9	45.4	44.1	50.2	10.0	60.2
0	4	49.8	56.2	45.7	55.9	55.5	54.6	53.6	50.3	48.0	46.3	46.1	45.8	49.8	10.0	59.8
	5	53.0	59.7	48.2	59.3	59.0	57.8	56.7	53.5	51.1	48.9	48.7	48.4	53.0	10.0	63.0
	6	55.6	61.1	50.2	60.9	60.6	59.6	58.9	56.6	54.3	51.1	50.7	50.3	55.6	10.0	65.6
	7 8	57.5 58.0	62.3 65.7	52.3 51.0	62.0 65.4	61.8 64.8	61.1 62.9	60.5 61.7	58.6 58.4	56.8 56.5	53.4 52.4	52.9 51.7	52.4 51.2	57.5 58.0	0.0 0.0	57.5 58.0
	9	57.2	62.8	50.4	62.2	61.8	61.0	60.2	58.3	56.5	52.3	51.5	50.6	57.2	0.0	57.2
	10	60.1	71.0	58.3	70.6	70.1	69.3	68.6	65.4	62.1	59.4	58.9	58.5	60.1	0.0	60.1
	11	62.9	75.4	58.1	75.1	74.6	73.8	73.0	70.1	64.8	60.1	59.3	58.3	62.9	0.0	62.9
	12 13	56.2 56.8	64.0 63.8	48.7 49.1	63.6 63.3	63.2 63.0	61.4 62.1	59.9 61.1	56.7 57.3	54.6 55.1	50.3 50.8	49.5 50.0	48.8 49.3	56.2 56.8	0.0 0.0	56.2 56.8
Day	15	57.0	63.4	49.1 50.3	62.9	62.5	61.3	60.5	57.5	55.9	52.3	50.0	49.5 50.5	57.0	0.0	50.8
	15	59.4	66.9	52.6	66.6	66.1	65.1	63.6	59.4	57.4	54.3	53.4	52.8	59.4	0.0	59.4
	16	57.5	63.9	50.8	63.4	62.8	61.8	60.8	58.2	56.6	52.5	51.8	51.0	57.5	0.0	57.5
	17	57.5	64.4	49.6	64.2	63.8	62.2	61.0	58.2	56.3	51.5	50.6	49.8	57.5	0.0	57.5
	18 19	56.5 55.8	62.2 63.5	48.1 46.7	62.0 63.2	61.7 62.8	61.0 61.0	60.3 59.7	57.6 56.6	55.5 54.1	50.1 48.4	49.0 47.5	48.3 46.8	56.5 55.8	0.0 5.0	56.5 60.8
	20	55.2	62.2	46.0	61.8	61.5	60.4	59.3	56.3	53.6	48.4	47.3	46.2	55.2	5.0	60.2
	21	53.5	61.1	44.9	60.7	60.1	58.7	57.8	54.5	51.0	46.2	45.5	45.0	53.5	5.0	58.5
Night	22	52.5	59.5	47.3	59.2	58.8	57.8	56.7	53.0	50.2	47.9	47.7	47.4	52.5	10.0	62.5
Timeframe	23 Hour	51.6	56.9	46.6	56.5 L1%	56.3 L2%	55.6 L5%	55.0 L8%	52.4 L25%	50.4 L50%	47.7 L90%	47.3 L95%	46.8 L99%	51.6	10.0 L _{eq} (dBA)	61.6
	Min	L _{eq} 53.5	L _{max} 61.1	L _{min} 44.9	60.7	60.1	58.7	57.8	54.5	51.0	46.2	45.5	45.0	24-Hour	Daytime	Nighttime
Day	Max	62.9	75.4	58.3	75.1	74.6	73.8	73.0	70.1	64.8	60.1	59.3	58.5	CNEL	(7am-10pm)	(10pm-7am)
Energy	Average	58.0		erage:	64.5	64.0	62.9	61.9	58.9	56.5	52.1	51.3	50.6	<u> </u>	50.0	F0 -
Night	Min	49.8	56.1	43.7	55.5	55.2	54.3	53.5	50.3	48.0	45.9	45.2 50.7	44.1 50.3	60.6	58.0	52.5
Energy	Max Average	55.6 52.5	61.1 Ave	50.2 erage:	60.9 57.9	60.6 57.6	59.6 56.6	58.9 55.8	56.6 52.9	54.3 50.7	51.1 47.7	50.7 47.1	46.5			
Licigy		52.5	Ave		37.5	37.0	- 30.0	33.0	52.5	50.7	47.7	4/.1	40.5			

						24-	Hour Noise	e Level Me	asureme	nt Su	mmary								
Date:	Thursday, I	May 5, 2022			Location	16 - Site S	4-075 - 4742	Plumosa Dr	ive			Met	er: Pico	colo II				JN:	13763
Project:	Yorba Linda	a Housing an	d General Pla	an	Source	:	10/3 1/12	i lanosa bi									Ai	nalyst:	A. Khan
							Hourly L	_{eq} dBA Read	ings (unadju	sted)									
05.0	<u> </u>																		
- 85.0 - 80.0	5 — — — — — — — — — — — — — — — — — — —																		
	2																		
85.0 80.0 75.0 70.0 65.0 65.0	ž —																		
<u> </u>	5						_						_						
1 55.0 55.0 50.0 45.0 45.0 40.0			- <u>v</u>	52.0	50.9	- <u></u>	<u> </u>		52.1	2	<u> </u>		<mark>52.7</mark>	- <mark></mark>	_ <mark>∞</mark>	<u>o</u> o	49.4	50.2	1
± 40.0 35.0	4	42.		44. 52.	<u>N</u>	22	23.	2 <mark> 1</mark>	- <mark>א א</mark>	25	22.		- 23		<mark>-11</mark>	51. 51.	46	- 2	46.
35.0	0	1 2	3	4 5	6	7 8	9	10 1	1 12	13	14	15	16	17	18	19 20	21	22	23
	0	1 2		4 J	0	, (5		r Beginning		14	15	10	17	10	15 20	21	22	25
Timeframe	Hour	L _{eq}	L max	L _{min}	L1%	L2%	L5%	L8%			L50%	L90%		L95%	L99%	GQ		dj.	Adj. L _{eq}
	0	42.8	48.7	39.4	48.4	47.9	46.6	46.0			41.5	40.0		39.8	39.5			0.0	52.8
	1 2	42.1 40.4	47.8 46.6	38.8 37.7	47.3 46.2	46.8 45.7	45.7 44.1	45.1 43.4			41.0 39.1	39.4 38.1		39.2 38.0	39.0 37.8			0.0 0.0	52.1 50.4
Night	3	40.4	40.0	39.4	40.2	47.2	44.1	45.5			41.2	39.9		39.7	39.5			0.0	52.5
0	4	44.9	49.8	41.7	49.5	49.2	48.3	47.7	45.	6	43.8	42.2		42.0	41.8	3 44.9	1	0.0	54.9
	5	52.0	57.9	46.7	57.3	56.9	55.8	55.0			51.2	48.6		47.9	47.1			0.0	62.0
	6	50.9 52.2	57.2 57.6	46.4	56.8 57.2	56.2 56.8	54.9 55.7	54.1	51. 53.		49.7 51.5	47.4	_	47.0 48.6	46.5 48.1			0.0	60.9 52.2
	8	52.2	57.6	47.9	57.2	58.7	57.2	56.2			51.5	49.1		48.4	46.1).0).0	52.2
	9	53.0	61.2	47.8	60.2	59.1	57.2	56.3			51.6	49.2		48.6	48.0			0.0	53.0
	10	50.7	57.4	45.9	56.9	56.3	55.0	54.2	_		49.2	46.9		46.5	46.0			0.0	50.7
	11	51.1	56.8	47.2	56.3	55.8	54.6	53.9		-	50.2	48.1		47.8	47.4	_		0.0	51.1
	12 13	52.1 52.2	59.8 59.4	47.2 47.9	59.2 58.8	58.5 58.0	57.1 56.7	56.0 55.7			50.2 50.8	48.1 48.8		47.8 48.5	47.3 48.1			0.0 0.0	52.1 52.2
Day	14	52.3	57.4	48.8	56.9	56.4	55.5	54.8			51.6	49.8		49.4	49.0).0).0	52.3
,	15	51.7	57.6	47.5	57.2	56.7	55.2	54.5	52.	4	50.8	48.4		48.0	47.6	5 51.7	(0.0	51.7
	16	52.7	61.3	47.2	60.9	60.3	57.4	56.6			50.5	48.2		47.7	47.3			0.0	52.7
	17 18	53.1 51.8	63.5 58.0	47.6 47.4	63.0 57.4	61.7 57.0	57.7 55.9	55.5 54.9	-	-	51.0 50.8	48.7 48.5		48.2 48.1	47.8 47.6).0).0	53.1 51.8
	18	51.8	58.8	47.4	57.4	57.0	56.1	54.5	-		49.4	46.5		46.1 46.1	47.6			5.0 5.0	51.8
	20	51.0	58.4	44.8	57.8	57.3	55.8	54.9			49.3	46.3		45.6	45.0			5.0	56.0
	21	49.4	56.6	43.9	56.2	55.7	54.6	53.5			47.5	44.8		44.4	44.1			5.0	54.4
Night	22 23	50.2 46.1	61.0 52.0	44.5 42.4	59.8 51.5	58.7 50.8	55.8 49.4	53.0 48.9			47.5 45.0	45.3 43.2		45.0 42.9	44.6 42.6			0.0 0.0	60.2 56.1
Timeframe	23 Hour	40.1 L _{eq}	52.0	42.4 L _{min}	L1%	50.8 L2%	49.4 L5%	48.5 L8%			45.0 L50%	43.2 L90%		42.9 L95%	42.6 L99%		Las	0.0 (dBA)	50.1
Day	Min	49.4	56.6	43.9	56.2	55.7	54.6	53.5			47.5	44.8		44.4	44.1			vtime	Nighttime
	Max	53.1	63.5	48.8	63.0	61.7	57.7	56.6			51.6	49.8		49.4	49.0		(7am	-10pm)	(10pm-7am)
Energy	Average	51.9 40.4	46.6	erage:	58.4 46.2	<u>57.7</u> 45.7	<u>56.1</u> 44.1	55.1 43.4	52. 40.		50.4 39.1	48.0		47.6 38.0	47.1		л г [,]	1.9	47.6
Night	Min Max	40.4 52.0	46.6 61.0	37.7 46.7	46.2 59.8	45.7	44.1 55.8	43.4			39.1 51.2	38.1 48.6		38.0 47.9	37.8		+) .	1.9	47.0
Energy	Average	47.6		erage:	51.6	51.0	49.6	48.7			44.5	42.7		42.4	42.1				



						24-Ho	ur Noise Le	evel Meas	urement Su	ummary						
Date:	Thursday, N	May 5, 2022			Location	17 - Site S6-0) 15 - 22722 Ol	ld Canal Roa	d		Meter:	Piccolo II			JN:	13763
Project:	Yorba Linda	a Housing and	d General Pla	an	Source		.15 22722 01		u						Analyst:	A. Khan
							Hourly L _{eq} a	IBA Readings	(unadjusted)							
00	0															
85.1 80.1 75.1 70.1 65.1 60.1 1																
ap 75.																
- 65.	0															
- 55.	ŏ – – –			59.5 61.4		0. 0		- in iu		60.2	- <u>,</u> r	·	<u>∞</u> <u>o</u>		<u>и</u>	
λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρομ λμηρ	50.7	51.1	22.3	59.t	59.4	59.0 57.9	285	2	<u> </u>	<u> </u>	2 <mark>29.</mark>	58.8	57.8 59.0	26.	56.5 54.1	53.6
⊥ 40. 35.	0 - 0	- u - u													- u	- u
	0	1 2	3	4 5	6	7 8	9 1	.0 11	12 1	3 14	15 1	6 17	18 19	20	21 22	23
								Hour Be	eginning							
Timeframe	Hour	L _{eq}	L _{max}	L min	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L _{eq}	Adj.	Adj. L _{eq}
	01	50.7 51.1	56.6 56.9	47.3 48.0	56.3 56.7	56.1 56.4	54.9 55.2	53.8 53.9	51.0 51.4	49.7 50.1	47.9 48.6	47.6 48.3	47.4 48.1	50.7 51.1	10.0 10.0	60.7 61.1
	2	51.1	55.9	48.0	55.6	55.4	55.2 54.9	53.9	51.4	50.1	48.6 50.0	48.3 49.8	48.1 49.6	51.1	10.0	62.1
Night	3	55.3	58.9	51.9	58.7	58.5	57.9	57.3	56.0	54.9	52.7	52.4	52.0	55.3	10.0	65.3
Ū.	4	59.5	62.3	57.3	62.2	62.0	61.6	61.1	60.1	59.3	57.9	57.6	57.3	59.5	10.0	69.5
	5	61.4	68.0	58.3	67.7	67.2	65.6	64.3	61.5	60.1	58.8	58.6	58.4	61.4	10.0	71.4
	6	59.4 59.0	66.6 69.9	56.3 52.5	66.1 69.2	65.5 68.4	63.7 65.6	62.4 63.4	59.3 57.6	58.0 55.0	56.9 53.1	56.7 52.8	56.4 52.6	59.4 59.0	10.0 0.0	69.4 59.0
	8	57.9	66.4	52.0	66.1	65.7	63.9	62.3	57.0	54.8	52.7	52.8	52.0	57.9	0.0	57.9
	9	58.5	68.0	51.6	67.2	66.6	64.7	63.2	58.3	55.1	52.5	52.1	51.7	58.5	0.0	58.5
	10	59.9	69.0	51.5	68.6	68.1	66.6	65.1	59.7	55.2	52.2	51.9	51.6	59.9	0.0	59.9
	11	59.5	81.7	52.2	81.1	80.0	78.8	77.5	65.9	56.8	53.0	52.6	52.3	59.5	0.0	59.5
	12 13	60.7 59.7	70.0 68.2	52.4 52.7	69.6 67.9	68.9 67.4	67.1 65.8	65.6 64.4	60.8 60.0	56.6 56.5	53.2 53.5	52.8 53.2	52.5 52.9	60.7 59.7	0.0 0.0	60.7 59.7
Day	13	60.2	69.5	52.6	69.2	68.7	66.8	64.9	59.9	56.2	53.2	52.9	52.6	60.2	0.0	60.2
, i	15	59.7	69.1	52.2	68.6	68.0	66.0	64.2	59.6	55.9	53.1	52.7	52.3	59.7	0.0	59.7
	16	59.7	69.7	51.9	69.3	68.6	66.6	64.8	58.7	54.9	52.5	52.2	52.0	59.7	0.0	59.7
	17	58.8	67.6	53.0	67.2	66.6	64.6	63.3	58.8	55.5	53.6	53.3	53.1	58.8	0.0	58.8
	18 19	57.8 59.0	66.0 67.2	52.5 53.7	65.8 66.9	65.4 66.4	63.7 64.5	62.1 63.2	57.5 59.1	54.8 56.4	53.1 54.3	52.9 54.0	52.6 53.8	57.8 59.0	0.0 5.0	57.8 64.0
	20	56.7	64.7	52.3	64.4	64.0	62.2	60.6	56.7	54.5	52.8	52.6	52.4	56.7	5.0	61.7
	21	56.5	63.8	51.0	63.6	63.3	62.1	60.9	56.9	53.7	51.5	51.3	51.1	56.5	5.0	61.5
Night	22	54.1	62.3	50.4	61.9	61.2	59.1	57.4	53.7	52.4	50.9	50.7	50.5	54.1	10.0	64.1
Timeframe	23 Hour	53.6 L _{eg}	61.7 L _{max}	49.3 L _{min}	61.6 L1%	61.3 L2%	59.1 L5%	56.9 L8%	53.2 L25%	51.7 L50%	49.9 L90%	49.6 L95%	49.4 L99%	53.6	10.0 L _{eq} (dBA)	63.6
	Min	56.5	63.8	51.0	63.6	63.3	62.1	60.6	56.7	53.7	51.5	51.3	51.1	24-Hour	Daytime	Nighttime
Day	Max	60.7	81.7	53.7	81.1	80.0	78.8	77.5	65.9	56.8	54.3	54.0	53.8	CNEL	, (7am-10pm)	(10pm-7am)
Energy	Average	59.1		erage:	68.3	67.7	65.9	64.4	59.1	55.5	52.9	52.6	52.4	CA C	F0 4	
Night	Min Max	50.7 61.4	55.9 68.0	47.3 58.3	55.6 67.7	55.4 67.2	54.9 65.6	53.8 64.3	51.0 61.5	49.7 60.1	47.9 58.8	47.6 58.6	47.4 58.4	64.0	59.1	56.9
Energy	Average	56.9		erage:	60.8	60.4	59.1	57.9	55.4	54.2	58.8	58.6	58.4			
81		50.5	,		00.0	00.4		57.5		51.2	32.0	32.7	32.1			

						24-Ho	ur Noise Le	evel Meas	urement Si	ummary						
Date:	Thursday, N	/lay 5, 2022			Location	18 - Sita S7-0)01 - Brvant R	anch Shonni	ng Center		Meter:	Piccolo II			JN:	13763
Project:	Yorba Linda	Housing and	d General Pla	n	Source	10 - Sile 37-0	ioi - Bryant K		ng center						Analyst:	A. Khan
							Hourly L _{eq} d	IBA Readings	(unadjusted)							
85.0	n															
85.0 80.0 75.0 70.0 65.0 60.0	Ď															
B 70.0	Ď – –			_												
- 60.0	0 - <u>6</u> -	68.7 69.3		5.4		5.6			67.7	67.3	6.5	<u> </u>	68.1	69.6	68.1 68.1	
1 55.0 1 55.0 1 50.0 1 50.0 1 50.0 1 50.0 1 50.0			63.8	65.(63.6	- <mark></mark>	<u>65.</u>	90.8 96	9		99 99		62. 6	\mp \mp		
	0 + +													\mp \mp		
35.0	0 + 0	1 2	3	4 5	6	7 8	9 1	.0 11	12 1	3 14	15 16	5 17	18 19	20	21 22	23
	Ū	1 2	5	- J	0	, 0	5 1		eginning	5 14	15 1	, 1,	10 15	20	21 22	
Timeframe	Hour	L _{eq}	L _{max}	L _{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L _{eq}	Adj.	Adj. L _{eq}
	0 1	70.1 68.7	76.9 75.2	59.7 62.1	76.8 75.0	76.7 74.7	76.4 73.9	75.9 73.1	70.4 69.1	66.2 66.7	61.7 63.4	60.8 62.6	59.9 62.2	70.1 68.7	10.0 10.0	80.1 78.7
	2	69.3	75.6	63.3	75.4	75.2	73.5	74.2	69.2	67.2	64.5	64.1	63.4	69.3	10.0	79.3
Night	3	63.8	68.6	60.4	68.5	68.3	67.6	67.1	63.9	62.7	61.3	60.9	60.6	63.8	10.0	73.8
	4	66.4	72.3	59.7	72.2	72.1	71.6	71.2	67.3	64.7	60.5	60.3	59.9	66.4	10.0	76.4
	5	65.0	72.0	58.2	71.8	71.7	71.3 67.3	70.9	63.6	61.6	58.7	58.5	58.3	65.0	10.0	75.0
	6 7	63.6 65.5	68.7 73.0	56.4 58.0	68.4 72.8	68.1 72.7	72.0	66.5 71.1	64.2 64.4	63.1 62.0	57.3 58.7	56.7 58.4	56.5 58.2	63.6 65.5	10.0 0.0	73.6 65.5
	8	65.6	74.3	56.6	74.0	73.6	72.5	71.8	64.8	59.9	57.2	56.9	56.7	65.6	0.0	65.6
	9	65.6	72.3	58.4	72.1	72.0	71.6	71.0	65.5	63.1	59.4	58.9	58.5	65.6	0.0	65.6
	10	60.8	67.4	56.9	67.1	66.8	65.8	64.8	60.7	58.9	57.6	57.3	57.1	60.8	0.0	60.8
	11 12	66.7 67.7	75.7 75.6	61.5 59.8	74.1 74.4	72.7 73.7	70.5 71.9	69.3 71.0	67.2 68.7	65.2 66.3	63.0 62.2	62.5 61.4	61.9 60.4	66.7 67.7	0.0 0.0	66.7 67.7
	12	63.7	76.2	53.6	74.4	72.4	68.4	66.0	63.3	61.4	56.9	55.8	54.3	63.7	0.0	63.7
Day	14	67.3	75.5	60.8	74.4	73.7	72.4	71.6	67.3	65.7	62.3	61.5	61.0	67.3	0.0	67.3
	15	66.5	73.2	59.6	72.9	72.8	72.4	72.1	65.7	63.7	61.1	60.4	59.8	66.5	0.0	66.5
	16 17	59.9 62.5	64.7 66.4	57.7 59.3	64.4 66.2	64.2 66.0	63.6 65.6	63.1 65.1	59.7 63.4	59.0 61.6	58.2 59.8	58.0 59.6	57.8 59.4	59.9 62.5	0.0 0.0	59.9 62.5
	17	62.5	67.4	59.3 59.6	67.2	66.9	66.5	65.8	63.4	62.2	59.8 60.1	60.0	59.4 59.7	62.5	0.0	62.5
	19	68.1	74.3	60.7	74.1	73.9	73.5	73.1	67.8	65.8	62.5	61.6	60.8	68.1	5.0	73.1
	20	69.6	75.2	63.4	75.0	74.9	74.6	74.0	69.8	67.9	64.6	64.1	63.5	69.6	5.0	74.6
	21	68.1	74.9	62.1	74.7	74.7	74.2	73.7	68.0	64.4	62.9	62.6	62.2	68.1	5.0	73.1
Night	22 23	68.1 70.2	73.0 75.1	63.8 63.0	72.6 75.0	72.4 74.8	71.9 74.3	71.3 73.8	68.8 71.4	67.3 69.0	64.8 64.6	64.3 63.9	64.0 63.4	68.1 70.2	10.0 10.0	78.1 80.2
Timeframe	Hour	L _{eq}	L max	L _{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%		L _{eq} (dBA)	
Day	Min	59.9	64.7	53.6	64.4	64.2	63.6	63.1	59.7	58.9	56.9	55.8	54.3	24-Hour	Daytime	Nighttime
	Max Average	69.6 66.1	76.2 Ave	63.4 rage:	75.0 71.9	74.9 71.4	74.6 70.4	74.0 69.6	69.8 65.3	67.9 63.1	64.6 60.4	64.1 59.9	63.5 59.4	CNEL	(7am-10pm)	(10pm-7am)
	Min	63.6	68.6	56.4	68.4	68.1	67.3	66.5	63.6	61.6	57.3	59.9	56.5	74.4	66.1	67.9
Night	Max	70.2	76.9	63.8	76.8	76.7	76.4	75.9	71.4	69.0	64.8	64.3	64.0			
Energy	Average	67.9	Ave	rage:	72.8	72.7	72.1	71.6	67.5	65.4	61.9	61.4	60.9			

						24-Ho	our Noise Le	evel Meas	urement S	ummary						
Date:	Thursday, N	May 5, 2022			Location	10 Sito S2 ()34 - 4341 Eui	roka Avonuo			Meter:	Piccolo II			JN:	13763
Project:	Yorba Linda	a Housing an	d General Pla	an	Source	: :	754 - 4541 Eul	eka Avenue							Analyst:	A. Khan
							Hourly L _{eq} (dBA Readings	(unadjusted)							
	n															
85.0 (80.0 75.0 70.0 65.0 1 65.0																
a 75.0 70.0																
- 65.0 - 60.0																
▲ 55.0 → 50.0 0 45.0					59.1	60.5 62.1	58.6	60.2		60.6	62.6		9 N	<u></u>	<u></u>	
∧ 55.0 10.	48.2	43.9 44		50.8	2	<u> </u>				ŭ	60. 60.	28. 28.	57.		54.7 54.7	47.1
≠ 40.0 35.0		4 4	4													4
	0	1 2	3	4 5	6	7 8	9 1	.0 11		3 14	15 16	5 17	18 19	20	21 22	23
									eginning							
Timeframe	Hour	L _{eq}	L max	L _{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L _{eq}	Adj.	Adj. L _{eq}
	01	48.2 43.9	58.3 53.7	40.9 39.9	57.8 53.5	57.5 53.1	56.1 50.2	54.1 47.5	45.5 42.1	42.1 41.0	41.3 40.3	41.2 40.2	41.0 40.0	48.2 43.9	10.0 10.0	58.2 53.9
	2	43.9	53.3	39.5	52.7	52.2	50.2	47.5	44.0	41.0	40.3	39.9	39.6	43.9	10.0	54.4
Night	3	45.0	56.6	40.7	56.0	54.8	51.2	47.7	42.7	41.7	41.0	40.9	40.7	45.0	10.0	55.0
	4	50.8	62.5	44.1	62.0	61.1	57.4	54.9	47.8	45.5	44.6	44.5	44.2	50.8	10.0	60.8
	5	53.4	64.5	45.7	64.2	63.6	61.0	58.3	50.5	47.7	46.5	46.2	45.9	53.4	10.0	63.4
	6 7	59.1 60.5	71.3	46.7 47.8	71.0	70.3	66.8 67.9	64.2 65.6	55.4 58.0	50.6 52.4	47.4 48.6	47.1 48.3	46.9 47.9	59.1 60.5	10.0 0.0	69.1 60.5
	8	62.1	73.2	46.4	72.8	72.4	70.3	68.2	58.6	52.0	47.4	47.0	46.5	62.1	0.0	62.1
	9	58.6	70.1	44.6	69.6	68.9	66.2	63.9	56.6	50.7	45.8	45.3	44.8	58.6	0.0	58.6
	10	58.6	70.2	44.9	69.9	69.2	66.2	63.8	56.1	51.1	46.3	45.7	45.2	58.6	0.0	58.6
	11 12	60.2 59.8	72.6 72.2	45.6 45.4	72.1 71.2	71.1 70.1	67.4 66.9	65.0 65.1	57.9 57.8	51.8 51.7	46.8 46.3	46.3 45.9	45.8 45.5	60.2 59.8	0.0 0.0	60.2 59.8
	12	63.5	72.2	43.4	73.9	73.2	70.5	68.8	63.0	57.3	40.3	43.9	43.3	63.5	0.0	63.5
Day	14	60.6	71.1	47.5	70.7	69.9	67.4	65.6	60.3	55.5	49.5	48.5	47.7	60.6	0.0	60.6
	15	62.6	72.8	56.2	72.2	71.4	69.1	67.6	61.2	58.4	56.8	56.6	56.3	62.6	0.0	62.6
	16 17	60.2 58.9	72.0 70.9	44.8 44.4	71.4 70.5	70.5 69.6	67.8 66.3	65.8 64.0	58.3 56.3	51.3 49.9	45.9 45.3	45.4 44.9	45.0 44.5	60.2 58.9	0.0 0.0	60.2 58.9
	17	56.6	67.8	44.4	70.5 67.5	66.8	64.3	64.0	56.3	49.9	45.3 44.4	44.9	44.5	58.9	0.0	56.6
	19	57.2	69.2	42.4	68.8	68.0	65.0	62.4	54.1	48.4	43.3	42.9	42.5	57.2	5.0	62.2
	20	55.9	67.8	42.8	67.4	66.5	63.3	61.1	53.6	48.3	43.8	43.3	42.9	55.9	5.0	60.9
	21	54.9	67.1	42.6	66.7	65.9	62.8	59.9	50.8	45.6	43.3	43.0	42.7	54.9	5.0	59.9
Night	22 23	54.7 47.1	67.6 56.4	44.4 43.3	67.3 56.1	66.4 55.4	62.5 52.5	58.6 50.2	49.2 46.5	46.0 44.3	44.8 43.7	44.7 43.6	44.5 43.4	54.7 47.1	10.0 10.0	64.7 57.1
Timeframe	Hour	L_{eq}	L max	L min	L1%	L2%	L5%	L8%	L25%	L50%	43.7 L90%	L95%	43.4 L99%		L _{eq} (dBA)	37.1
Day	Min	54.9	67.1	42.4	66.7	65.9	62.8	59.9	50.8	45.6	43.3	42.9	42.5	24-Hour	Daytime	Nighttime
,	Max	63.5	74.5	56.2	73.9	73.2	70.5	68.8	63.0	58.4	56.8	56.6	56.3	CNEL	(7am-10pm)	(10pm-7am)
	Average Min	60.0 43.9	53.3	erage: 39.5	70.4 52.7	<u>69.6</u> 52.2	66.8 50.2	64.6 47.5	57.1 42.1	51.5 41.0	46.9 40.0	<u>46.4</u> 39.9	45.9 39.6	61.5	60.0	52.6
Night	Max	43.5 59.1	71.3	46.7	71.0	70.3	66.8	64.2	55.4	50.6	40.0	47.1	46.9	01.5	00.0	52.0
Energy	Average	52.6	Ave	erage:	60.0	59.4	56.4	53.8	47.1	44.5	43.3	43.1	42.9			

Date:	Thursday, N	May 5 2022			Location:		our Noise Le	evel Measu	urement S	ummary	Meter:	Piccolo II			INI-	13763
	-	a Housing and	d General Pla	in	Source:	L10 - Site S5-	-008 - Vacant	Parcel on Fa	irmont Boule	evard	Wieter.					A. Khan
							Hourly L 🔐 d	IBA Readings	(unadjusted)							
							<i>y</i> cy									
₹ ^{85.0}																
(¥80.0 75.0 70.0 65.0 1 60.0	3															
65.0 ب س ² 60.0	3					70.9	0 0	t0		v	- 4	, o	• • •			
₹ 55.0			9	60.4		2 <mark>0</mark>		6 - 6	65.	<u>65.</u>	67		64.0 62.4	64.0	60.7 59.4	
1 55.0 50.0 45.0 45.0 40.0	23.0	54.0	26.6	- <u></u>			+								- 22 <u>-</u>	57.
35.0	5 — —															
	0	1 2	3	4 5	6	7 8	91	0 11	12 1	3 14	15 16	5 17	18 19	20	21 22	23
Timesfuernes	110	,	,	,	110/	1.20/	150/		eginning	150%	100%	105%	100%	,	A.d:	Adj. L _{eq}
Timeframe	Hour 0	L _{eq} 53.0	65.3	L _{min} 44.1	L1% 64.9	L2%	L5% 60.9	L8% 58.0	L25%	L50% 45.5	L90%	L95% 44.4	L99% 44.2	L _{eq} 53.0	Adj. 10.0	63.0
	1	54.0	67.1	46.1	66.6	65.6	60.9	56.7	49.7	47.3	46.4	46.3	46.2	54.0	10.0	64.0
	2	50.1	55.9	48.4	55.6	55.1	53.2	51.9	50.0	49.3	48.7	48.6	48.5	50.1	10.0	60.1
Night	3	56.6	69.5	50.0	69.0	67.8	63.6	59.7	51.8	50.8	50.3	50.2	50.1	56.6	10.0	66.6
	4	60.4	73.7	48.1	73.2	71.9	67.5	64.7	56.3	50.0	48.4	48.3	48.1	60.4	10.0	70.4
	5 6	61.7 66.1	75.1 78.8	50.0 51.5	74.3 78.2	72.9 77.2	69.5 74.0	66.7 71.6	55.9 61.7	52.3 54.9	50.8 52.1	50.5 51.9	50.1 51.6	61.7 66.1	10.0 10.0	71.7 76.1
	7	70.9	81.9	53.3	81.3	80.3	74.0	76.4	70.2	63.2	54.8	54.0	53.4	70.9	0.0	70.1
	8	69.2	80.9	49.1	80.3	79.3	76.4	74.6	68.1	59.9	50.5	49.8	49.3	69.2	0.0	69.2
	9	65.8	77.9	44.8	77.2	76.0	73.3	71.4	64.2	56.4	46.2	45.5	45.0	65.8	0.0	65.8
	10	65.4	77.1	43.2	76.6	75.6	73.0	71.2	63.4	55.1	45.8	44.5	43.5	65.4	0.0	65.4
	11 12	64.9 65.1	77.0 77.3	44.9 44.3	76.5 76.7	75.4 75.6	72.6 72.7	70.4 70.7	62.4 62.9	55.0 55.2	47.2 46.7	46.2 45.6	45.3 44.6	64.9 65.1	0.0 0.0	64.9 65.1
	12	65.2	77.4	44.3 44.0	76.7	75.6	72.7	70.7	62.9	55.2 54.9	46.7	45.6	44.6	65.1	0.0	65.1
Day	14	65.3	77.3	42.4	76.7	75.5	72.6	70.5	64.4	55.7	44.4	43.5	42.6	65.3	0.0	65.3
	15	67.4	81.0	43.9	79.9	78.3	74.6	72.1	64.7	57.0	46.3	45.0	44.1	67.4	0.0	67.4
	16	64.8	76.3	40.3	75.8	74.7	72.3	70.6	63.4	54.4	42.4	41.2	40.4	64.8	0.0	64.8
	17	65.0	75.9	41.6	75.4	74.5	72.3	70.6	64.6	56.3	44.0	42.9	41.8	65.0	0.0	65.0
	18 19	64.0 62.4	75.4 73.9	39.6 39.8	74.9 73.4	74.0 72.5	71.5 70.0	69.6 68.3	62.8 60.9	54.8 51.8	42.5 41.6	40.9 40.9	39.9 40.1	64.0 62.4	0.0 5.0	64.0 67.4
	19 20	62.4 64.0	73.9	39.8 41.0	73.4 76.5	72.5	70.0 71.4	68.3 68.7	60.9 60.3	51.8 51.0	41.6 41.8	40.9 41.4	40.1 41.2	62.4 64.0	5.0 5.0	67.4 69.0
	20	60.7	73.1	42.1	70.5	71.9	68.7	65.9	57.4	47.9	42.7	42.5	42.2	60.7	5.0	65.7
Night	22	59.4	71.3	47.7	70.9	70.2	67.2	64.3	56.7	50.6	48.3	48.1	47.8	59.4	10.0	69.4
	23	57.1	69.8	48.3	69.3	68.3	64.7	61.5	52.3	49.8	48.8	48.6	48.4	57.1	10.0	67.1
Timeframe	Hour Min	L _{eq} 60.7	L _{max} 73.1	L _{min} 39.6	L1% 72.7	L2% 71.9	L5% 68.7	<i>L8%</i> 65.9	L25% 57.4	L50% 47.9	L90% 41.6	L95% 40.9	L99% 39.9	24-Hour	L _{eq} (dBA) Daytime	Nighttime
Day	Max	70.9	73.1 81.9	53.3	81.3	80.3	68.7 78.1	76.4	57.4 70.2	47.9 63.2	41.6 54.8	40.9 54.0	53.4	CNEL	(7am-10pm)	
Energy A	Average	66.0		rage:	76.7	75.6	72.8	70.8	63.6	55.2	45.6	44.6	43.8			
Night	Min	50.1	55.9	44.1	55.6	55.1	53.2	51.9	47.7	45.5	44.5	44.4	44.2	68.3	66.0	60.0
0	Max	66.1	78.8	51.5	78.2	77.2	74.0	71.6	61.7	54.9	52.1	51.9	51.6			
Energy A	Average	60.0	Ave	erage:	69.1	68.1	64.6	61.7	53.6	50.1	48.7	48.5	48.3			



						24-Ho	ur Noise Le	evel Meas	urement S	ummary						
	Thursday, N				Location:	L11 - Site S7-	005 - Vacant	Parcel on Ca	mino de Bry	ant	Meter:	Piccolo II				13763
Project:	Yorba Linda	a Housing an	d General Pla	n	Source:										Analyst:	A. Khan
							Hourly L _{eq} (IBA Readings	(unadjusted)							
85.0 80.0	0															
(Yap) 80.0 75.0 70.0	0															
(Vgp) 55.0 65.0 1	0															
60.0 ت						<u>ں</u>										
Ajuno H 45.0 45.0	0 – <u>m</u>	- <u>-</u> - v		56.1	57.1	61. 58.1		20.0 28.9	<mark>- 26.9</mark>	59.1		58.3	<mark>57.5</mark> 56.5		56.9 54.9	4
± 40.0	0 — ū —	52.7	51.8	5 24	<u>_</u>		- <u>1</u>	• <u> </u>		<u>с </u>		2 ²	<u> </u>	- S	2 2	51.
35.0	0 ++ 0	1 2	3	4 5	6	7 8	9 1	.0 11	12 1	3 14	15 1	6 17	18 19	20	21 22	23
	0	1 2	5	÷ J	0	/ 0	5 1		eginning	5 14	15 1	0 17	10 15	20	21 22	25
Timeframe	Hour	L _{eq}	L _{max}	L _{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L _{eq}	Adj.	Adj. L _{eq}
	01	50.3 52.7	58.6 60.0	45.1 49.4	58.3 59.3	57.6 58.3	55.4 56.4	54.3 55.1	50.7 52.8	47.6 51.7	45.9 50.1	45.5 49.8	45.2 49.5	50.3 52.7	10.0 10.0	60.3 62.7
	2	52.7	57.5	49.4	59.5	56.8	55.7	55.1	52.8	51.7	50.1	49.8	49.5	52.7	10.0	62.7
Night	3	51.8	55.2	49.7	55.0	54.7	53.8	53.4	52.3	51.4	50.2	50.0	49.7	51.8	10.0	61.8
	4	54.4	59.3	52.3	58.8	58.4	57.0	56.2	54.8	53.9	52.8	52.6	52.4	54.4	10.0	64.4
	5	56.1	60.6	54.5	60.2	59.6	58.3	57.5	56.3	55.7	54.9	54.7	54.5	56.1	10.0	66.1
_	6	57.1 61.5	65.8 71.7	53.0 51.5	65.3 71.5	64.5 70.8	62.0 68.0	60.1 65.6	57.0 61.1	55.0 57.4	53.5 52.9	53.3 52.3	53.1 51.7	57.1 61.5	10.0 0.0	67.1 61.5
	8	58.1	67.4	45.3	67.1	66.6	64.8	63.1	58.4	54.1	46.9	46.2	45.5	58.1	0.0	58.1
	9	56.1	65.9	44.7	65.5	64.8	62.4	60.8	56.3	52.3	46.6	45.8	44.9	56.1	0.0	56.1
	10	56.6	66.6	44.5	66.3	65.6	63.3	62.1	56.1	51.9	45.7	45.1	44.6	56.6	0.0	56.6
	11 12	58.9 56.9	69.1 66.7	45.6 46.3	68.7 66.3	68.1 65.6	65.7 63.5	63.1 62.1	59.1 56.6	54.7 52.4	47.3 47.8	46.5 47.1	45.7 46.4	58.9 56.9	0.0 0.0	58.9 56.9
	12	55.4	65.7	40.3	65.3	64.6	61.7	60.1	55.0	51.4	47.8	47.1	40.4	55.4	0.0	55.4
Day	14	59.1	70.6	46.3	70.1	69.4	66.9	62.8	57.5	53.2	47.7	47.0	46.5	59.1	0.0	59.1
	15	56.0	65.6	45.9	65.2	64.6	62.4	60.8	56.2	52.2	47.5	46.6	46.1	56.0	0.0	56.0
	16 17	55.9 58.3	70.7 67.2	47.4	70.2 66.7	69.3 66.1	65.7 64.4	63.1 63.0	56.5 59.2	52.9	49.4	48.9 48.3	48.0 47.4	55.9 58.3	0.0	55.9 58.3
	17	58.3 57.5	67.2	47.2 46.9	66.7	66.2	64.4 64.2	63.0 62.8	59.2 57.5	54.7 52.9	49.1 48.2	48.3 47.6	47.4	58.3 57.5	0.0 0.0	58.3 57.5
	19	56.5	65.5	48.9	65.1	64.4	62.2	60.8	56.8	53.6	49.9	49.4	49.0	56.5	5.0	61.5
	20	55.9	69.0	48.2	67.0	64.5	61.1	59.2	55.3	52.3	49.1	48.6	48.3	55.9	5.0	60.9
	21	56.9	67.1	41.4	66.8	66.1	64.1	62.2	57.3	50.1	43.1	42.0	41.5	56.9	5.0	61.9
Night	22 23	54.9 51.4	65.7 62.0	43.6 45.8	65.4 61.4	64.7 60.5	62.2 57.3	60.6 55.1	52.9 50.3	48.7 48.1	44.4 46.4	44.0 46.2	43.7 45.9	54.9 51.4	10.0 10.0	64.9 61.4
Timeframe	Hour	L _{eq}	L max	L _{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%		L _{eq} (dBA)	
Day	Min	55.4	65.5	41.4	65.1	64.4	61.1	59.2	55.0	50.1	43.1	42.0	41.5	24-Hour	Daytime	Nighttim
	Max Average	61.5 57.6	71.7 Ave	51.5 rage:	71.5 67.3	70.8 66.4	68.0 64.0	65.6 62.1	61.1 57.3	57.4 53.1	52.9 47.8	52.3 47.1	51.7 46.5	CNEL	(7am-10pm)	(10pm-7an
	Min	57.6	55.2	43.6	55.0	54.7	53.8	53.4	57.3	47.6	47.8	47.1	46.5	61.5	57.6	54.0
Night	Max	57.1	65.8	54.5	65.4	64.7	62.2	60.6	57.0	55.7	54.9	54.7	54.5		57.0	54.0
Energy	Average	54.0	Ave	rage:	60.1	59.5	57.6	56.4	53.3	51.5	49.8	49.5	49.3			



						24-Ho	our Noise L	evel Meas	urement S	ummary						
Date:	Thursday, I	May 5, 2022			Location	112 - Site S3	-103 - Friend	Church Over	flow Parking	T	Meter:	Piccolo II			JN:	13763
Project:	Yorba Linda	a Housing an	d General Pla	an	Source	:	105 1110110)					Analyst:	A. Khan
							Hourly L _{eq}	dBA Readings	(unadjusted)							
85.(ب															
85.0 80.0 75.0 70.0 65.0 65.0 1	ž 🗕															
B 70.0																
- 65.0 0.0 ت	5															
Λμηο 45.0 45.0 45.0	2					59.8 60.8			- <u>0</u>				N N			
POP 45.0	43.8	41.9	42.6	45.6 49.5	52.5	<u>0</u>	52.4	54.1 52.2	ů l	51.9	54.0	49.5	54.7 55.	51.8	49.1 48.4	48.3
35.0	$5 \rightarrow 1$									•,,		• - • •				
	0	1 2	3	4 5	6	7 8	9 2	10 11 Hour B	12 í eginning	13 14	15 1	6 17	18 19	20	21 22	23
Timeframe	Hour	L _{eq}	L _{max}	L _{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L _{eq}	Adj.	Adj. L _{eq}
	0	43.8	50.3	41.0	49.8	49.2	47.5	46.4	44.2	42.6	41.5	41.3	41.1	43.8	10.0	53.8
	1	41.9	45.9	40.4	45.6	45.3	44.2	43.6	42.1	41.4	40.8	40.6	40.5	41.9	10.0	51.9
Night	2	41.6 42.6	46.2 46.3	40.0 41.1	45.8 46.0	45.4 45.6	44.3 44.6	43.6 44.0	41.8 43.0	40.9 42.2	40.3 41.5	40.2 41.3	40.1 41.2	41.6 42.6	10.0 10.0	51.6 52.6
	4	45.6	49.7	44.0	49.5	49.1	48.0	47.4	45.7	45.1	44.4	44.2	44.1	45.6	10.0	55.6
	5	49.5	55.8	46.8	55.4	54.8	53.0	52.0	49.7	48.5	47.4	47.2	46.9	49.5	10.0	59.5
	6	52.5 59.8	58.2 63.6	49.2 54.7	57.9 63.4	57.4 63.1	56.3 62.4	55.3 62.0	53.1 60.9	51.4 59.5	49.8 56.6	49.6 55.7	49.3 54.9	52.5 59.8	10.0 0.0	62.5 59.8
	8	60.8	84.8	65.4	84.4	83.8	82.9	82.2	77.5	75.1	68.4	66.8	65.7	60.8	0.0	60.8
	9	52.4	59.0	47.7	58.5	57.9	56.6	55.8	53.0	50.9	48.6	48.2	47.8	52.4	0.0	52.4
	10	54.1	63.8	45.9	63.4	63.0	61.4	58.2	53.7	50.1	47.1	46.6	46.1	54.1	0.0	54.1
	11 12	52.2 56.0	58.4 63.2	47.1 47.6	58.0 62.7	57.6 62.2	56.5 61.1	55.8 60.4	52.9 57.2	50.7 53.3	48.3 48.9	47.8 48.3	47.3 47.7	52.2 56.0	0.0 0.0	52.2 56.0
	13	51.9	60.4	46.2	59.4	58.4	56.6	55.5	52.4	50.3	47.4	40.5	46.4	51.9	0.0	51.9
Day	14	53.5	59.4	50.0	58.8	58.2	57.1	56.5	54.3	52.4	50.7	50.4	50.1	53.5	0.0	53.5
	15	54.0	61.6	48.4	61.2	60.8	59.6	58.6	54.0	51.6	49.5	49.0	48.5	54.0	0.0	54.0
	16 17	49.7 49.5	55.8 56.5	45.5 45.0	55.2 56.1	54.8 55.5	53.6 53.8	52.7 52.8	50.6 50.0	48.6 48.1	46.4 45.9	46.0 45.6	45.7 45.2	49.7 49.5	0.0 0.0	49.7 49.5
	18	54.7	64.0	46.9	63.7	63.2	61.4	59.6	52.2	50.5	48.1	47.7	47.1	54.7	0.0	54.7
	19	55.2	66.0	47.3	65.5	64.2	59.7	59.2	54.1	51.6	48.9	48.2	47.6	55.2	5.0	60.2
	20	51.8	59.7	46.5 44.1	59.0	58.2	56.1	54.7	52.2 50.4	50.6	47.9	47.4	46.8	51.8	5.0	56.8 54.1
	21 22	49.1 48.4	56.1 56.4	44.1	55.6 55.9	55.0 55.3	53.6 53.2	52.7 51.9	48.8	47.0 46.1	44.9 44.1	44.6 43.8	44.2 43.5	49.1 48.4	5.0 10.0	54.1
Night	23	48.3	54.6	44.1	54.2	53.6	52.4	51.8	49.1	46.5	44.5	44.4	44.2	48.3	10.0	58.3
Timeframe	Hour	L _{eq}	L _{max}	L _{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	24.4	L _{eq} (dBA)	
Day	Min Max	49.1 60.8	55.8 84.8	44.1 65.4	55.2 84.4	54.8 83.8	53.6 82.9	52.7 82.2	50.0 77.5	47.0 75.1	44.9 68.4	44.6 66.8	44.2 65.7	24-Hour CNEL	Daytime (7am-10pm)	Nighttime (10pm-7am
Energy	Average	55.1		erage:	61.7	61.0	59.5	58.4	55.0	52.7	49.8	49.3	48.7			
Night	Min	41.6	45.9	40.0	45.6	45.3	44.2	43.6	41.8	40.9	40.3	40.2	40.1	56.7	55.1	47.6
,	Max	52.5	58.2	49.2	57.9	57.4	56.3	55.3	53.1	51.4	49.8	49.6	49.3			
Energy	Average	47.6	Ave	erage:	51.1	50.6	49.3	48.4	46.4	45.0	43.8	43.6	43.4			

						24-Ho	our Noise L	evel Meas	urement S	ummary						
Date:	Thursday, N	/lay 5, 2022			Location	: 112 - Sito SA	-060 - 5541 S	outh Ohio St	root		Meter:	Piccolo II			JN:	13763
Project:	Yorba Linda	Housing and	d General Pla	an	Source	213 - Sile 34	-000 - 3341 3		leet						Analyst:	A. Khan
							Hourly L _{eq}	dBA Readings	(unadjusted)							
85 (0															
85.0 (Ygp) 75.0 70.0 65.0 P	ğ ———															
B 70.0																
- 65.0 - 60.0								<u>~</u>								
Δ Δ μ μ μ μ μ μ μ μ μ μ μ μ μ						<u>m</u>	23 <mark>.7</mark>		- 4 ,		- <mark>∞ - </mark>					
P 45.0	23.2	47.1 46.1	52.3	47.4	49.6	51.0 57.	<u> </u>	26	<u>ю</u>	51.0 51.0	53.8	47.1	<mark>50.2</mark> 46.4	46.6	46.7 45.5	49.8
35.0																
	0	1 2	3	4 5	6	7 8	9 1	10 11		.3 14	15 1	5 17	18 19	20	21 22	23
=: (,		1.4.0/	100/	. = 0/		eginning		1000/	1050/	1000/	,		A.1. 1
Timeframe	Hour 0	L _{eq} 53.2	L _{max} 61.1	L _{min} 41.5	L1% 60.3	L2% 59.7	L5% 58.5	L8%	L25% 54.6	L50%	L90%	L95% 43.4	L99%	L _{eq} 53.2	Adj.	Adj. L _{eq} 63.2
	1	47.1	55.1	39.3	54.3	53.7	52.5	51.5	47.7	44.7	44.4	45.4	39.6	47.1	10.0	57.1
	2	46.1	54.2	39.1	53.5	52.8	51.0	50.1	47.0	43.8	40.3	39.8	39.3	46.1	10.0	56.1
Night	3	52.3	59.4	42.2	58.7	58.2	57.3	56.5	53.7	50.5	44.9	43.9	42.8	52.3	10.0	62.3
	4	47.4	54.0	44.0	53.5	53.0	51.6	50.4	47.7	46.2	44.7	44.5	44.2	47.4	10.0	57.4
	5 6	53.7 49.6	59.9 54.6	48.1	59.2 54.1	58.7	57.8	57.1 51.6	54.7	52.4	49.4	48.9 47.9	48.4 47.7	53.7	10.0 10.0	63.7
	7	49.6 51.0	54.6	47.6	54.1	53.7 55.6	52.4 54.3	51.6	49.6 51.0	48.9 50.3	48.1 49.4	47.9	47.7	49.6 51.0	0.0	59.6 51.0
	8	57.3	63.6	54.4	63.0	62.4	61.2	60.3	57.6	56.1	54.9	54.7	54.5	57.3	0.0	57.3
	9	59.7	69.1	54.1	68.1	67.2	65.4	64.0	60.6	57.4	54.8	54.5	54.2	59.7	0.0	59.7
	10	56.5	64.0	52.0	63.3	62.8	61.3	60.0	57.1	54.9	52.4	52.2	52.0	56.5	0.0	56.5
	11	63.2	71.1	52.2	70.3	69.8	68.5	67.7	64.4	60.7	54.2	53.5	52.6	63.2	0.0	63.2
	12 13	55.4 51.2	63.8 60.2	46.9 45.6	63.2 59.3	62.6 58.5	61.2 56.4	60.2 55.1	56.1 51.3	52.2 49.1	48.1 46.6	47.6 46.1	47.1 45.7	55.4 51.2	0.0 0.0	55.4 51.2
Dav	13	51.0	58.2	45.6	57.5	56.9	55.4	54.4	51.5	49.1	46.9	46.2	45.7	51.2	0.0	51.2
- /	15	53.8	62.3	45.3	61.7	61.0	59.6	58.6	54.7	49.7	46.3	45.9	45.4	53.8	0.0	53.8
	16	48.5	55.6	43.5	55.1	54.5	52.7	51.5	49.3	47.2	44.5	44.1	43.6	48.5	0.0	48.5
	17	47.1	53.4	42.5	53.0	52.3	50.9	50.0	47.8	46.2	43.5	43.0	42.6	47.1	0.0	47.1
	18 19	50.2	59.4	42.7	59.1	58.5	56.6 51.0	54.9	50.1	47.1	44.1	43.5	42.9	50.2	0.0	50.2
	19 20	46.4 46.6	53.2 56.0	42.2 41.5	52.7 55.5	52.3 54.9	51.0 51.8	49.6 50.0	46.8 46.4	45.2 44.3	43.1 42.3	42.7 41.9	42.3 41.6	46.4 46.6	5.0 5.0	51.4 51.6
	20	46.7	53.9	42.0	53.6	53.1	51.6	50.2	47.0	44.8	42.7	42.4	42.1	46.7	5.0	51.7
Night	22	45.5	52.2	41.8	51.8	51.4	49.8	48.3	45.9	44.2	42.4	42.2	41.9	45.5	10.0	55.5
0	23	49.8	56.5	41.8	55.7	55.2	54.1	53.4	51.0	48.6	43.7	42.9	42.1	49.8	10.0	59.8
Timeframe	Hour Min	L _{eq} 46.4	L _{max} 53.2	L _{min} 41.5	L1% 52.7	L2% 52.3	L5% 50.9	L8% 49.6	L25% 46.4	L50%	L90% 42.3	<i>L95%</i> 41.9	<i>L99%</i> 41.6	24-Hour	L _{eq} (dBA) Daytime	Nighttime
Day	Max	46.4 63.2	53.2 71.1	41.5 54.4	70.3	52.3 69.8	68.5	49.6 67.7	46.4 64.4	44.3 60.7	42.3 54.9	41.9 54.7	41.6 54.5	CNEL	(7am-10pm)	(10pm-7am)
Energy	Average	55.5		erage:	59.4	58.8	57.2	56.0	52.8	50.3	47.6	47.2	46.8			
Night	Min	45.5	52.2	39.1	51.8	51.4	49.8	48.3	45.9	43.8	40.3	39.8	39.3	58.1	55.5	50.4
	Max	53.7	61.1	48.1	60.3	59.7	58.5	57.7	54.7	52.4	49.4	48.9	48.4			
Energy	Average	50.4	AVE	erage:	55.7	55.1	53.9	52.9	50.2	47.8	44.3	43.7	43.1			



						24-Ho	our Noise L	evel Meas	urement S	ummary						
Date:	Thursday, N	May 5, 2022			Location:	14 - Site S4	-204A - 19045	5 Yorba Linda	Boulevard		Meter:	Piccolo II			JN:	13763
Project:	Yorba Linda	a Housing an	d General Pla	an	Source:		2017(15013		boulevalu						Analyst:	A. Khan
							Hourly L _{eq} (dBA Readings	(unadjusted)							
85.0	0															
85.0 80.0 75.0 70.0 65.0 P 65.0	Ŏ															
B 70.0	0															
۵۵.0 ت	0								<u>ດ</u>							
A J N N N N N N N N N N				58.2	- m -	. <mark></mark>		6.4		6./	4 4		► <mark>∞</mark>	4		
9 45.0	47.2	47.1	47.6	58.00	24.3	28.	± ± '	20		<u>, 5</u> , –	5 <mark>57</mark>	53.7	<mark>53.8</mark>	21.4	50.1 49.5	49.2
35.0	0 ++															
	0	1 2	3	4 5	6	7 8	9 1	LO 11 Hour Be	12 1 eginning	.3 14	15 16	5 17	18 19	20	21 22	23
Timeframe	Hour	L _{eq}	L _{max}	L _{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L _{eq}	Adj.	Adj. L _{eq}
	0	47.2	49.3	46.4	49.1	48.9	48.6	48.3	47.5	47.0	46.6	46.5	46.5	47.2	10.0	57.2
	1 2	47.1 47.2	48.5 49.1	46.4 46.5	48.4 48.9	48.2 48.8	48.0 48.3	47.8 48.0	47.3 47.4	46.9 47.0	46.6 46.6	46.6 46.6	46.5 46.5	47.1 47.2	10.0 10.0	57.1 57.2
Night	3	47.2	49.1	46.9	48.5	48.7	48.4	48.3	47.4	47.0	40.0	40.0	46.9	47.2	10.0	57.6
0	4	50.0	56.8	48.2	56.3	55.3	53.6	51.7	49.6	49.1	48.5	48.4	48.3	50.0	10.0	60.0
	5	58.2	63.4	54.0	63.0	62.7	61.8	61.0	58.8	57.6	55.3	55.0	54.5	58.2	10.0	68.2
	6	54.3	60.8	52.0	60.3	59.8	58.1	56.4	54.1	53.4	52.5	52.3	52.1	54.3	10.0	64.3
	7 8	58.4 56.6	65.3 65.8	54.3 50.5	64.5 65.5	64.0 65.0	62.3 63.0	61.3 61.2	58.8 56.0	57.3 52.9	55.3 51.1	54.9 50.8	54.5 50.6	58.4 56.6	0.0 0.0	58.4 56.6
	9	61.5	70.1	53.9	69.1	68.4	66.2	65.0	62.1	59.7	56.1	55.3	54.3	61.5	0.0	61.5
	10	59.6	69.4	51.9	68.4	67.5	65.0	63.6	59.5	56.9	53.7	53.1	52.3	59.6	0.0	59.6
	11	56.4	64.9	50.8	64.0	63.4	62.1	60.8	56.2	54.4	52.0	51.6	51.0	56.4	0.0	56.4
	12 13	62.9 56.7	71.0 66.2	55.0 50.2	70.2 65.5	69.4 64.7	68.2 62.7	67.2 60.9	63.5 57.0	61.0 53.1	57.3 50.8	56.5 50.6	55.4 50.3	62.9 56.7	0.0 0.0	62.9 56.7
Dav	13	59.9	73.0	51.9	71.7	69.9	65.2	62.3	58.7	55.5	52.8	52.5	52.1	59.9	0.0	59.9
,	15	57.5	67.5	48.7	66.5	66.2	64.6	62.6	56.5	52.6	49.4	49.1	48.8	57.5	0.0	57.5
	16	54.4	60.6	50.0	60.1	59.6	58.3	57.4	54.8	53.4	51.3	50.7	50.1	54.4	0.0	54.4
	17	53.7	59.4	50.2	58.9	58.4	57.1	56.3	54.2	52.8	51.0	50.7	50.3	53.7	0.0	53.7
	18 19	52.7 53.8	58.4 62.4	49.4 48.3	57.9 62.1	57.4 61.8	56.1 60.4	55.3 58.8	53.0 53.1	51.8 50.7	50.2 49.1	49.9 48.8	49.6 48.5	52.7 53.8	0.0 5.0	52.7 58.8
	20	51.4	58.7	48.8	58.1	57.2	55.0	53.2	51.2	50.7	49.1	48.8	48.3	51.4	5.0	56.4
	21	50.1	55.5	47.7	55.2	54.9	53.4	52.3	50.5	49.3	48.1	47.9	47.8	50.1	5.0	55.1
Night	22	49.5	54.5	47.5	54.3	54.0	53.0	52.2	49.4	48.6	47.8	47.7	47.6	49.5	10.0	59.5
0	23	49.2	56.0	47.2	55.4	54.9	53.5	52.5	48.8	47.9	47.4	47.3	47.2	49.2	10.0 L _{eq} (dBA)	59.2
Timeframe	Hour Min	L _{eq} 50.1	L _{max} 55.5	L _{min} 47.7	L1%	L2% 54.9	L5% 53.4	L8% 52.3	L25% 50.5	49.3	48.1	L95% 47.9	<i>L99%</i> 47.8	24-Hour	L _{eq} (aBA) Daytime	Nighttime
Day	Max	62.9	73.0	55.0	71.7	69.9	68.2	67.2	63.5	61.0	57.3	56.5	55.4	CNEL	(7am-10pm)	(10pm-7am)
Energy	Average	57.8		erage:	63.8	63.2	61.3	59.9	56.3	54.1	51.8	51.4	51.0			
Night	Min	47.1	48.5	46.4	48.4	48.2	48.0	47.8	47.3	46.9	46.6	46.5	46.5	60.1	57.8	52.0
	Max Average	58.2 52.0	63.4	54.0 erage:	63.0 53.8	62.7 53.5	61.8 52.6	61.0 51.8	58.8 50.1	57.6 49.5	55.3 48.7	55.0 48.6	54.5 48.4			
Lifergy	Average	52.0	AVE	age.	53.8	53.5	52.6	51.8	50.1	49.5	48.7	48.6	48.4			



APPENDIX 8.1:

OFF-SITE TRAFFIC NOISE LEVEL CONTOURS



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	FHWA	-RD-77-108 HIG	HWAY N	NOISE PF	REDICTIO	N MODEL		
Road Name	o: Existing e: Rose Dr. t: s/o Imperial H	wy.				ame: Yorba nber: 13763	Linda Hous	ing Elem
SITE S	PECIFIC INPU	JT DATA			NO	ISE MODE	EL INPUTS	5
Highway Data				Site Con	ditions (H	ard = 10, S	oft = 15)	
Average Dailv 1	raffic (Adt): 12.	450 vehicles				Autos	: 15	
Peak Hour I	Percentage: 10	0.00%		Me	dium Truck	(s (2 Axles)	: 15	
Peak Ho	our Volume: 1.	245 vehicles		He	avy Trucks	(3+ Axles)	: 15	
Veh	icle Speed:	50 mph	-	Vehicle I	-	, ,		
Near/Far Lar	e Distance:	50 feet	-			0	Guardian	Niela Della
01: D :				veni	icleType Aut	Day 05: 77.5%	Evening 6 12.9%	Night Daily 9.6% 97.42%
Site Data					Aut dium Truc			9.6% 97.42%
	rier Height:	0.0 feet			leavy Truc			
Barrier Type (0-Wa	. ,	0.0		r	leavy IIuc	85. 80.57	6 2.7%	10.8% 0.74%
Centerline Dis		40.0 feet		Noise So	urce Elev	ations (in f	eet)	
Centerline Dist. t		40.0 feet			Autos:	2.000		
Barrier Distance t		0.0 feet		Mediur	n Trucks:	4.000		
Observer Height (/	,	5.0 feet		Heav	y Trucks:	8.006	Grade Adj	ustment: 0.0
	d Elevation:	0.0 feet	-		where la mat D		641	
	d Elevation:	0.0 feet	-	Lane Equ	Autos:	istance (in 31.369	reet)	
H H	load Grade:	0.0%		1 4 m al 1 m	n Trucks:	31.369		
		90.0 degrees 90.0 degrees			y Trucks:	31.369		
FHWA Noise Mode	l Calculations							
VehicleType	REMEL T	raffic Flow D	istance	Finite	Road	Fresnel	Barrier Atte	en Berm Atten
Autos:	70.20	-1.46	2.9	13	-1.20	-4.83	0.0	00 0.00
Medium Trucks:	81.00	-18.70	2.9	6	-1.20	-5.08	0.0	00 0.00
Heavy Trucks:	85.38	-22.65	2.9	3	-1.20	-5.56	0.0	00 0.00
Unmitigated Noise	Levels (withou	t Topo and barr	ier atter	nuation)				
VehicleType	Leq Peak Hour	Leq Day	Leq E	vening	Leq Nig	ght	Ldn	CNEL
Autos:	70.5	68.6		66.8		60.8	69.4	
Medium Trucks:	64.1	62.6		56.2		54.7	63.1	63.
Heavy Trucks:	64.5	63.0		54.0		55.3	63.6	
Vehicle Noise:	72.2	70.4		67.4		62.6	71.1	71.
Centerline Distance	e to Noise Cont	our (in feet)	70					55 104
				dBA	65 dB	A	60 dBA	55 dBA
		Ldn:		8	103		221	477
		CNEL:	5	51	110		238	512

	FHWA-	RD-77-108 HI	GHWAY	NOISE PR	REDICTI	ON MO	DEL			
Scenario: Exi	sting				Project	Name: `	rorba	Linda Hou:	sing Eler	n
Road Name: Imp					Job N	umber:	13763			
Road Segment: e/o	Roase Dr.									
SITE SPEC	IFIC INPU	T DATA						L INPUT	s	
Highway Data				Site Con	ditions	(Hard =	10, So	oft = 15)		
Average Daily Traffic	(Adt): 41,6	00 vehicles					Autos:	15		
Peak Hour Perce	ntage: 10.	00%		Me	dium Tru	icks (2 /	(xles)	15		
Peak Hour Ve	olume: 4,1	60 vehicles		He	avy Truc	:ks (3+ A	(xles)	15		
Vehicle S	Speed:	55 mph		Vehicle I	Mix					
Near/Far Lane Dis	tance:	74 feet			icleType		Dav	Evening	Night	Daily
Site Data							77.5%	•	9.6%	
	loimhti	0.0 feet		M	edium Ti		84.8%		10.3%	1.849
Barrier H Barrier Type (0-Wall, 1-	•	0.0 feet			Heavy Ti		86.5%		10.8%	
Centerline Dist. to E	,	0.0 50.0 feet								
Centerline Dist. to Dist.		50.0 feet		Noise Sc				eet)		
Barrier Distance to Ob		0.0 feet			Auto		000			
Observer Height (Above		5.0 feet			m Truck		000			
Pad Ele			Heavy Trucks: 8.006 Grade Adjustment: 0.0							
Road Fle		0.0 feet 0.0 feet		Lane Eq	uivalent	Distand	e (in	feet)		
	Grade:	0.0%			Auto					
		0.0 degrees		Mediu	m Truck					
Riah		0.0 degrees		Heav	v Truck	s: 33.	764			
·		0.09			,		-			
FHWA Noise Model Cal										
			Distance		Road	Fresh		Barrier Att		m Atten
Autos:	71.78	3.37		.45	-1.20		-4.84		000	0.00
Medium Trucks:	82.40	-13.87		.48	-1.20		-5.04		000	0.00
Heavy Trucks:	86.40	-17.83	2.	.45	-1.20		-5.43	0.0	000	0.00
Unmitigated Noise Leve		Topo and bar								
	Peak Hour	Leq Day		Evening	Leq	Night		Ldn	-	VEL
Autos:	76.4	74.		72.7		66.7		75.3		75.
Medium Trucks:	69.8	68.		61.9 59.4		60.4		68.9		69.
	Heavy Trucks: 69.8 68.					60.6		69.0		69.
Vehicle Noise:	78.0	76.	2	73.3		68.4		76.9	9	77.
Centerline Distance to I	loise Conto	our (in feet)					-			
) dBA		dBA	6	60 dBA		dBA
		Ldr		145 156	3.	13		674		452
		CNFI						725		563

0. 1. 514				ODEL			
Scenario: Existing			Project Name		inda Hous	ing Elen	า
Road Name: Imperial Hwy.			Job Numbe	: 13763			
Road Segment: w/o Prospect Av.							
SITE SPECIFIC INPUT DATA					INPUTS	5	
Highway Data		Site Con	ditions (Hard	= 10, So	ft = 15)		
Average Daily Traffic (Adt): 42,850 vehicles				Autos:	15		
Peak Hour Percentage: 10.00%		Me	dium Trucks (2	2 Axles):	15		
Peak Hour Volume: 4,285 vehicles		He	avy Trucks (3-	+ Axles):	15		
Vehicle Speed: 55 mph		Vehicle I	Vix				
Near/Far Lane Distance: 74 feet			icleType	Dav	Evening	Night	Daily
Site Data			Autos:		12.9%	9.6%	
		M	edium Trucks:		4.9%	10.3%	1.849
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0			leavv Trucks:		2.7%	10.8%	0.749
Centerline Dist. to Barrier: 50.0 feet							
Centerline Dist. to Observer: 50.0 feet		Noise Sc	ource Elevatio	ons (in fe	et)		
Barrier Distance to Observer: 0.0 feet				2.000			
Observer Height (Above Pad): 5.0 feet			in maono.	4.000			
Pad Elevation: 0.0 feet		Heav	y Trucks:	8.006	Grade Adji	ustment.	0.0
Road Elevation: 0.0 feet		Lane Eq	uivalent Dista	nce (in f	eet)		
Road Grade: 0.0%				3.764			
Left View: -90.0 degree	s	Mediu	m Trucks: 3	3.645			
Right View: 90.0 degree		Heav	y Trucks: 3	3.764			
FHWA Noise Model Calculations							
VehicleType REMEL Traffic Flow	Distanc	e Finite	Road Fre	snel I	Barrier Atte	en Ber	m Atten
Autos: 71.78 3.50	:	2.45	-1.20	-4.84	0.0	00	0.00
Medium Trucks: 82.40 -13.74		2.48	-1.20	-5.04	0.0		0.00
Heavy Trucks: 86.40 -17.70	1	2.45	-1.20	-5.43	0.0	00	0.00
Unmitigated Noise Levels (without Topo and I		,					
VehicleType Leq Peak Hour Leq Day		Evening	Leq Night		Ldn		VEL
	4.6	72.9		5.8	75.4		76.
	8.4	62.1	-	0.5	69.0		69.
	8.5	59.5).7	69.1		69.
	6.4	73.4	6	3.5	77.1		77.
Centerline Distance to Noise Contour (in feet)			05 104				
		70 dBA	65 dBA		0 dBA		dBA
	.dn: IFI :	148 159	319 343		688 740		481 594

	FHW	A-RD-77-108 HIG	GHWAY	NOISE PR	REDICTI	ON MOI	DEL			
Road Nam	io: Existing le: Imperial Hwy nt: e/o Prospect					Name: \ umber: 1		Linda Hou:	sing Eler	n
SITE	SPECIFIC INF	PUT DATA						L INPUT	s	
Highway Data				Site Con	ditions ((Hard =	10, Sc	oft = 15)		
Average Daily	Traffic (Adt): 40	0,450 vehicles					Autos:	15		
Peak Hour	Percentage:	10.00%		Me	dium Tru	icks (2 A	xles):	15		
Peak H	lour Volume:	4,045 vehicles		He	avy Truc	ks (3+ A	xles):	15		
Ve	hicle Speed:	55 mph		Vehicle I	Mix					
Near/Far La	ne Distance:	74 feet			icleType		Day	Evening	Night	Daily
Site Data				Ven			77.5%	•	9.6%	
					ہ edium Tr		84.8%		9.0%	1.84%
	rrier Height:	0.0 feet			Heavy Tr		86.5%		10.3 %	
Barrier Type (0-W	. ,	0.0		,	leavy II	uchs.	00.070	2.170	10.070	0.7470
Centerline Di		50.0 feet		Noise So	ource Ele	evations	; (in fe	eet)		
Centerline Dist. Barrier Distance		50.0 feet 0.0 feet			Autos	s: 2.0	000			
Observer Height (Mediu	m Trucks	s: 4.0	000			
	Above Pad): ad Elevation:	5.0 feet 0.0 feet		Heav	y Trucks	s: 8.0	006	Grade Ad	ljustment	: 0.0
	ad Elevation: ad Elevation:	0.0 feet		Lane Eq	uivalent	Distanc	o (in t	(aat)		
	au Elevalion. Road Grade:	0.0 Teet		Lane Ly	Autos			001)		
,	Left View:	-90.0 degrees		Modiu	m Trucks					
	Right View:	90.0 degrees			v Trucks					
	Night view.	90.0 degrees		near	y mucho	. 33.7	04			
FHWA Noise Mode	el Calculations									
VehicleType			Distance		Road	Fresn		Barrier Att	en Ber	m Atten
Autos:	71.78	3.25	2.4	45	-1.20		-4.84	0.0	000	0.000
Medium Trucks:	82.40	-13.99	2.4		-1.20		-5.04		000	0.000
Heavy Trucks:	86.40	-17.95	2.4	15	-1.20		-5.43	0.0	000	0.000
Unmitigated Noise	e Levels (witho	ut Topo and bar	rier attei	nuation)						
VehicleType	Leq Peak Hour	Leq Day	Leq E	vening	Leq I	Vight		Ldn	C	NEL
Autos:	76.3	3 74.4	1	72.6		66.6		75.2	2	75.8
Medium Trucks:	69.7	7 68.2	2	61.8		60.3		68.7	7	69.0
Heavy Trucks:	69.7	7 68.3	3	59.2		60.5		68.9	9	69.0
Vehicle Noise:	Vehicle Noise: 77.9 76.1					73.1 68.3 76.8			В	77.3
Centerline Distance	nterline Distance to Noise Contour (in feet)									
					65 0	IBA	6	i0 dBA	55	dBA
	Ldn:				143 307			662	1,	426
		CNEL	: 1				534			
				,						

Thursday, May 19, 2022

Thursday, May 19, 2022

	FHW	A-RD-77-108 HI	GHWAY	NOISE PI	REDICTIO	MODEL		
Road Name	o: Existing e: Imperial Hw it: n/o Bastanci					ame: Yorba aber: 13763	Linda Hous	ing Elem
SITE S	SPECIFIC IN	PUT DATA			NO	SE MOD	L INPUTS	5
Highway Data				Site Con	ditions (H	ard = 10, S	oft = 15)	
Average Daily	Traffic (Adt): 3	8.900 vehicles				Autos	: 15	
Peak Hour	Percentage:	10.00%		Me	dium Truck	s (2 Axles)	: 15	
Peak He	our Volume:	3.890 vehicles		He	avy Trucks	(3+ Axles)	: 15	
Vel	nicle Speed:	55 mph	-	Vehicle	-	, ,		
Near/Far Lar	e Distance:	74 feet	-			0	Gunning	Ninhi Daiki
01: D :				ven	icleType Aut	Day 05: 77.5	Evening 6 12.9%	Night Daily 9.6% 97.42
Site Data					Aut edium Truc			9.6% 97.42
	rier Height:	0.0 feet			Heavy Truc			
Barrier Type (0-Wa		0.0			neavy muc	KS. 80.5%	6 2.7%	10.8% 0.749
Centerline Dis		50.0 feet	Ī	Noise So	ource Elev	ations (in i	'eet)	
Centerline Dist. t		50.0 feet	Ī		Autos:	2.000		
Barrier Distance t		0.0 feet		Mediu	m Trucks:	4.000		
Observer Height ()	,	5.0 feet		Hear	/y Trucks:	8.006	Grade Adj	ustment: 0.0
	d Elevation:	0.0 feet	-	1 F			6	
	d Elevation:	0.0 feet	-	Lane Eq	uivalent D Autos:	33.764	reet)	
F	Road Grade:	0.0%		A da alla	m Trucks:	33.764		
	Left View: Right View:	-90.0 degrees 90.0 degrees			/y Trucks:	33.764		
FHWA Noise Mode	I Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite	Road	Fresnel	Barrier Atte	en Berm Atten
Autos:	71.78	3.08	2.4	15	-1.20	-4.84	0.0	00 0.00
Medium Trucks:	82.40	-14.16	2.4	18	-1.20	-5.04	0.0	00.00
Heavy Trucks:	86.40	-18.12	2.4	15	-1.20	-5.43	0.0	00.00
Unmitigated Noise	Levels (witho	ut Topo and bar	rrier attei	nuation)				
VehicleType	Leq Peak Hou	· Leq Day	Leq E	vening	Leq Nig	pht	Ldn	CNEL
Autos:	76.		-	72.4		66.4	75.0	
Medium Trucks:	69.		-	61.7		60.1	68.6	
Heavy Trucks:	69.			59.1		60.3	68.7	
Vehicle Noise:	77.		9	73.0		68.1	76.7	77.
Centerline Distanc	e to Noise Co	ntour (in feet)	=0	-10.4	05 10		00 -/04	66 - ID 4
		1.4		dBA 39	65 dB 299	4	60 dBA 645	55 dBA
		Ldr CNFI		39 49	299		645 694	1,389 1,494
		CNEL	1	49	322		094	1,494

	FHV	/A-RD-77-108	HIGH	WAY NO		істіо	N MOD	EL						
Road Nan	<i>io:</i> Existing ne: Bastanchur nt: w/o Imperia						lame: Y mber: 1		_inda Hou:	sing Elen	n			
SITE	SPECIFIC IN	PUT DATA								s				
Highway Data				S	ite Conditi	ons (H	lard = 1	10, So	ft = 15)					
Average Daily	Traffic (Adt): 1	4,650 vehicles	6		Autos: 15									
Peak Hour	Percentage:	10.00%			Mediur	n Truc	ks (2 A	xles):	15					
Peak H	lour Volume:	1,465 vehicles	6		Heavy	Truck	s (3+ A	xles):	15					
Ve	hicle Speed:	50 mph		V	ehicle Mix									
Near/Far La	ne Distance:	50 feet		-	Vehicle	Tvne	[Dav	Evening	Night	Daily			
Site Data								7.5%	•	9.6%				
Pa	rrier Heiaht:	0.0 feet			Mediu	m Tru	cks: 8	34.8%	4.9%	10.3%	1.849			
Barrier Type (0-W		0.0			Hea	/y Tru	cks: 8	86.5%	2.7%	10.8%	0.749			
Centerline Di		40.0 feet				- 51		1	-41					
Centerline Dist.	to Observer:	40.0 feet		N	Noise Source Elevations (in feet)									
Barrier Distance	Barrier Distance to Observer: 0.0 feet						Autos: 2.000 Medium Trucks: 4.000							
Observer Height	Dbserver Height (Above Pad): 5.0 feet						Medium Trucks: 4.000 Heavy Trucks: 8.006 Grade Adjustment: 0.0							
P	ad Elevation:	0.0 feet			Heavy I	UCKS:	8.0	00	Grade Ad	usuneni	0.0			
Ro	ad Elevation:	0.0 feet		La	ane Equiva	lent D	Distance	e (in f	ieet)					
	Road Grade:	0.0%				Autos:	31.3	69						
	Left View:	-90.0 degree	s		Medium T	rucks:	31.2	41						
	Right View:	90.0 degree	es		Heavy T	ucks:	31.3	69						
FHWA Noise Mod	el Calculation:	5												
VehicleType	REMEL	Traffic Flow	Dis	tance	Finite Roa	nd	Fresne	e/ .	Barrier Att	en Ber	m Atten			
Autos:		-0.75		2.93		.20		4.83		000	0.00			
Medium Trucks:		-17.99		2.96		.20		5.08		000	0.00			
Heavy Trucks:	85.38	-21.94		2.93	-1	.20	-	5.56	0.0	000	0.00			
Unmitigated Nois					,									
VehicleType	Leq Peak Hou			Leq Eve	0	Leq N	•		Ldn		VEL			
Autos:	71		69.3		67.5		61.5		70.1		70.			
Medium Trucks:	64		63.3		56.9		55.4		63.8		64.			
Heavy Trucks:			63.7 71.1		54.7		56.0		64.3		64.			
					68.1		63.3		71.9	9	72.			
Centerline Distan	ce to Noise Co	ntour (in feet,)	70 dE	BA	65 dE	ва П	6	0 dBA	55	dBA			
			Ldn:	53		115			247		32			

				EDICTION				
Scenario: Existing						a Linda Hou	sing Eler	n
Road Name: Bastanchur				Job Numi	ber: 13763	3		
Road Segment: e/o Imperial	Hwy.							
SITE SPECIFIC IN	PUT DATA					EL INPUT	s	
Highway Data		5	Site Cond	litions (Ha	rd = 10, S	6oft = 15)		
Average Daily Traffic (Adt): 1	7,150 vehicles				Autos			
Peak Hour Percentage:	10.00%		Mea	lium Trucks	s (2 Axles,): 15		
Peak Hour Volume:	1,715 vehicles		Hea	vy Trucks	(3+ Axles,): 15		
Vehicle Speed:	50 mph	1	/ehicle M	ix				
Near/Far Lane Distance:	50 feet	F	Vehic	leType	Day	Evening	Night	Daily
Site Data				Auto	s: 77.5	% 12.9%	9.6%	97.42
Barrier Height:	0.0 feet		Me	dium Truck	s: 84.8	% 4.9%	10.3%	1.849
Barrier Type (0-Wall, 1-Berm):	0.0		н	eavy Truck	s: 86.5	% 2.7%	10.8%	0.74
Centerline Dist. to Barrier:	40.0 feet		loise So	ırce Eleva	tions (in	feet)		
Centerline Dist. to Observer:	40.0 feet	-		Autos:	2.000			
Barrier Distance to Observer:	0.0 feet		Modium	Trucks:	4.000			
Observer Height (Above Pad):	5.0 feet			Trucks:	8.006	Grade Ad	liustment	+ 0 0
Pad Elevation:	0.0 feet						,	
Road Elevation:	0.0 feet	L	.ane Equ	ivalent Dis		feet)		
Road Grade:	0.0%			Autos:	31.369			
Left View:	-90.0 degrees			Trucks:	31.241			
Right View:	90.0 degrees		Heavy	Trucks:	31.369			
FHWA Noise Model Calculations	3							
VehicleType REMEL	Traffic Flow D	istance	Finite F	Road F	resnel	Barrier Att	en Ber	rm Atten
Autos: 70.20	-0.07	2.93	3	-1.20	-4.83	8 0.0	000	0.00
Medium Trucks: 81.00	-17.30	2.96	6	-1.20	-5.08	8 0.0	000	0.00
Heavy Trucks: 85.38	-21.26	2.93	3	-1.20	-5.56	6 0.0	000	0.00
Unmitigated Noise Levels (with	out Topo and barr	rier atten	uation)					
VehicleType Leq Peak Hou		Leq Ev	~	Leq Nig		Ldn		NEL
Autos: 71			68.2		62.2	70.8		71
Medium Trucks: 65			57.6		56.0	64.		64
Heavy Trucks: 65			55.4		56.6	65.0		65.
Vehicle Noise: 73	6 71.8		68.8		64.0	72.	5	73
Centerline Distance to Noise Co	ntour (in feet)						1	
			IBA	65 dBA		60 dBA	55	dBA
	Ldn: CNFL	59	9	127 137		274 294	-	590 534

	FHW	A-RD-77-108	HIGHW	AY NO	DISE PI	REDICTI	ON MOE	DEL			
Road Nar	rio: Existing ne: Imperial Hwy ent: n/o Lemon Di						Name: Y umber: 1		Linda Hous	sing Ele	m
SITE	SPECIFIC INP	UT DATA							L INPUT	s	
Highway Data				S	ite Cor	nditions ('Hard = '	10, Sc	oft = 15)		
Average Daily	Traffic (Adt): 35	,800 vehicles					A	Autos:	15		
Peak Hou	r Percentage: 1	0.00%			Me	edium Tru	icks (2 A	xles):	15		
Peak I	Hour Volume: 3	,580 vehicles			He	avy Truc	ks (3+ A	xles):	15		
Ve	ehicle Speed:	55 mph		V	ehicle	Mix					
Near/Far La	ane Distance:	74 feet				nicleType		Day	Evening	Night	Daily
Site Data					VCI			77.5%	~	9.69	
B	arrier Height:	0.0 feet			М	ledium Tr	ucks: 8	84.8%	4.9%	10.39	6 1.84%
Barrier Type (0-V		0.0				Heavy Tr	ucks: 8	86.5%	2.7%	10.89	6 0.74%
	ist. to Barrier:	50.0 feet									
Centerline Dist		50.0 feet		N	oise S	ource Ele			eet)		
Barrier Distance	to Observer:	0.0 feet				Autos					
Observer Height	(Above Pad);	5.0 feet				m Trucks			Ours die Auf		
•	Pad Elevation:	0.0 feet			Hear	vy Trucks	: 8.0	006	Grade Ad	ustmer	11: 0.0
Ro	ad Elevation:	0.0 feet		Li	ane Eq	uivalent	Distanc	e (in i	feet)		
	Road Grade:	0.0%				Autos	: 33.7	'64			
	Left View:	-90.0 degree	s		Mediu	m Trucks	: 33.6	645			
	Right View:	90.0 degree			Hear	vy Trucks	: 33.7	64			
FHWA Noise Mod	lel Calculations										
VehicleType	REMEL	Traffic Flow	Dista	nce	Finite	Road	Fresne	el	Barrier Att	en Be	erm Atten
Autos.	71.78	2.72		2.45		-1.20		4.84	0.0	000	0.000
Medium Trucks	82.40	-14.52		2.48		-1.20		-5.04	0.0	000	0.000
Heavy Trucks.	86.40	-18.48		2.45		-1.20		-5.43	0.0	000	0.000
Unmitigated Nois	e Levels (withou	ut Topo and I	oarrier	attenu	ation)						
VehicleType	Leq Peak Hour	Leq Day	L	.eq Eve	ening	Leq I	Vight		Ldn	(ONEL
Autos.	: 75.8	. 7	'3.9		72.1		66.0		74.7	7	75.3
Medium Trucks		. 6	67.7		61.3		59.7		68.2	2	68.4
Heavy Trucks.		6	67.8		58.7		60.0		68.3	3	68.4
Vehicle Noise.	: 77.3	1	5.6		72.6		67.7		76.3	3	76.8
Centerline Distan	ce to Noise Con	tour (in feet)									
				70 dl		65 0		6	60 dBA	-	5 dBA
	Ldn			131		28	-		610		,314
	CNEL			141	1	305 656			1	,414	

Thursday, May 19, 2022

Thursday, May 19, 2022

	FHV	VA-RD-77-108 H	HIGHWAY	NOISE	PREDICTIO	N MODEL			
	o: Existing e: Imperial Hw nt: s/o Lemon I					ame: Yorb nber: 1376	a Linda Hou 3	sing Eler	n
SITE S	SPECIFIC IN	PUT DATA			NO	ISE MOD	EL INPUT	s	
Highway Data				Site Co	onditions (H	ard = 10, \$	Soft = 15)		
Average Daily	Traffic (Adt): 3	34,150 vehicles				Auto	s: 15		
Peak Hour	Percentage:	10.00%		٨	ledium Trucl	ks (2 Axles	;): 15		
Peak He	our Volume:	3,415 vehicles		F	leavy Trucks	(3+ Axles	:): 15		
Vel	hicle Speed:	55 mph		Vehicle					
Near/Far Lar	ne Distance:	74 feet			hicleType	Dav	Evening	Night	Daily
Site Data				Ve	nicie i ype Au		0	9.6%	
					Aui Medium Truc			9.0%	
	rier Height:	0.0 feet			Heavy Truc			10.3%	
Barrier Type (0-Wa	. ,	0.0			neavy nuc	ns. 00.0	70 Z.170	10.6%	0.749
Centerline Dis		50.0 feet		Noise \$	Source Elev	ations (in	feet)		
Centerline Dist. t		50.0 feet			Autos:	2.000			
Barrier Distance t		0.0 feet		Medi	ium Trucks:	4.000			
Observer Height (/	,	5.0 feet		He	avy Trucks:	8.006	Grade Ad	ljustment	: 0.0
	d Elevation:	0.0 feet		Long E	quivalent D	iotonoo (ii	a faat)		
	d Elevation: Road Grade:	0.0 feet 0.0%		Lane E	Autos:	33.764	Tieel)		
F	l eft View:			Mad	ium Trucks:	33.645			
	Right View:	-90.0 degrees 90.0 degrees			avy Trucks:	33.764			
FHWA Noise Mode	Calculation:	s							
VehicleType	REMEL	Traffic Flow	Distance	Finit	e Road	Fresnel	Barrier Att	en Ber	m Atten
Autos:	71.78	2.51	2	.45	-1.20	-4.8	4 0.0	000	0.00
Medium Trucks:	82.40	-14.73	2	48	-1.20	-5.04	4 0.0	000	0.00
Heavy Trucks:	86.40	-18.68	2	.45	-1.20	-5.4	3 0.0	000	0.00
Unmitigated Noise	Levels (with	out Topo and b	arrier atte	enuation)				
,	Leq Peak Hou			Evening	Leq Nig		Ldn		NEL
Autos:	75		3.6	71.	-	65.8	74.		75.
Medium Trucks:	69		7.4	61.		59.5	68.		68.
Heavy Trucks:	69		7.5	58.	-	59.8	68.		68.3
Vehicle Noise:	77.		5.4	72.	4	67.5	76.	1	76.
Centerline Distanc	e to Noise Co	ontour (in feet)	7		6E -10	4	60 dBA		dD A
		,) dBA 127	65 dB	А	60 dBA		dBA
		CN		127 137	274 295		591 636		273
		CN	EL:	137	295		030	1,	370

	FHW/	A-RD-77-108	HIG	HWAY	NOISE PR	REDICT	ION MO	DEL			
Scenario: Existin	g					Project	t Name:	Yorba	Linda Hous	sing Elen	n
Road Name: Lakevi	ew Av.					Job N	lumber:	13763			
Road Segment: n/o Bu	ena Vi	sta Av.									
SITE SPECIFI	C INP	UT DATA							L INPUT	S	
Highway Data					Site Con	ditions	(Hard =	10, Sc	oft = 15)		
Average Daily Traffic (Ad	<i>tt):</i> 14	1,000 vehicles	s					Autos:	15		
Peak Hour Percentag	ge: 1	0.00%			Med	dium Tr	ucks (2)	Axles):	15		
Peak Hour Volun	ne: 1	,400 vehicles	s		Hea	avy Tru	cks (3+ /	Axles):	15		
Vehicle Spee	ed:	45 mph		-	Vehicle N	/iv					
Near/Far Lane Distan	ce:	52 feet		-		cleTvpe		Dav	Evening	Night	Dailv
Site Data					VCIII		, Autos:	77.5%	•	9.6%	
					Me	dium T		84.8%		10.3%	
Barrier Heig		0.0 feet						86.5%		10.8%	
Barrier Type (0-Wall, 1-Berr	· ·									10.070	0.747
Centerline Dist. to Barn Centerline Dist. to Observ		50.0 feet 50.0 feet			Noise So	urce E	levation	s (in fe	eet)		
Barrier Distance to Observ		0.0 feet				Auto	s: 2.	000			
Observer Height (Above Pa		5.0 feet			Mediur	n Truck	s: 4.	000			
Pad Elevati		0.0 feet			Heav	y Truck	s: 8.	006	Grade Ad	iustment.	0.0
Road Elevati		0.0 feet		ŀ	Lane Equ	iivalon	t Distan	co (in i	faat)		
Road Gra		0.0%		F	Lune Lqu	Auto		814			
Left Vie		-90.0 degree	00		Mediur			720			
Right Vie		90.0 degree				y Truck		814			
, , , , , , , , , , , , , , , , , , ,		5000									
FHWA Noise Model Calcula											
VehicleType REME		Traffic Flow		istance	Finite		Fresr		Barrier Att		m Atten
	8.46	-0.49		0.9		-1.20		-4.84		000	0.00
	9.45	-17.73		0.9		-1.20		-5.04		000	0.00
	4.25	-21.68		0.9		-1.20		-5.43	0.0	000	0.00
Unmitigated Noise Levels (-		,			1			
VehicleType Leq Peak				Leq E	vening	Leq	Night		Ldn		VEL
Autos:	67.7		65.8		64.0		58.0		66.6		67.
Medium Trucks:	61.4		59.9		53.6		52.0		60.5		60.
Heavy Trucks:	62.3		60.9		51.8		53.1		61.4		61.
Vehicle Noise:	69.5	5	67.8		64.6		59.9	9	68.5	5	68.
Centerline Distance to Nois	e Con	ntour (in feet)								
			[dBA		dBA	6	60 dBA		dBA
			Ldn:		10		35		184		96
			NFI :		13		92		197		25

	FHV	VA-RD-77-108	HIGH	WAY N	IOISE PI	REDICT	ION M	ODEL			
Road Nam	o: Existing e: Lakeview A nt: s/o Buena \	v.				Projec	Name		Linda Hou	sing Eler	n
SITE	SPECIFIC IN	PUT DATA		I		ſ	IOISE	MODE	L INPUT	s	
Highway Data				:	Site Con	ditions	(Hard	= 10, Se	oft = 15)		
Average Daily	Traffic (Adt): 1	11,900 vehicles	5					Autos:	15		
Peak Hour	Percentage:	10.00%			Me	dium Tr	ucks (2	Axles):	15		
Peak H	our Volume:	1,190 vehicles	6		He	avy Tru	cks (3+	Axles):	15		
Ve	hicle Speed:	45 mph		-	Vehicle	Mix					
Near/Far La	ne Distance:	52 feet		H		icleType	`	Dav	Evening	Night	Daily
Site Data				-	ven		, Autos:	77.5%	· ·	9.6%	
					M	edium T				10.3%	
	rier Height:	0.0 feet 0.0				Heavy T				10.8%	
Barrier Type (0-W Centerline Dis		0.0 50.0 feet				loary i	raono.	00.07	· 2.170	10.070	0.7
Centerline Dis		50.0 feet		1	Noise So	ource E	levatio	ns (in f	eet)		
Barrier Distance		0.0 feet				Auto	s: 2	2.000			
Observer Height (5.0 feet			Mediu	m Truck	'S: 4	4.000			
	ad Flevation:	0.0 feet			Hear	/y Truck	's: 8	3.006	Grade Ad	ljustment	: 0.0
	ad Elevation: ad Elevation:	0.0 feet			Lane Eq	uivalen	t Dista	nce (in	feet)		
	Road Grade:	0.0%		-	Lano Ly	Auto		2.814	1001)		
1	Left View:	-90.0 degree			Madiu	m Truck		2.720			
	Right View:	90.0 degree				/y Truck		2.814			
FHWA Noise Mode	Calculation	s									
VehicleType	REMEL	Traffic Flow	Dist	ance	Finite	Road	Fre	snel	Barrier Att	en Ber	m Atte
Autos:	68.46	-1.20		0.9	1	-1.20		-4.84	0.0	000	0.0
Medium Trucks:	79.45	-18.43		0.9	2	-1.20		-5.04	0.0	000	0.0
Heavy Trucks:	84.25	-22.39		0.9	1	-1.20		-5.43	0.0	000	0.0
Unmitigated Noise											
	Leq Peak Hou			Leq E			Night		Ldn	-	NEL
Autos:	67		65.1		63.3		57		65.		66
Medium Trucks:	60		59.2		52.9		51		59.	-	60
Heavy Trucks: Vehicle Noise:	61		60.1 67.1		51.1 63.9			.4	60. 67.	-	60 68
Centerline Distanc					20.0		50	· · · ·	51.	-	
				70 0	dBA	65	dBA	(60 dBA	55	dBA
			Ldn:	3	6		77		165	3	56

	FHV	VA-RD-77-108 HI	GHWAY	NOISE PI	REDICT	ION MO	DEL			
Road Nam	io: Existing ne: Buena Vista nt: w/o Lakevie					Name: ` lumber: `		Linda Hou:	sing Ele	em
SITE	SPECIFIC IN	IPUT DATA						L INPUT	s	
Highway Data				Site Con	ditions	(Hard =	10, So	oft = 15)		
Average Daily	Traffic (Adt):	7,050 vehicles				,	Autos:	15		
Peak Hour	Percentage:	10.00%		Me	dium Tr	ucks (2 A	xles):	15		
Peak H	lour Volume:	705 vehicles		He	avy Tru	cks (3+ A	xles):	15		
Ve	hicle Speed:	45 mph		Vehicle	Miy					
Near/Far La	ne Distance:	36 feet			icleType		Dav	Evening	Night	Daily
Site Data							77.5%	•	9.6	
Pa	rrier Height:	0.0 feet		м	edium T	rucks:	84.8%	4.9%	10.3	% 1.84%
Barrier Type (0-W		0.0			Heavy T	rucks:	86.5%	2.7%	10.8	% 0.74%
Centerline Dis	. ,	40.0 feet			· _					
Centerline Dist.		40.0 feet		Noise So				eet)		
Barrier Distance		0.0 feet			Auto		000			
Observer Height (Above Pad):	5.0 feet			m Truck		000			
	ad Elevation:	0.0 feet		Heav	/y Truck	s: 8.0	006	Grade Ad	justmei	nt: 0.0
Roa	ad Elevation:	0.0 feet		Lane Eq	uivalen	t Distand	e (in	feet)		
	Road Grade:	0.0%			Auto	s: 35.	347			
	Left View:	-90.0 degrees		Mediu	m Truck	s: 35.	735			
	Right View:	90.0 degrees		Heav	/y Truck	s: 35.	347			
FHWA Noise Mode	el Calculation	s								
VehicleType	REMEL	Traffic Flow	Distance	Finite	Road	Fresn	el	Barrier Att	en B	erm Atten
Autos:	68.46	-3.47	2.	06	-1.20		-4.83	0.0	000	0.000
Medium Trucks:	79.45	-20.71	2.	08	-1.20		-5.08	0.0	000	0.000
Heavy Trucks:	84.25	-24.66	2.	06	-1.20		-5.56	0.0	000	0.000
Unmitigated Noise	e Levels (with	out Topo and ba	rrier atte	nuation)						
VehicleType	Leq Peak Hou	r Leq Day	Leq	Evening	Leq	Night		Ldn	(CNEL
Autos:	65	.9 64.	0	62.2		56.1		64.8	3	65.4
Medium Trucks:	59	.6 58.	1	51.8		50.2		58.7	7	58.9
Heavy Trucks:	60	.5 59.	0	50.0		51.2		59.6	3	59.7
Vehicle Noise:	67	.7 66.	0	62.8		58.1		66.7	7	67.1
Centerline Distance	ce to Noise Co	ontour (in feet)								
) dBA		dBA	6	60 dBA	5	5 dBA
		Ldi		24		52		111		240
		CNE	L:	26	5	55		119		257

Thursday, May 19, 2022

Thursday, May 19, 2022

	FHV	VA-RD-77-108	HIGHWAY	Y NO	DISE PR	REDICTIC	N MO	DEL			
	 Existing Bastanchur e/o Plumos 					Project N Job Nu			Linda Hous	ing Ele	m
SITE S	PECIFIC IN	IPUT DATA				NC	DISE N	/ODE	L INPUTS	5	
Highway Data				S	ite Con	ditions (H	lard =	10, Sc	oft = 15)		
Average Daily T Peak Hour I Peak Ho	. ,	15,650 vehicles 10.00% 1,565 vehicles				dium Truc avy Truck	:ks (2 /		15		
Veh	icle Speed:	50 mph		14	ehicle N	Aire					
Near/Far Lar	e Distance:	50 feet		V		cleType		Dav	Evening	Niaht	Daily
Site Data					vern			77.5%	0	9.6%	
				-	Me	dium Tru		84.8%		10.3%	
Barrier Type (0-Wa	. ,	0.0 feet 0.0			F	leavy Tru		86.5%		10.8%	
Centerline Dis		40.0 feet		N	oise So	urce Ele	vation	s (in fe	eet)		
Centerline Dist. t		40.0 feet				Autos:	2.0	000	,		
Barrier Distance t	o Observer:	0.0 feet			Mediur	n Trucks:	4.0	000			
Observer Height (/ Pa	Above Pad): d Elevation:	5.0 feet 0.0 feet			Heav	y Trucks:	8.0	006	Grade Adj	ustmen	t: 0.0
Roa	d Elevation:	0.0 feet		Li	ane Equ	ivalent L	Distand	ce (in i	feet)		
F	load Grade:	0.0%				Autos:	31.3	369			
	Left View:	-90.0 degree	s		Mediur	n Trucks:	31.	241			
	Right View:	90.0 degree	s		Heav	y Trucks:	31.	369			
FHWA Noise Mode	I Calculation:	s		-							
VehicleType	REMEL	Traffic Flow	Distance	е	Finite	Road	Fresn	el	Barrier Atte	en Be	rm Atten
Autos:	70.20	-0.46	2	2.93		-1.20		-4.83	0.0	00	0.00
Medium Trucks:	81.00	-17.70	2	2.96		-1.20		-5.08	0.0	00	0.00
Heavy Trucks:	85.38	-21.66	2	2.93		-1.20		-5.56	0.0	00	0.00
Unmitigated Noise	Levels (with	out Topo and L	barrier att	enu	ation)						
	Leq Peak Hou	1.7		Eve	ening	Leq N	·		Ldn		NEL
Autos:	71		69.6		67.8		61.8		70.4		71.
Medium Trucks:	65		63.6		57.2		55.6		64.1		64.
Heavy Trucks:	65		64.0		55.0		56.2		64.6		64.
Vehicle Noise:	73		71.4		68.4		63.6	6	72.1		72.
Centerline Distance	e to Noise Co	ontour (in feet)	-	· · ·	24	05."	24		0.404		-10.4
				'0 d	3A	65 dl		6	60 dBA		dBA
			_dn:	56		120			258		555
		CN	IEL:	60		129	9		277	:	597

	FHW	/A-RD-77-108	HIGHW	AY N	NOISE PR	EDICT		DEL			
Road Nan	<i>io:</i> Existing ne: Lakeview Av nt: s/o Bastanc						t Name: ` Number: `		Linda Hou:	sing Eler	n
SITE	SPECIFIC IN	PUT DATA				I	NOISE	IODE		s	
Highway Data					Site Cona	litions	(Hard =	10, Se	oft = 15)		
Average Daily	Traffic (Adt):	8,850 vehicles	5					Autos:	15		
Peak Hour	Percentage:	10.00%			Mea	lium Ti	rucks (2 A	(xles)	15		
	lour Volume:	885 vehicles	3		Hea	vy Tru	icks (3+ A	(xles)	15		
	hicle Speed:	45 mph			Vehicle M	ix					
Near/Far La	ne Distance:	36 feet			Vehic	leTyp	е	Day	Evening	Night	Daily
Site Data							Autos:	77.5%	12.9%	9.6%	97.429
Ba	rrier Height:	0.0 feet			Me	dium 1	rucks:	84.8%	4.9%	10.3%	1.849
Barrier Type (0-V	•	0.0			н	eavy 7	rucks:	86.5%	5 2.7%	10.8%	0.749
Centerline Di	st. to Barrier:	40.0 feet		- b	Noise So	urce F	levation	s (in f	eet)		
Centerline Dist.	to Observer:	40.0 feet		F		Auto		000			
Barrier Distance	to Observer:	0.0 feet			Medium			000			
Observer Height	· ,	5.0 feet			Heavy			006	Grade Ad	justment	: 0.0
	ad Elevation:	0.0 feet		_							
	ad Elevation:	0.0 feet		H	Lane Equ				feet)		
	Road Grade: 0.0% Left View: -90.0 degrees				Medium	Auto					
	Right View:	90.0 degree			Heavy						
	°				,						
FHWA Noise Mod					-						
VehicleType	REMEL	Traffic Flow	Distar		Finite F		Fresn		Barrier Att		m Atter
Autos:	68.46 79.45	-2.48		2.0		-1.20		-4.83		000	0.00
Medium Trucks: Heavy Trucks:		-19.72 -23.68		2.0 2.0		-1.20		-5.08 -5.56		000	0.00
					-	=1.20		-5.50	0.0	000	0.00
Unmitigated Nois VehicleType	e Levels (witho Leg Peak Hou				vening	100	Night	1	Ldn	0	NEL
Autos:	Ley reak riou 66.		64.9	eq∟	63.2	Leq	57.1		65.7		VEL 66.
Medium Trucks:	60.	-	59.1		52.7		51.2		59.7		59.
Heavy Trucks:	61.		60.0		51.0		52.2		60.6		60.
Vehicle Noise:			66.9		63.8		59.1		67.		68
Centerline Distan	ce to Noise Co	ntour (in feet)								
				70 (dBA	65	dBA	(60 dBA	55	dBA
			Ldn:	2	8		60		129	2	79

V	Site Conc Mec Hea Vehicle N Vehia Me Noise So Mediun	ditions (He dium Trucks avy Trucks dix cleType Auto dium Truc deavy Truc urce Eleve Autos:	ISE MC Ard = 10 Au (3+ Ax) (3+ Ax) Da os: 77 ks: 84 ks: 86	763 DEL), Sol <i>itos:</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i> <i>ies):</i>	INPUT: ft = 15) 15 15 15 15 15 12.9% 4.9% 2.7%		Daily 5 97.42 5 1.84
V	Mec Hea Vehicle N Vehia Me Hoise So Mediun	NOI ditions (He dium Trucks avy Trucks flix cleType Auto dium Truck dium Truck di dium T	ISE MC ard = 10 Au (3 + Ax) (3 + Ax) De os: 77 ks: 84 ks: 86 ations (DDEL), Soi itos: ies): ies): ies): ay 7.5% 1.8% 3.5%	ft = 15) 15 15 15 Evening 12.9% 4.9% 2.7%	Night 9.6% 10.3%	6 97.42 6 1.84
V	Mec Hea Vehicle N Vehia Me Hoise So Mediun	ditions (He dium Trucks avy Trucks dix cleType Auto dium Truc deavy Truc urce Eleve Autos:	ard = 10 Au (3 (2 Ax) (3 + Ax) Da os: 77 ks: 84 ks: 86 ations (), So i itos: ies): ies): ies): ay 7.5% 1.8% 5.5%	ft = 15) 15 15 15 Evening 12.9% 4.9% 2.7%	Night 9.6% 10.3%	6 97.42 6 1.84
V	Mec Hea Vehicle N Vehia Me Hoise So Mediun	ditions (He dium Trucks avy Trucks dix cleType Auto dium Truc deavy Truc urce Eleve Autos:	ard = 10 Au (3 (2 Ax) (3 + Ax) Da os: 77 ks: 84 ks: 86 ations (), So i itos: ies): ies): ies): ay 7.5% 1.8% 5.5%	ft = 15) 15 15 15 Evening 12.9% 4.9% 2.7%	Night 9.6% 10.3%	6 97.42 6 1.84
V	Mec Hea Vehicle N Vehia Me Hoise So Mediun	dium Truck avy Trucks flix cleType Auto dium Truc deavy Truc urce Eleva Autos:	Au (2 Axl (3+ Axl (3+ Axl Da os: 77 ks: 84 ks: 86 ations (itos: les): les): ay 7.5% 1.8% 5.5%	15 15 15 <i>Evening</i> 12.9% 4.9% 2.7%	9.6% 10.3%	6 97.42 6 1.84
	Hea Vehicle M Vehic Me H Noise So	avy Trucks fix cleType Auto dium Truc leavy Truc urce Eleva Autos:	(3+ Ax) (3+ Ax	les): les): ay 7.5% 1.8% 3.5%	15 15 <i>Evening</i> 12.9% 4.9% 2.7%	9.6% 10.3%	6 97.42 6 1.84
	Hea Vehicle M Vehic Me H Noise So	avy Trucks fix cleType Auto dium Truc leavy Truc urce Eleva Autos:	(3+ Axl os: 77 ks: 84 ks: 86 ations (les): ay 7.5% 1.8% 5.5%	15 Evening 12.9% 4.9% 2.7%	9.6% 10.3%	6 97.42 6 1.84
	Vehicle M Vehic Me H Noise So	Mix cleType Aute edium Truc leavy Truc urce Eleva Autos:	Da os: 77 ks: 84 ks: 86 ations (ay 7.5% 1.8% 3.5%	Evening 12.9% 4.9% 2.7%	9.6% 10.3%	6 97.42 6 1.84
	Vehio Me H Noise So	cleType Auto edium Truc deavy Truc urce Eleva Autos:	os: 77 ks: 84 ks: 86 ations (7.5% 1.8% 6.5%	12.9% 4.9% 2.7%	9.6% 10.3%	6 97.42 6 1.84
Λ	Me H Noise So	Auto edium Truc leavy Truc urce Eleva Autos:	os: 77 ks: 84 ks: 86 ations (7.5% 1.8% 6.5%	12.9% 4.9% 2.7%	9.6% 10.3%	6 97.42 6 1.84
^	H Noise So Mediun	edium Truc leavy Truc urce Eleva Autos:	ks: 84 ks: 86 ations (1.8% 6.5%	4.9% 2.7%	10.3%	5 1.84
٨	H Noise So Mediun	leavy Truc urce Eleva Autos:	ks: 86 ations (6.5%	2.7%		
٨	Noise So Mediun	urce Eleva Autos:	ations (10.8%	6 0.74
٨	Mediun	Autos:		ïn fe	ef)		
			0.00				
		- 1	2.00	0			
		n Trucks:	4.00	0			
	Heav	v Trucks:	8.00	6	Grade Ad	justmen	t: 0.0
				-		·	
L	.ane Equ				eet)		
				-			
	Heavy	y Trucks:	31.36	9			
							rm Atter
							0.00
2.00	, ,		-				0.00
		-1.20	-5	.56	0.0	000	0.00
		1 16-	-		l da		NEL
Leq Ev	•	Leq Nig					,IVEL 70
						-	64
						-	
							64
	68.2		63.4		71.9	9	72
70 d	IDA	EE dD	4	61		54	5 dBA
			-				539
-							539 579
	2.90 2.90 2.90 2.90 2.90 2.90 2.90 2.90	Heav Lane Equ Mediur Heav	Heavy Trucks: Lane Equivalent Di Autos: Medium Trucks: Medium Trucks: 1293 2.93 2.93 2.93 1.20 attenuation) eq Evening 67.6 57.0 54.8 68.2	Heavy Trucks: 8.00 Lane Equivalent Distance Autos: 31.36 Medium Trucks: 31.24 Heavy Trucks: 31.24 2.93 -1.20 -5 2.93 -1.20 -5 attenuation) -67.6 61.6 67.6 61.6 57.0 68.2 63.4 56.4 70 dBA 65 dBA 554 54 116 54	Heavy Trucks: 8.006 Lane Equivalent Distance (in fa Autos: 31.369 Medium Trucks: 31.241 Heavy Trucks: 31.369 nce Finite Road Fresnel I 2.93 -1.20 -4.83 2.93 -1.20 -5.68 attenuation) Eq. Vinite 67.6 61.6 67.0 55.4 56.0 68.2 63.4 70 dBA 65 dBA 60 54 116 61	Heavy Trucks: 8.006 Grade Ad Lane Equivalent Distance (in feet) Autos: 31.369 Medium Trucks: 31.369 Medium Trucks: 31.241 Heavy Trucks: 31.369 solution Fresnel Barrier Att 2.93 -1.20 -5.08 0.0 2.93 -1.20 -5.56 0.0 attenuation) eq Evening Leq Night Ldn 67.6 61.6 70.1 55.4 63.4 54.8 65.0 64.4 68.2 63.4 71.3	Heavy Trucks: 8.006 Grade Adjustment Lane Equivalent Distance (in feet) Autos: 31.369 Medium Trucks: 31.369 Medium Trucks: 31.241 Heavy Trucks: 31.369 Medium Trucks: 31.369 Ince Finite Road Fresnel Barrier Atten Be 2.93 -1.20 -6.68 0.000 2.33 -1.20 -5.56 0.000 2.93 -1.20 -5.56 0.000 2.33 -1.20 -5.56 0.000 2.93 -1.20 -5.56 0.000 2.33 -1.20 -5.56 0.000 2.94 -1.20 -5.56 0.000 2.33 -1.20 -5.56 0.000 2.95 -1.20 -5.56 0.000 2.35 -1.20 -5.56 0.000 2.96 -1.20 -5.56 0.000 -1.20 -5.56 0.000 2.95 -1.20 -5.56 0.000 -1.20 -5.6 -1.20 -5.56 -1.20 -

FHWA-RD-77-108 HIGHWA	Y NOISE PREDICTION MODEL
Scenario: Existing Road Name: Bastanchury Rd. Road Segment: e/o Lakeview Av.	Project Name: Yorba Linda Housing Elem Job Number: 13763
SITE SPECIFIC INPUT DATA	NOISE MODEL INPUTS
Highway Data	Site Conditions (Hard = 10, Soft = 15)
Average Daily Traffic (Adt): 17,600 vehicles	Autos: 15
Peak Hour Percentage: 10.00%	Medium Trucks (2 Axles): 15
Peak Hour Volume: 1,760 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: 40.0 feet	
Centerline Dist. to Observer: 40.0 feet	Noise Source Elevations (in feet)
Barrier Distance to Observer: 0.0 feet	Autos: 2.000
Observer Height (Above Pad): 5.0 feet	Medium Trucks: 4.000
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: 31.369
Left View: -90.0 degrees	Medium Trucks: 31.241
Right View: 90.0 degrees	Heavy Trucks: 31.369
FHWA Noise Model Calculations	
VehicleType REMEL Traffic Flow Distance	e Finite Road Fresnel Barrier Atten Berm Atten
Autos: 70.20 0.05 2	2.93 -1.20 -4.83 0.000 0.000
Medium Trucks: 81.00 -17.19 2	2.96 -1.20 -5.08 0.000 0.000
Heavy Trucks: 85.38 -21.15 2	2.93 -1.20 -5.56 0.000 0.000
Unmitigated Noise Levels (without Topo and barrier att	enuation)
	Evening Leq Night Ldn CNEL
Autos: 72.0 70.1	68.3 62.3 70.9 71.5
Medium Trucks: 65.6 64.1	57.7 56.2 64.6 64.8
Heavy Trucks: 66.0 64.5	55.5 56.8 65.1 65.2
Vehicle Noise: 73.7 71.9	68.9 64.1 72.6 73.1
Centerline Distance to Noise Contour (in feet)	
	0 dBA 65 dBA 60 dBA 55 dBA
Ldn:	60 129 279 601
CNEL:	65 139 300 645

Thursday, May 19, 2022

Thursday, May 19, 2022

	FH\	VA-RD-77-108	HIGH	WAY N	DISE PF	REDICTIO	N MOI	DEL			
Scenario	: Existing					Project N	lame: `	/orba l	inda Hous	sing Eler	n
Road Name	: Lakeview A	v.				Job Nu	mber: 1	3763			
Road Segmen	t: n/o Yorba L	inda BI.									
	PECIFIC IN	IPUT DATA							L INPUT	S	
Highway Data				s	ite Con	ditions (H	lard =	10, So	ft = 15)		
Average Daily 7	raffic (Adt):	12,350 vehicle	s					Autos:	15		
Peak Hour F	Percentage:	10.00%			Me	dium Truc	:ks (2 A	xles):	15		
Peak Ho	our Volume:	1,235 vehicle	s		He	avy Truck	s (3+ A	xles):	15		
Veh	icle Speed:	45 mph		v	ehicle I	Nix					
Near/Far Lan	e Distance:	36 feet		Ē		cleType		Dav	Evening	Night	Daily
Site Data							itos:	77.5%	Ÿ	9.6%	
Bari	rier Height:	0.0 feet			Me	edium Tru	cks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wa		0.0			ŀ	leavy Tru	cks:	86.5%	2.7%	10.8%	0.74%
Centerline Dis		40.0 feet		Λ	loise So	urce Ele	vations	s (in fe	et)		
Centerline Dist. to		40.0 feet				Autos:		000			
Barrier Distance to		0.0 feet			Mediur	n Trucks:	4.0	000			
Observer Height (A	Above Pad):	5.0 feet			Heav	v Trucks:	8.0	006	Grade Ad	iustment	: 0.0
	d Elevation:	0.0 feet									
	d Elevation:	0.0 feet		L	ane Equ	uivalent E			eet)		
R	oad Grade:	0.0%				Autos:					
	Left View:	-90.0 degree	es			n Trucks:	35.				
	Right View:	90.0 degree	es		Heav	y Trucks:	35.8	347			
FHWA Noise Mode	Calculation	s									
VehicleType	REMEL	Traffic Flow	Dist	tance	Finite	Road	Fresn	el	Barrier Atte	en Bei	rm Atten
Autos:	68.46	-1.03		2.06		-1.20		-4.83	0.0	000	0.00
Medium Trucks:	79.45	-18.27		2.08		-1.20		-5.08	0.0	000	0.00
Heavy Trucks:	84.25	-22.23		2.06		-1.20		-5.56	0.0	000	0.00
Unmitigated Noise			barrie	r atteni	uation)						
,,	Leq Peak Hou			Leq Ev	~	Leq N	·		Ldn		NEL
Autos:	68		66.4		64.6		58.6		67.2		67.
Medium Trucks:	62		60.6		54.2		52.6		61.1		61.
Heavy Trucks:	62	-	61.5		52.4		53.7		62.0	· · · · · · · · · · · · · · · · · · ·	62.
Vehicle Noise:	70		68.4		65.2		60.6		69.1		69.
Centerline Distance	e to Noise Co	ontour (in feet)	70							10.4
			L	70 d		65 dE	3A	6	0 dBA		dBA
			Ldn:	35		75			162		348
		C	NEL:	37		81			173	3	374

	FHWA	-RD-77-108 H	IIGHWA	Y NOISE	PREDIC	FION MO	DEL			
Scenario: Ex	isting				Projec	t Name: `	Yorba	Linda Hou:	sing Elen	n
Road Name: La	keview Av.				Job I	Number:	13763		-	
Road Segment: s/o	o Yorba Lind	la Bl.								
SITE SPEC	CIFIC INPU	JT DATA						L INPUT	s	
Highway Data				Site C	conditions	6 (Hard =	10, So	oft = 15)		
Average Daily Traffi	c (Adt): 14,	000 vehicles					Autos:	15		
Peak Hour Perce	entage: 10	0.00%			Medium T	rucks (2 /	Axles):	15		
Peak Hour V	olume: 1,	400 vehicles			Heavy Tru	ucks (3+ A	Axles):	15		
Vehicle	Speed:	45 mph		Vehic	le Mix					
Near/Far Lane Di	stance:	52 feet			/ehicleTyp	ρ	Dav	Evening	Night	Daily
Site Data					01110101130		77.5%	•	9.6%	
	In laste to	0.0 feet		_	Medium		84.8%		10.3%	1.849
Barrier I		0.0 reet					86.5%		10.8%	
Barrier Type (0-Wall, 1- Centerline Dist. to		0.0 50.0 feet							10.070	0.111
Centerline Dist. to Ob		50.0 feet		Noise	Source E	levation	s (in fe	eet)		
Barrier Distance to Ob		0.0 feet			Aut		000			
Observer Height (Abov		5.0 feet		Me	dium Truc	ks: 4.0	000			
Pad Ele	,	0.0 feet		H	eavy Truc	ks: 8.	006	Grade Ad	iustment.	0.0
Road Ele		0.0 feet		Lane	Equivaler	nt Distan	e (in	feet)		
	Grade:	0.0%		20110	Aut		814			
Left View: -90.0 degrees				Me	dium Truc		720			
		90.0 degrees			eavy Truc					
, ug.	i nom.	50.0 dog.ood	·		,		•••			
FHWA Noise Model Cal										
		raffic Flow	Distan		ite Road	Fresh		Barrier Att		m Atten
Autos:	68.46	-0.49		0.91	-1.20		-4.84		000	0.00
Medium Trucks:	79.45	-17.73		0.92	-1.20		-5.04		000	0.00
Heavy Trucks:	84.25	-21.68		0.91	-1.20		-5.43	0.0	000	0.00
Unmitigated Noise Leve					-					
	Peak Hour	Leq Day		q Evenin	, I	n Night		Ldn		VEL
Autos:	67.7		5.8		4.0	58.0		66.6		67.
Medium Trucks:	61.4	-	9.9	-	3.6	52.0		60.8		60.
Heavy Trucks:	62.3	-	0.9		1.8	53.1		61.4		61.
Vehicle Noise:	69.5	6	7.8	6	4.6	59.9)	68.5	5	68.
Centerline Distance to	Noise Cont	our (in feet)								
				70 dBA		5 dBA	6	60 dBA		dBA
		L CN	dn:	40		85		184		96
				43		92		197		25

0	E :										
	b: Existing e: Yorba Lind	- DI						: Yorba : 13763	Linda Hou:	sing Eler	n
Road Nam Road Segmer						JOD I	umber	13/63			
÷					1					_	
SILE S Highway Data	SPECIFIC IN	NPUT DAT	A		Site Cor				L INPUT	5	
Average Daily	Troffic (Adt):	27 700 vob	icloc				1	Autos:	15		
• •	Percentage:	10.00%	10103		M	dium Ti	ucks (2	Axles):			
	our Volume:	2.770 veh	icles					Axles):			
	nicle Speed:	50 mpl				,					
Near/Far I ar		74 feet			Vehicle						
	io biotarioo.	74 1000			Veł	icleTyp		Day	Evening	Night	Daily
Site Data							Autos:	77.5%		9.6%	
Bar	rier Height:	0.0 fee	et			ledium 1		84.8%		10.3%	
Barrier Type (0-W	all, 1-Berm):	0.0				Heavy 7	rucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dis	t. to Barrier:	50.0 fee	et		Noise S	ource E	levatio	ns (in fe	et)		
Centerline Dist.		50.0 fee				Auto		2.000	.,		
Barrier Distance		0.0 fee			Mediu	m Truck	s: 4	1.000			
Observer Height (,	5.0 fee	et			vy Truck		3.006	Grade Ad	justment	t: 0.0
	d Elevation:	0.0 fee									
	d Elevation:	0.0 fee	et		Lane Eq				leet)		
F	Road Grade:	0.0%				Auto		3.764			
	Left View:	-90.0 de	~			m Truck		3.645			
	Right View:	90.0 de	grees		Hea	vy Truck	is: 33	3.764			
FHWA Noise Mode		-									
VehicleType	REMEL	Traffic Flo		Distance		Road	Fres		Barrier Att		rm Atten
Autos:	70.20	-	.02		.45	-1.20		-4.84		000	0.00
Medium Trucks:	81.00			-	.48	-1.20		-5.04		000	0.00
Heavy Trucks:	85.38	-19	.18	2	.45	-1.20		-5.43	0.0	000	0.00
Unmitigated Noise					,						
	Leq Peak Ho	,			Evening		Night		Ldn		NEL
Autos:		3.5	71.	-	69.8		63		72.4		73.
Medium Trucks:		7.1	65.	-	59.2		57		66.1		66.
Heavy Trucks:		7.5	66.	-	57.0		58		66.6	-	66.
Vehicle Noise:		5.2	73.	4	70.4		65	.6	74.1	1	74.
Centerline Distanc	e to Noise C	ontour (in f	eet)								
) dBA		dBA	6	0 dBA		dBA
			Ldi	n:	94	2	03		438	9	944
			CNFI		101	-	18		471		014

	FHV	VA-RD-77-108 HIG	HWAY N	NOISE PE	REDICTI	ON MOI	DEL			
Road Nam	o: Existing e: Bastanchur nt: w/o Fairmoi	/				Name: \ umber: 1		Linda Hou:	sing Eler	n
SITE	SPECIFIC IN	PUT DATA			N	OISE N	10DE	L INPUT	s	
Highway Data				Site Con						
Average Daily	Traffic (Adt): 1	15.150 vehicles					Autos:	15		
• •	Percentage:	10.00%		Me	dium Tru	icks (2 A	xles):	15		
	our Volume:	1,515 vehicles		He	avy Truc	ks (3+ A	xles):	15		
Ve	hicle Speed:	50 mph	-	Vehicle I						
Near/Far La	ne Distance:	50 feet	-				0	Currier	Night	D-it.
Site Data				ven	icleType		Day	Evening	· ·	Daily
					ہ edium Tr		77.5% 84.8%		9.6% 10.3%	
	rier Height:	0.0 feet					84.8% 86.5%		10.3%	
Barrier Type (0-W	. ,	0.0		,	Heavy Tr	UCKS:	80.5%	2.7%	10.8%	0.74%
Centerline Dis		40.0 feet		Noise So	ource El	evations	s (in fe	eet)		
Centerline Dist.		40.0 feet			Autos	s: 2.0	000			
Barrier Distance		0.0 feet		Mediu	m Trucks	s: 4.0	000			
Observer Height (,	5.0 feet		Heav	v Trucks	s: 8.0	006	Grade Ad	justment	: 0.0
	ad Elevation:	0.0 feet	_		·					
	ad Elevation:	0.0 feet	_	Lane Eq				leet)		
1	Road Grade:	0.0%			Autos					
	Left View:	-90.0 degrees			m Trucks					
	Right View:	90.0 degrees		Heav	y Trucks	s: 31.3	369			
FHWA Noise Mode	el Calculation:	5								
VehicleType	REMEL		istance		Road	Fresn	-	Barrier Att		m Atten
Autos:	70.20	-0.60	2.9	-	-1.20		-4.83		000	0.000
Medium Trucks:	81.00	-17.84	2.9	-	-1.20		-5.08		000	0.000
Heavy Trucks:	85.38	-21.80	2.9	13	-1.20		-5.56	0.0	000	0.000
Unmitigated Noise										
<i></i>	Leq Peak Hou			vening	Leq	Night		Ldn		NEL
Autos:	71			67.7		61.6		70.2		70.8
Medium Trucks:	64			57.0		55.5		64.0		64.2
Heavy Trucks:	65	.3 63.9		54.9		56.1		64.5	5	64.6
Vehicle Noise:	73	.0 71.3		68.2		63.4		72.0)	72.5
Centerline Distance	e to Noise Co	ntour (in feet)	I							
				dBA	65 (6	60 dBA		dBA
		Ldn:		54		17		252	-	544
		CNEL:	5	58	12	26		271	5	584

Thursday, May 19, 2022

Thursday, May 19, 2022

FHV	VA-RD-77-108 HIG	HWAY N	OISE PREDICTI	ON MODEL				
Scenario: Existing Road Name: Gypsum Ca Road Segment: s/o La Palm						sing Elem		
SITE SPECIFIC IN	IPUT DATA	Autos: 77.5% 12.9% 9.6% 97 Medium Trucks: 84.8% 4.9% 10.3% 1 Heavy Trucks: 86.5% 2.7% 10.8% 0 Noise Source Elevations (in feet) 10.8% 0 Autos: 2.000 Medium Trucks: 4.000						
Highway Data		S	Site Conditions (Hard = 10,	Soft = 15)			
Average Daily Traffic (Adt): Peak Hour Percentage: Peak Hour Volume:	12,500 vehicles 10.00% 1,250 vehicles			icks (2 Axles	:): 15			
Vehicle Speed:	45 mph		obiolo Mix					
Near/Far Lane Distance:	36 feet			Dav	Evenina	Night Daily		
Site Data						5.		
Barrier Height: Barrier Type (0-Wall, 1-Berm):	0.0 feet 0.0							
Centerline Dist. to Barrier:	40.0 feet	٨	loise Source Ele	evations (in	feet)			
Centerline Dist. to Observer: Barrier Distance to Observer: Observer Height (Above Pad): Pad Elevation:	40.0 feet 0.0 feet 5.0 feet 0.0 feet		Autos Medium Trucks Heavy Trucks	2.000 4.000 8: 8.006	Grade Adj	iustment: 0.0		
Road Elevation:	0.0 feet	L	ane Equivalent		1 feet)			
Road Grade:	0.0%		Autos					
Left View: Right View:	-90.0 degrees 90.0 degrees		Medium Trucks Heavy Trucks					
FHWA Noise Model Calculation	s							
VehicleType REMEL	Traffic Flow D	istance	Finite Road	Fresnel	Barrier Atte	en Berm Atten		
Autos: 68.46	-0.98	2.06	-1.20	-4.8	3 0.0	0.00		
Medium Trucks: 79.45	-18.22	2.08	-1.20	-5.0	8 0.0	0.00		
Heavy Trucks: 84.25	-22.18	2.06	i -1.20	-5.5	6 0.0	0.00		
Unmitigated Noise Levels (with	out Topo and barr	rier atteni	uation)					
VehicleType Leq Peak Hou	r Leq Day	Leq Ev	rening Leq I	Vight	Ldn	CNEL		
Autos: 68	.3 66.4		64.7	58.6	67.2	67.		
Medium Trucks: 62	.1 60.6		54.2	52.7	61.2	61.		
Heavy Trucks: 62	.9 61.5		52.5	53.7	62.1	62.		
Vehicle Noise: 70	.2 68.4		65.3	60.6	69.2	2 69.		
Centerline Distance to Noise Co	ontour (in feet)							
	. /	70 a	BA 65 d	1BA	60 dBA	55 dBA		
	Ldn:	: 35	5 7	6	163	351		

	FHW	/A-RD-77-108	HIGHW	AY NC	DISE PRE	DICTI		DEL			
	:: Existing :: La Palma A :: e/o Gypsum						Name: ` ımber: `		Linda Hou:	sing Elen	n
SITE S	PECIFIC IN	PUT DATA								s	
Highway Data				Si	ite Condi	tions (Hard =	10, So	oft = 15)		
Average Daily T	raffic (Adt):	9,000 vehicles						Autos:	15		
Peak Hour P	Percentage:	10.00%			Media	um Tru	cks (2 A	(xles)	15		
Peak Ho	ur Volume:	900 vehicles			Heav	y Truc	ks (3+ A	(xles)	15		
Veh	icle Speed:	50 mph		Ve	ehicle Mi	Y					
Near/Far Lan	e Distance:	50 feet		-	Vehicl			Dav	Evening	Night	Daily
Site Data								77.5%	•	9.6%	
Parr	ier Height:	0.0 feet			Med	ïum Tr	ucks:	84.8%	4.9%	10.3%	1.849
Barrier Type (0-Wa		0.0 1001			He	avy Tr		86.5%		10.8%	
Centerline Dist	. ,	40.0 feet				·					
Centerline Dist. to		40.0 feet		N	oise Sou				eet)		
Barrier Distance to		0.0 feet				Autos		000			
Observer Height (A	bove Pad):	5.0 feet			Medium			000	Grade Ad	i votro ot	
Pad	d Elevation:	0.0 feet			Heavy	Trucks	: 8.0	006	Grade Au	usuneni	0.0
Road	d Elevation:	0.0 feet		Lá	ane Equiv	valent	Distand	e (in	feet)		
R	oad Grade:	0.0%				Autos	: 31.3	369			
	Left View:	-90.0 degree	s		Medium	Trucks	: 31.	241			
	Right View:	90.0 degree	s		Heavy	Trucks	: 31.3	369			
FHWA Noise Model	Calculations	;									
VehicleType	REMEL	Traffic Flow	Distar		Finite R		Fresn		Barrier Att		m Atten
Autos:	70.20	-2.87		2.93		1.20		-4.83		000	0.00
Medium Trucks:	81.00	-20.10		2.96		1.20		-5.08		000	0.00
Heavy Trucks:	85.38	-24.06		2.93		1.20		-5.56	0.0	000	0.00
Unmitigated Noise			-								
<i>,</i> ,	eq Peak Hou			eq Eve		Leq I	·		Ldn		VEL
Autos:	69.		57.2		65.4		59.4		68.0		68.
Medium Trucks:	62. 63.		51.1 51.6		54.8 52.6		53.2 53.8		61.7 62.2		61. 62.
Heavy Trucks: Vehicle Noise:	63. 70.		51.6 59.0		52.6		53.8		69.7		62. 70
		-			00.0		01.2		69.	(70.
Centerline Distance	e to Noise Co	ntour (in feet)		70 dE	24	65 0	IDΛ		60 dBA	55	dBA
			Ldn:	70 aE		8			178		ава 84
			Lun.	30		0.	,		170	3	04

	FHW	A-RD-77-108 I	HIGHWA	Y NOISE P	REDICTIO	ON MOL	DEL			
Scenar	io: E+P				Project I	lame: Y	/orba l	Linda Hou:	sing Ele	m
Road Nam	e: Rose Dr.				Job Nu	mber: 1	3763			
Road Segmer	nt: s/o Imperial	Hwy.								
	SPECIFIC IN	PUT DATA							s	
Highway Data				Site Cor	nditions (I	lard =	10, So	oft = 15)		
Average Daily	Traffic (Adt): 1	3,250 vehicles				A	Autos:	15		
Peak Hour	Percentage:	10.00%		Me	edium True	cks (2 A	xles):	15		
Peak H	our Volume:	1,325 vehicles		He	eavy Truck	(3+ A	xles):	15		
Ve	hicle Speed:	50 mph		Vehicle	Mix					
Near/Far La	ne Distance:	50 feet			nicleType		Day	Evening	Night	Daily
Site Data					A	itos:	, 77.5%	12.9%	9.6%	97.429
Rai	rier Heiaht:	0.0 feet		M	ledium Tru	icks:	84.8%	4.9%	10.3%	1.849
Barrier Type (0-W		0.0			Heavy Tru	icks:	86.5%	2.7%	10.8%	0.749
Centerline Dis		40.0 feet								
Centerline Dist.		40.0 feet		Noise S	ource Ele			et)		
Barrier Distance		0.0 feet			Autos.	2.0	000			
Observer Height (5.0 feet			im Trucks.		000			
	ad Flevation:	0.0 feet		Hea	vy Trucks.	8.0	006	Grade Ad	justmen	t: 0.0
	ad Elevation:	0.0 feet		Lane Eo	uivalent	Distanc	e (in f	eet)		
	Road Grade:	0.0%			Autos			,		
	Left View:	-90.0 degrees	-	Mediu	m Trucks	31.2	241			
	Right View:	90.0 degrees		Hea	vy Trucks.					
FHWA Noise Mode VehicleType		Traffic Flow	Distan	no Finite	Road	Fresn	al	Barrier Att	on Ro	rm Atten
Autos:	70.20	-1.19		2.93	-1.20		-4.83		000	0.00
Medium Trucks:	81.00	-18.42		2.96	-1.20		-5.08		000	0.00
Heavy Trucks:	85.38	-22.38		2.93	-1.20		-5.56		000	0.00
Unmitigated Noise	Levels (witho	ut Topo and b	arrier a	ttenuation)						
	Leq Peak Hour			q Evening	Leq N	light		Ldn	C	NEL
Autos:	70.4	3 6	8.9	67.1		61.0		69.7	7	70.
Medium Trucks:	64.3	36	2.8	56.5	;	54.9		63.4	1	63.
Heavy Trucks:	64.	7 6	3.3	54.3	1	55.5		63.9	9	64.
Vehicle Noise:	72.4	4 7	0.7	67.7	,	62.9		71.4	1	71.
venicie ivulse.	e to Noise Co	ntour (in feet)								
Centerline Distance				70 dBA	65 d	BA	6	0 dBA	55	i dBA
		L	.dn:	70 dBA 50	65 d		6	0 dBA 231		4BA 197

	FHW	/A-RD-77-108	HIGHV	VAY I	NOISE PF	EDICT	ION MO	ODEL			
Scenario: E+I Road Name: Imp Road Segment: e/o	berial Hw							Yorba 13763	Linda Hou	sing Ele	em
SITE SPEC	IFIC IN	PUT DATA			0					s	
Highway Data					Site Con	ditions	(Hard :	-	,		
Average Daily Traffic	(Adt): 4	3,500 vehicles						Autos.			
Peak Hour Perce		10.00%				dium Tr					
Peak Hour Vo		4,350 vehicles			He	avy Tru	cks (3+	Axles).	15		
Vehicle S	Speed:	55 mph		F	Vehicle I	lix					
Near/Far Lane Dis	tance:	74 feet		F	Vehi	cleType	2	Day	Evening	Night	Daily
Site Data							Autos:	77.5%	12.9%	9.69	6 97.429
Barrier H	oiaht.	0.0 feet			Me	dium T	rucks:	84.8%	4.9%	10.39	6 1.849
Barrier Type (0-Wall, 1-L		0.0			F	leavy T	rucks:	86.5%	2.7%	10.89	% 0.74%
Centerline Dist. to E	Barrier:	50.0 feet		F	Noise So	urce E	lovatio	ns (in f	oof)		
Centerline Dist. to Obs	server:	50.0 feet		F		Auto		2.000	000		
Barrier Distance to Obs	server:	0.0 feet			Madiu	n Truck		1.000			
Observer Height (Above	Pad):	5.0 feet				v Truck		3.006	Grade Ac	liustmai	at: 0.0
Pad Ele	vation:	0.0 feet			neav	у писк	δ. Ο	5.000	Orade Ad	jusunci	<i>n</i> . 0.0
Road Eler	vation:	0.0 feet			Lane Equ	iivalen	t Distaı	nce (in	feet)		
Road (Grade:	0.0%				Auto	s: 33	3.764			
Left	View:	-90.0 degree	s		Mediur	n Truck	s: 33	3.645			
Right	View:	90.0 degree	s		Heav	y Truck	s: 33	3.764			
FHWA Noise Model Cald	ulations	5									
VehicleType RE	MEL	Traffic Flow	Dista	nce	Finite	Road	Fres	snel	Barrier At	en Be	erm Atten
Autos:	71.78	3.56		2.4	5	-1.20		-4.84	0.	000	0.00
Medium Trucks:	82.40	-13.68		2.4	8	-1.20		-5.04	0.	000	0.00
Heavy Trucks:	86.40	-17.63		2.4	5	-1.20		-5.43	0.	000	0.00
Unmitigated Noise Leve											
	eak Hou			Leq E	vening	Leq	Night		Ldn		CNEL
Autos:	76.		74.7		72.9		66		75.		76.
Medium Trucks:	70.	-	68.5		62.1		60		69.		69.
Heavy Trucks: Vehicle Noise:	70.	-	68.6 76.4		59.6 73.5		60 68	-	69. 77.	-	69. 77
Centerline Distance to N		-			75.5		00	.0			
Contentine Distance to N	0/30 00	mour (mileet)									
				70	dBA	65	dBA		50 dBA	5	5 dBA
			dn:		dBA 50		dBA 22		695 695	-	5 dBA 1,496

Thursday, May 19, 2022

Thursday, May 19, 2022

	FHW	/A-RD-77-108 H	IIGHWA	Y NC	ISE PR	EDICTIO	N MOI	DEL			
Scenario: Road Name: Road Segment:	Imperial Hw	/				Project N Job Nun			_inda Hous	sing Elei	m
SITE SP	ECIFIC IN	PUT DATA				NO	ISE N	IODE	L INPUT	S	
Highway Data				Si	te Cond	ditions (H	ard =	10, So	ft = 15)		
Average Daily Tra	affic (Adt): 4	4,100 vehicles						Autos:	15		
Peak Hour Pe	rcentage:	10.00%				dium Truci		/	15		
Peak Hou	r Volume:	4,410 vehicles			Hea	avy Trucks	s (3+ A	xles):	15		
Vehic	le Speed:	55 mph		Ve	hicle N	lix					
Near/Far Lane	Distance:	74 feet		-		cleType		Dav	Evening	Night	Daily
Site Data							tos:	77.5%	12.9%	9.6%	
Barrie	r Height:	0.0 feet			Me	dium Truc	cks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall,		0.0			н	leavy Truc	cks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist.	to Barrier:	50.0 feet		No	oise So	urce Elev	ations	in fe	et)		
Centerline Dist. to	Observer:	50.0 feet				Autos:	2.0		/		
Barrier Distance to	Observer:	0.0 feet			Mediun	n Trucks:	4.0	00			
Observer Height (Ab	ove Pad):	5.0 feet				v Trucks:	8.0		Grade Ad	iustmen	t: 0.0
Pad	Elevation:	0.0 feet									
Road	Elevation:	0.0 feet		La	ne Equ	ivalent D			eet)		
	ad Grade:	0.0%				Autos:	33.7				
	Left View:	-90.0 degrees	5			n Trucks:	33.6				
R	ight View:	90.0 degrees	3		Heavy	y Trucks:	33.7	64			
FHWA Noise Model C	Calculations	;		-							
VehicleType	REMEL	Traffic Flow	Distanc	е	Finite I	Road	Fresn	el .	Barrier Atte	en Be	rm Atten
Autos:	71.78	3.62	1	2.45		-1.20		4.84	0.0	000	0.000
Medium Trucks:	82.40	-13.62	1	2.48		-1.20		-5.04	0.0	000	0.000
Heavy Trucks:	86.40	-17.57	1	2.45		-1.20		-5.43	0.0	000	0.000
Unmitigated Noise L	evels (witho	out Topo and b	arrier at	enu	ation)						
,,	q Peak Hou			l Eve	ning	Leq Ni	,		Ldn	-	NEL
Autos:	76.		4.8		73.0		66.9		75.6		76.2
Medium Trucks:	70.		8.6		62.2		60.7		69.1		69.3
Heavy Trucks:	70.		8.7		59.6		60.9		69.2		69.4
Vehicle Noise:	78.	2 7	6.5		73.5		68.6		77.2	2	77.7
Centerline Distance	o Noise Co	ntour (in feet)									
				70 dE	BA	65 dE	A	6	0 dBA		ō dBA
		L	dn:	151		325			701	1	,510
		CN		162		350			754		.625

	FHV	VA-RD-77-108	HIGH	WAY N	OISE PF	REDICT	ION MO	DEL			
	io: E+P								Linda Hou:	sing Elen	n
	ne: Imperial Hw nt: e/o Prospec					Job N	lumber:	13763			
	SPECIFIC IN	PUT DATA							L INPUT	s	
Highway Data				S	ite Con	ditions	(Hard =	10, So	oft = 15)		
Average Daily	Traffic (Adt): 4	1,600 vehicle	s					Autos:	15		
Peak Hour	Percentage:	10.00%			Me	dium Tr	ucks (2 /	Axles):	15		
Peak H	lour Volume:	4,160 vehicle	s		He	avy Tru	cks (3+)	Axles):	15		
	hicle Speed:	55 mph		V	/ehicle I	Mix					
Near/Far La	ne Distance:	74 feet		-		icleType		Day	Evening	Night	Daily
Site Data					-		Autos:	77.5%	12.9%	9.6%	97.429
Ra	rrier Height:	0.0 feet			Me	edium T	rucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-W		0.0			ŀ	Heavy T	rucks:	86.5%	2.7%	10.8%	0.74%
Centerline Di		50.0 feet		-	C-		levation	- (6	41		
Centerline Dist.	to Observer:	50.0 feet		^	Joise Sc				eet)		
Barrier Distance	to Observer:	0.0 feet				Auto m Truck		000			
Observer Height	(Above Pad):	5.0 feet						000	Grade Ad	i votro ot	
P	ad Elevation:	0.0 feet			Heav	/y Truck	.s. 8.	006	Grade Au	usuneni	0.0
Ro	ad Elevation:	0.0 feet		L	ane Equ	uivalen	t Distan	ce (in	feet)		
	Road Grade:	0.0%				Auto	s: 33.	764			
	Left View:	-90.0 degree	es		Mediur	m Truck	s: 33.	645			
	Right View:	90.0 degre	es		Heav	/y Truck	:s: 33.	764			
FHWA Noise Mod	el Calculation:	5									
VehicleType	REMEL	Traffic Flow	Dis	tance	Finite	Road	Fresr	nel	Barrier Att	en Ber	m Atten
Autos:	71.78	3.37		2.45	j.	-1.20		-4.84	0.0	000	0.00
Medium Trucks:		-13.87		2.48	1	-1.20		-5.04	0.0	000	0.00
Heavy Trucks:	86.40	-17.83		2.45	i	-1.20		-5.43	0.0	000	0.00
Inmitigated Nois	e Levels (with	out Topo and	barrie	er atteni	lation)						
VehicleType	Leq Peak Hou			Leq Ev	<u> </u>		Night		Ldn		VEL
Autos:	76		74.5		72.7		66.7		75.3		75.
Medium Trucks:	69		68.3		61.9		60.4		68.9		69.
Heavy Trucks:		-	68.4		59.4		60.6	-	69.0		69.
Vehicle Noise:			76.2		73.3		68.4	1	76.9	9	77.
Centerline Distan	ce to Noise Co	ntour (in feet)	70 d	DΛ	65	dBA		60 dBA	55	dBA
			Ldn:	14			13		674		452
			NFL:	14		-	37		725		402 563
		0	IVEL.	15	5	0	01		120	1,-	000

Thursday, May 19, 2022

One and the Fill B					N MODEL	1.000000000	sin e El	
Scenario: E+P Road Name: Imperial Hwv.					ame: Yorba nber: 1376	a Linda Hou:	sing Elen	n
Road Segment: n/o Bastanchury Rd.				JOD INUR	nber: 1376	3		
Road Segment. The bastanchury Rd.								
SITE SPECIFIC INPUT DATA						EL INPUT	s	
Highway Data		Si	te Cond	ditions (H	ard = 10, S	Soft = 15)		
Average Daily Traffic (Adt): 39,650 vehicles					Autos			
Peak Hour Percentage: 10.00%			Med	dium Truc	ks (2 Axles): 15		
Peak Hour Volume: 3,965 vehicles			Hea	avy Truck	s (3+ Axles): 15		
Vehicle Speed: 55 mph		V	ehicle N	Niv				
Near/Far Lane Distance: 74 feet		-		cleType	Day	Evening	Night	Daily
Site Data			10/10		tos: 77.5	0	9.6%	
			Me	dium Tru			10.3%	
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0				leavy Tru			10.8%	
Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 50.0 feet							10.070	0.7 17
Centerline Dist. to Observer: 50.0 feet		N	oise So	urce Elev	ations (in	feet)		
Barrier Distance to Observer: 0.0 feet				Autos:	2.000			
Observer Height (Above Pad): 5.0 feet			Mediur	n Trucks:	4.000			
Pad Flevation: 0.0 feet			Heav	y Trucks:	8.006	Grade Ad	justment	: 0.0
Road Elevation: 0.0 feet		1:	no Fai	uvalent D	istance (in	foot)		
Road Grade: 0.0%			ne Lyc	Autos:	33.764	neery		
Left View: -90.0 degrees	-		Modiur	n Trucks:	33.645			
Right View: 90.0 degrees				y Trucks:	33.764			
right view. 90.0 degrees	\$		neuv.	y mucho.	33.704			
FHWA Noise Model Calculations								
VehicleType REMEL Traffic Flow	Distanc	ce	Finite	Road	Fresnel	Barrier Att	en Ber	m Atten
Autos: 71.78 3.16		2.45		-1.20	-4.84	4 0.0	000	0.00
Medium Trucks: 82.40 -14.08		2.48		-1.20	-5.04	4 0.0	000	0.00
Heavy Trucks: 86.40 -18.03		2.45		-1.20	-5.43	3 0.0	000	0.00
Unmitigated Noise Levels (without Topo and b	arrier at	ttenu	ation)					
VehicleType Leg Peak Hour Leg Day	Le	q Eve	ning	Leq Ni	ght	Ldn	CI	NEL
Autos: 76.2 7	4.3		72.5		66.5	75.1	1	75.
Medium Trucks: 69.6 6	8.1		61.7		60.2	68.6	5	68.
	8.2		59.2		60.4	68.8	3	68.
Heavy Trucks: 69.6 6			73.1		68.2	76.7	7	77.
	6.0							
Vehicle Noise: 77.8 7	6.0							
		70 dE	BA	65 dE	A	60 dBA	55	dBA
Vehicle Noise: 77.8 7 Centerline Distance to Noise Contour (in feet)		70 dE 141		65 dE 303	IA .	60 dBA 653		dBA 407

	FHW	A-RD-77-108 HIG	HWAY I	NOISE PI	REDICTI	ON MOI	DEL			
	o: E+P e: Bastanchury nt: w/o Imperial					Name: \ umber: 1		Linda Hous	sing Elen	n
	SPECIFIC INF	PUT DATA						L INPUTS	s	
Highway Data				Site Con	ditions ('Hard =	10, So	oft = 15)		
Average Daily	Traffic (Adt): 10	6,650 vehicles					Autos:	15		
Peak Hour	Percentage:	10.00%		Me	dium Tru	icks (2 A	xles):	15		
Peak H	our Volume:	1,665 vehicles		He	avy Truc	ks (3+ A	xles):	15		
Ve	hicle Speed:	50 mph	ŀ	Vehicle	Mix					
Near/Far La	ne Distance:	50 feet	-				Dav	Evening	Might	Dailu
Site Data				ven	icleType		Day 77.5%	Evening 12.9%	Night 9.6%	Daily 97.42%
					A edium Tr		77.5% 84.8%		9.6%	97.42%
	rier Height:	0.0 feet					84.8% 86.5%		10.3%	1.84%
Barrier Type (0-W		0.0			Heavy Tr	UCKS:	80.3%	2.7%	10.8%	0.74%
Centerline Dis		40.0 feet	ľ	Noise So	ource Ele	evations	s (in fe	eet)		
Centerline Dist.		40.0 feet			Autos	: 2.0	000			
Barrier Distance		0.0 feet		Mediu	m Trucks	: 4.0	000			
Observer Height (,	5.0 feet		Heav	v Trucks	: 8.0	006	Grade Adj	iustment.	0.0
	ad Elevation:	0.0 feet	-							
	ad Elevation:	0.0 feet	-	Lane Eq				reet)		
1	Road Grade:	0.0%			Autos					
	Left View:	-90.0 degrees			m Trucks					
	Right View:	90.0 degrees		Heav	/y Trucks	31.3	369			
FHWA Noise Mode	el Calculations									
VehicleType			istance		Road	Fresn		Barrier Atte	en Ber	m Atten
Autos:	70.20	-0.19	2.9	93	-1.20		-4.83	0.0	000	0.000
Medium Trucks:	81.00	-17.43	2.9	96	-1.20		-5.08	0.0	000	0.000
Heavy Trucks:	85.38	-21.39	2.9	93	-1.20		-5.56	0.0	000	0.000
Unmitigated Noise	e Levels (witho	ut Topo and barr	ier atter	nuation)						
	Leq Peak Hour		Leq E	vening	Leq I			Ldn	-	VEL
Autos:	71.			68.1		62.0		70.6		71.3
Medium Trucks:	65.3			57.5		55.9		64.4		64.6
Heavy Trucks:	65.3	7 64.3		55.3		56.5		64.9)	65.0
Vehicle Noise:	73.4	4 71.7		68.6		63.9		72.4	ļ	72.9
Centerline Distance	e to Noise Cor	ntour (in feet)								
				dBA	65 0		6	60 dBA		dBA
		Ldn:	-	58	12	-		269	-	79
		CNEL:	6	62	13	4		289	6	22

Thursday, May 19, 2022

	FHW	/A-RD-77-108 F	IIGHWAY	' NC	DISE PR	EDICTIO	ON MO	DEL			
	p: E+P e: Bastanchury t: e/o Imperial						Vame: ` imber: `		Linda Hou	sing El	em
SITE S	SPECIFIC IN	PUT DATA				N	DISE N	IODE	L INPUT	s	
Highway Data				Si	te Cond	ditions (Hard =	10, So	oft = 15)		
Average Daily	Traffic (Adt): 1	9,150 vehicles						Autos:	15		
Peak Hour	Percentage:	10.00%			Med	dium Tru	cks (2 A	(xles):	15		
Peak He	our Volume:	1,915 vehicles			Hea	avy Truci	ks (3+ A	xles):	15		
Vel	nicle Speed:	50 mph		16	hicle N			-			
Near/Far Lar	ne Distance:	50 feet		Ve		ll x cleType		Dav	Evening	Niahi	Deilu
Site Data				_	venio			Day 77.5%	Evening 12.9%	Night 9.6	
				-	Mo	dium Tru		84.8%		9.0 10.3	
	rier Height:	0.0 feet				leavy Tru		84.8% 86.5%		10.3	
Barrier Type (0-Wa	. ,	0.0				ieavy III	icho.	00.370	2.170	10.0	70 0.747
Centerline Dis		40.0 feet		N	oise So	urce Ele	vation	s (in fe	eet)		
Centerline Dist. t		40.0 feet				Autos	: 2.0	000			
Barrier Distance t		0.0 feet			Mediun	n Trucks	: 4.0	000			
Observer Height (/	,	5.0 feet			Heavy	y Trucks	: 8.0	006	Grade Ad	justme	nt: 0.0
	d Elevation:	0.0 feet		1.		ivalent	Dioton	o (in	fa a 4)		
	d Elevation: Road Grade:	0.0 feet 0.0%		Le	ine Equ	Autos			ieel)		
F	l eft View:				Madium	n Trucks					
	Right View:	-90.0 degrees 90.0 degrees				y Trucks					
FHWA Noise Mode	I Calculations	;									
VehicleType	REMEL	Traffic Flow	Distance	;	Finite I	Road	Fresn	el	Barrier Att	en B	erm Atten
Autos:	70.20	0.41	2	.93		-1.20		-4.83	0.0	000	0.00
Medium Trucks:	81.00	-16.83	2	.96		-1.20		-5.08	0.0	000	0.00
Heavy Trucks:	85.38	-20.78	2	.93		-1.20		-5.56	0.0	000	0.00
Unmitigated Noise			arrier att	enu	ation)						
,,	Leq Peak Hou			Eve	ening	Leq N	· ·		Ldn		CNEL
Autos:	72.		0.5		68.7		62.6		71.3	-	71.
Medium Trucks:	65.		4.4		58.1		56.5		65.0		65.
Heavy Trucks:	66.		4.9		55.9		57.1		65.	-	65.
Vehicle Noise:	74.		2.3		69.3		64.5		73.0	0	73.
Centerline Distanc	e to Noise Co	ntour (in feet)	7	0 dE	24	65 d	DA	6	60 dBA	6	55 dBA
		1.	dn:	64	// 1	13			295	-	635
		CN		68		13			295 317		683
		CIVI		00		14	'		317		005

FI	HWA-RD-77-10	08 HIGI	HWAY N	OISE PR	EDICT	ON MO	DEL			
Scenario: E+P Road Name: Imperial I Road Segment: n/o Lemo						Name: umber:		Linda Hous	sing Elen	י ו
SITE SPECIFIC	INPUT DATA	1			N	OISE N	/ODE	L INPUT	s	
Highway Data			5	Site Cond	litions	(Hard =	10, Sc	oft = 15)		
Average Daily Traffic (Adt):	36,800 vehic	les					Autos:	15		
Peak Hour Percentage:	10.00%			Med	lium Tru	icks (2 /	Axles):	15		
Peak Hour Volume:	3,680 vehic	les		Hea	avy Truc	:ks (3+)	Axles):	15		
Vehicle Speed:	55 mph			/ehicle N	liv					
Near/Far Lane Distance:	74 feet		H		cleTvpe		Dav	Evening	Night	Dailv
Site Data				10/10		lutos:	77.5%	•	9.6%	
Barrier Height:	0.0 feet			Me	dium Ti	ucks:	84.8%	4.9%	10.3%	1.849
Barrier Type (0-Wall, 1-Berm):				н	leavy Ti	ucks:	86.5%	2.7%	10.8%	0.749
Centerline Dist. to Barrier.			L							
Centerline Dist. to Observer.			4	Voise So				eet)		
Barrier Distance to Observer					Auto		000			
Observer Height (Above Pad)	5.0 feet				n Truck		000	O		
Pad Elevation:				Heav	V Truck	s: 8.	006	Grade Ad	ustment	0.0
Road Elevation:	0.0 feet		L	ane Equ	ivalent	Distan	ce (in f	feet)		
Road Grade:	0.0%				Auto	s: 33.	764			
Left View:	-90.0 degr	ees		Mediun	n Truck	s: 33.	645			
Right View:	90.0 degr	ees		Heav	/ Truck	s: 33.	764			
FHWA Noise Model Calculation				T						
VehicleType REMEL	Traffic Flow		stance	Finite I		Fresr		Barrier Att		m Atten
Autos: 71.7			2.45		-1.20		-4.84		000	0.00
Medium Trucks: 82.4			2.48		-1.20 -1.20		-5.04		000	0.00
Heavy Trucks: 86.4	0 -18.3	6	2.45	>	-1.20		-5.43	0.0	000	0.00
Unmitigated Noise Levels (wi										
VehicleType Leq Peak H			Leq E	•	Leq	Night		Ldn		VEL
	75.9	74.0		72.2		66.2		74.8		75.
	39.3	67.8		61.4		59.9		68.3		68.
	59.3	67.9		58.8		60.1		68.4		68.
	77.5	75.7		72.7		67.9)	76.4	1	76.
Centerline Distance to Noise	Contour (in fe	et)	70 -	10.4	05	104		0 -10 4		-10.4
		Ldn:	70 c			dBA 38	6	0 dBA 621		dBA 338
		CNFL:	13			58 10		668		338 140
		ONEL:	14	4	3	10		000	1,4	++0

NOISE (Hard : rucks (2 cks (3+ Autos: rucks: rucks:	: 13763 MODE = 10, Sc Autos: Axles): Axles): Day 77.5% 84.8%	15 15 15 <i>Evening</i> 12.9%		
VOISE (Hard : rucks (2 cks (3+ e Autos: rucks: rucks:	MODE = 10, So Autos: Axles): Axles): Day 77.5% 84.8%	oft = 15) 15 15 15 15 <i>Evening</i> 0 12.9%		
(Hard : rucks (2 cks (3+ Autos: rucks: rucks:	= 10, So Autos: Axles): Axles): Day 77.5% 84.8%	oft = 15) 15 15 15 15 <i>Evening</i> 0 12.9%		
(Hard : rucks (2 cks (3+ Autos: rucks: rucks:	= 10, So Autos: Axles): Axles): Day 77.5% 84.8%	oft = 15) 15 15 15 15 <i>Evening</i> 0 12.9%		
rucks (2 cks (3+ ⊋ Autos: Trucks: Trucks:	Autos: Axles): Axles): Day 77.5% 84.8%	15 15 15 <i>Evening</i> 12.9%	Night	
ecks (3+ Autos: Trucks: Trucks:	Axles): Axles): Day 77.5% 84.8%	15 15 <i>Evening</i> 12.9%	Night	
ecks (3+ Autos: Trucks: Trucks:	Axles): Day 77.5% 84.8%	15 Evening 12.9%	Night	Daille
e Autos: rucks: rucks:	Day 77.5% 84.8%	Evening 12.9%	Night	Daile
Autos: rucks: rucks:	77.5% 84.8%	12.9%	Night	Delle
Autos: rucks: rucks:	77.5% 84.8%	12.9%	Night	Deit
Autos: rucks: rucks:	84.8%	12.9%	<u> </u>	Daily
rucks:		4.9%	9.6%	
	86.5%		10.3%	
levatio		2.7%	10.8%	0.74
	ns (in fe	eet)		
is: 2	2.000	,		
(S: 4	1.000			
is: 8	3.006	Grade Ad	ljustment	: 0.0
	nce (in f	reet)		
	3.764			
	3.645 3.764			
	5.704			
Fres	snel	Barrier Att	ten Ber	rm Attei
7700	-4.84		000	0.0
	-5.04	0.0	000	0.0
	-5.43	0.0	000	0.0
Night		Ldn	-	NEL
66		74.	-	75
59		68.		68
			-	68
	.7	76.	2	76
	6	SO dBA	55	dBA
67	0			298
67 dBA				290 397
		59.9 67.7 dBA 6 80 01	67.7 76. dBA 60 dBA 80 603	67.7 76.2 dBA 60 dBA 55 80 603 1,

	FHW	A-RD-77-108 HI	GHWAY	NOISE PI	REDICT		DEL			
	io: E+P ne: Lakeview Av. nt: n/o Buena Vi					Name: \ lumber: 1		Linda Hous	sing Elen	n
SITE	SPECIFIC INP	PUT DATA						L INPUT	S	
Highway Data				Site Con	nditions	(Hard =	10, So	oft = 15)		
Average Daily	Traffic (Adt): 15	5,100 vehicles					Autos:	15		
Peak Hour	Percentage: 1	0.00%		Me	edium Tr	ucks (2 A	xles):	15		
Peak H	lour Volume: 1	,510 vehicles		He	avy Tru	cks (3+ A	(xles):	15		
Ve	hicle Speed:	45 mph		Vehicle	Mix					
Near/Far La	ne Distance:	52 feet			nicleType		Day	Evening	Night	Daily
Site Data				Ven			77.5%		9.6%	
				M	, Iedium T		84.8%		10.3%	1.84%
	rrier Height:	0.0 feet			Heavy T		86.5%		10.3%	0.74%
Barrier Type (0-W		0.0			neavy n	uons.	00.07	2.170	10.070	0.7470
Centerline Di Centerline Dist.		50.0 feet 50.0 feet		Noise Se	ource El	evations	s (in fe	eet)		
Barrier Distance		0.0 feet			Auto	s: 2.0	000			
Observer Height		5.0 feet		Mediu	m Truck	s: 4.0	000			
	ad Flevation:	0.0 feet		Hear	vy Truck	s: 8.0	006	Grade Ad	ustment	: 0.0
	ad Elevation: ad Elevation:	0.0 feet		Lane Eq	uivalen	Distanc	e (in	feet)		
	Road Grade:	0.0%		Lano Lq	Auto					
	Left View:	-90.0 degrees		Mediu	m Truck					
	Right View:	90.0 degrees			vy Truck					
	rugin view.	50.0 degrees		1104	<i>iy maon</i>	0. 4 2.0	,,,,			
FHWA Noise Mode										
VehicleType			Distance		Road	Fresn		Barrier Att		m Atten
Autos:	68.46	-0.16	0.9		-1.20		-4.84	0.0		0.000
Medium Trucks:	79.45	-17.40	0.9		-1.20		-5.04	0.0		0.000
Heavy Trucks:	84.25	-21.36	0.9	91	-1.20		-5.43	0.0	00	0.000
Unmitigated Noise	e Levels (withou	ut Topo and bar	rier atte	nuation)						
VehicleType	Leq Peak Hour	Leq Day	Leq E	vening	Leq	Night		Ldn	CI	VEL
Autos:	68.0) 66.	1	64.3		58.3		66.9)	67.5
Medium Trucks:	61.8		-	53.9		52.4		60.8		61.1
Heavy Trucks:	62.6	61.	2	52.1		53.4		61.8	:	61.9
Vehicle Noise:	69.8	68.	1	65.0		60.3		68.8	5	69.3
Centerline Distant	ce to Noise Con	ntour (in feet)								
			70	dBA	65	dBA	6	60 dBA	55	dBA
		Ldr	n: -	42	g	0		193	4	17
		CNEL	. ·	45	g	16		208	4	47

Thursday, May 19, 2022

Thursday, May 19, 2022

Barrier Height: O.0 Sete Descure Celevations (Hard = 10, 00, 00, 00, 00, 00, 00, 00, 00, 00,	Viscouries Night I y Evening Night I 5% 12.9% 9.6% 9 8% 4.9% 10.3% 5% 2.7%	Daily 97.42% 1.84% 0.74%
Road Segment: s/o Buena Vista Av. SITE SPECIFIC INPUT DATA Mighway Data Site Conditions (Hard = 10, Average Daily Traffic (Adl): 13,050 vehicles Aut Peak Hour Percentage: 10,00% Medium Trucks (2 Avle Peak Hour Volume: 1,305 vehicles Aut Vehicle Speed: 45 mph Vehicle Mix Vehicle Speed: 45 mph Vehicle Type Site Data Autos:: 7.7 Barrier Height: 0.0 feet Medium Trucks: Barrier Height: 0.0 feet Medium Trucks: Centerline Dist. to Barrier: 50.0 feet Noise Source Elevations (in Contemport)	Viscouries Night I y Evening Night I 5% 12.9% 9.6% 9 8% 4.9% 10.3% 5% 2.7%	97.42% 1.84%
SITE SPECIFIC INPUT DATA NOISE MOI Highway Data Site Conditions (Hard = 10, Average Daily Traffic (Adt): 13,050 vehicles Aut Peak Hour Percentage: 10,00% Medium Trucks (2 Axle Peak Hour Volume: 1,305 vehicles Heavy Trucks (3 Axle Vehicle Speed: 45 mph Vehicle Mix Vehicle Speed: 45 mph Vehicle Type Dag Site Data Autos: 77. Barrier Height: 0.0 feet Medium Trucks: (8 A Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 50.0 feet Noise Source Elevations (inc.) Feet Noise Source Elevations (inc.)	Soft = 15) os: 15 ss): 15 ss): 15 y Evening Night L 5% 12.9% 9.6% 9 8% 4.9% 10.3% 5% 5% 2.7% 10.8% 1	97.42% 1.84%
Highway Data Site Conditions (Hard = 10, Average Daily Traffic (Adt): 13,050 vehicles Auto Peak Hour Volume: 10,00% Medium Trucks (2 Axle Peak Hour Volume: 1,305 vehicles Heavy Trucks (3+ Axle Vehicle Speed: 45 mph Vehicle Mix Vehicle Speed: 45 mph Vehicle Mix Site Dat Autos: 77. Barrier Height: 0.0 feet Medium Trucks: (8. Barrier Type (0-Wall, 1-Berm): 0.0 Noise Source Elevations (in Contention Dist to Desroince;	Soft = 15) os: 15 ss): 15 ss): 15 y Evening Night L 5% 12.9% 9.6% 9 8% 4.9% 10.3% 5% 5% 2.7% 10.8% 1	97.42% 1.84%
Average Daily Traffic (Adt): 13,050 vehicles Autor 2000 Peak Hour Percentage: 10,00% Medium Trucks (2 Axle Heavy Trucks (3+ Axle Vehicle Speed: 45 mph Near/Far Lane Distance: 52 feet Medium Trucks (3+ Axle Vehicle Trucks (3+ Axle Vehicle Trucks (3+ Axle Vehicle Trucks (3+ Axle Vehicle Trucks: 84. Site Data Autos: 77. Barrier Height: 0.0 feet Medium Trucks: 84. Centerline Dist. to Barrier: 50.0 feet Noise Source Elevations (ii	os: 15 s): 15 s): 15 y <u>Evening</u> Night <u>I</u> 5% 12.9% 9.6% 9 8% 4.9% 10.3% 5 5% 2.7% 10.8% 0	97.42% 1.84%
Peak Hour Percentage: 10.00% Medium Trucks (2 Axle Peak Hour Volume: 1,305 vehicles Heavy Trucks (3+ Axle Vehicle Speed: 45 mph Vehicle Mix Near/Far Lane Distance: 52 feet Vehicle Type Day Site Data Autos:: 77. Medium Trucks: 84. Barrier Height: 0.0 feet Heavy Trucks: 84. Barrier Type (0-Wall, 1-Berm): 0.0 Heavy Trucks: 86. Centerline Dist. to Barrier: 50.0 feet Noise Source Elevations (ii)	vs): 15 vs): 15 vs): 15 y Evening Night 1 5% 12.9% 9.6% 9 8% 4.9% 10.3% 5% 2.7% 10.8%	97.42% 1.84%
Peak Hour Volume: 1,305 vehicles Heavy Trucks (3+ Axle Vehicle Speed: 45 mph Vehicle Mix Day Near/Far Lane Distance: 52 feet Vehicle Type Day Site Data Autos: 77. Medium Trucks: 84. Barrier Height: 0.0 feet Medium Trucks: 84. Barrier Type (0-Wall, 1-Berm): 0.0 Noise Source Elevations (ii Centerline Dist. to Barrier: 50.0 feet Noise Source Elevations (ii)	s): 15 <u>y Evening Night I</u> 5% 12.9% 9.6% 9 8% 4.9% 10.3% 5% 2.7% 10.8%	97.42% 1.84%
Vehicle Speed: 45 mph Vehicle Mix Near/Far Lane Distance: 52 feet Vehicle Type Day Site Data Autos: 77. Barrier Height: 0.0 feet Medium Trucks: 84. Barrier Type (0-Wall, 1-Berm): 0.0 1.0 1.0 Centerline Dist. to Barrier: 50.0 feet Noise Source Elevations (ii	v Evening Night L 5% 12.9% 9.6% 9 8% 4.9% 10.3% 5 5% 2.7% 10.8% 0	97.42% 1.84%
Barrier Height: 0.0 Feet Venicle Type Day Barrier Height: 0.0 feet Medium Trucks: 84. Barrier Type (0-Wall, 1-Berm): 0.0 Heavy Trucks: 86. Centerline Dist. to Barrier: 50.0 feet Noise Source Elevations (ii	5% 12.9% 9.6% 9 8% 4.9% 10.3% 5% 2.7% 10.8% (97.429 1.849
Site Data Venicle i ype Daj Barrier Height: 0.0 feet Medium Trucks: 84. Barrier Type (0-Wall, 1-Berm): 0.0 Heavy Trucks: 86. Centerline Dist. to Barrier: 50.0 feet Noise Source Elevations (ii	5% 12.9% 9.6% 9 8% 4.9% 10.3% 5% 2.7% 10.8% (97.429 1.849
Site Data Autos: 77. Barrier Height: 0.0 feet Medium Trucks: 84. Barrier Type (0-Wall, 1-Berm): 0.0 Heavy Trucks: 86. Centerline Dist. to Barrier: 50.0 feet Noise Source Elevations (ii	8% 4.9% 10.3% 5% 2.7% 10.8% (1.84%
Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 50.0 feet Noise Source Elevations (in Noise Source Elevations (in	5% 2.7% 10.8% (
Barrier Type (0-Wall, 1-Berri): 0.0 Heavy Trucks: 86. Centerline Dist to Barrier: 50.0 feet Noise Source Elevations (II		0.74%
Contorlino Dist to Observor: 50.0 feet	n feet)	
Centerline Dist. to Observer: 50.0 feet		
Autos: 2.000	,	
Barrier Distance to Observer: 0.0 feet Medium Trucks: 4.000		
Observer Height (Above Pad): 5.0 feet Heavy Trucks: 8.006	Grade Adjustment: 0.	0.0
Pad Elevation: 0.0 feet		
Road Elevation: 0.0 feet Lane Equivalent Distance (,	
Road Grade: 0.0% Autos: 42.814		
Left View: -90.0 degrees Medium Trucks: 42.720		
Right View: 90.0 degrees Heavy Trucks: 42.814		
FHWA Noise Model Calculations		
VehicleType REMEL Traffic Flow Distance Finite Road Fresnel	Barrier Atten Berm	Atten
Autos: 68.46 -0.79 0.91 -1.20 -4.8	84 0.000	0.00
Medium Trucks: 79.45 -18.03 0.92 -1.20 -5.0	04 0.000	0.00
Heavy Trucks: 84.25 -21.99 0.91 -1.20 -5.4	43 0.000	0.00
Unmitigated Noise Levels (without Topo and barrier attenuation)	1	
VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night	Ldn CNE	
Autos: 67.4 65.5 63.7 57.7	66.3	66.
Medium Trucks: 61.1 59.6 53.3 51.7	60.2	60.4
Heavy Trucks: 62.0 60.5 51.5 52.8	61.1	61.
Vehicle Noise: 69.2 67.5 64.3 59.6	68.2	68.
Centerline Distance to Noise Contour (in feet) 70 dBA 65 dBA	60 dBA 55 dB	24
Ldn: 38 81	176 378	
Lan: 38 81 CNFL: 41 87	188 406	
GIVEL. 41 87	100 400	,

	FHWA	A-RD-77-108 H	IIGHW/	Y NOIS			DEL			
Scenario: E Road Name: E		Av.				t Name: Number:		Linda Hou:	sing Elen	n
Road Segment: v	v/o Lakeview	Av.								
SITE SPE	CIFIC INP	UT DATA				NOISE	NODE		s	
Highway Data				Site	Conditions	; (Hard =	10, So	oft = 15)		
Average Daily Trai	fic (Adt): 8	,900 vehicles					Autos:	15		
Peak Hour Per	centage: 1	0.00%			Medium T	rucks (2 /	Axles):	15		
Peak Hour	Volume:	890 vehicles			Heavy Tru	ıcks (3+ /	Axles):	15		
	e Speed:	45 mph		Vehi	cle Mix					
Near/Far Lane L	Distance:	36 feet			VehicleTyp	е	Day	Evening	Night	Daily
Site Data						Autos:	77.5%	12.9%	9.6%	97.429
Barrie	· Heiaht:	0.0 feet			Medium	Trucks:	84.8%	4.9%	10.3%	1.849
Barrier Type (0-Wall,		0.0			Heavy	Frucks:	86.5%	2.7%	10.8%	0.749
Centerline Dist. to		40.0 feet		Nois	e Source E	lovation	e (in fi	not)		
Centerline Dist. to C	bserver:	40.0 feet		14013	Auto		000			
Barrier Distance to C	bserver:	0.0 feet		14	edium Truc		000			
Observer Height (Abo	ve Pad):	5.0 feet			leavy Truc		006	Grade Ad	iustment.	0.0
	levation:	0.0 feet			,					
	levation:	0.0 feet		Lane	Equivaler			feet)		
	d Grade:	0.0%			Aut		847			
-		-90.0 degrees			edium Truc		735 847			
Rig	ght View:	90.0 degrees	5		leavy Truc	KS: 35.	847			
FHWA Noise Model C	alculations			1						
VehicleType F	REMEL 1	Traffic Flow	Distan	ce Fi	nite Road	Fresr	nel	Barrier Att	en Ber	m Atter
Autos:	68.46	-2.46		2.06	-1.20		-4.83	0.0	000	0.00
Medium Trucks:	79.45	-19.70		2.08	-1.20		-5.08	0.0	000	0.00
Heavy Trucks:	84.25	-23.65		2.06	-1.20		-5.56	0.0	000	0.00
Unmitigated Noise Le	vels (withou	It Topo and b	arrier a	ttenuati	on)					
VehicleType Leo	Peak Hour	Leq Day	Le	q Evenir	ig Leo	Night		Ldn	CI	VEL
Autos:	66.9	6	5.0	6	33.2	57.1	1	65.8	3	66.
Medium Trucks:	60.6		9.1		52.8	51.2		59.7		59
Heavy Trucks:	61.5		0.0		51.0	52.3		60.6		60.
Vehicle Noise:	68.7	6	7.0	6	3.8	59.1	1	67.3	7	68
Centerline Distance to	o Noise Con	tour (in feet)								
				70 dBA		i dBA	e	60 dBA		dBA
		L	dn:	28 30		60		130		80
		CN				65		139		00

		NOISE	PREDICTIO					
Scenario: E+P						inda Hous	sing Elen	n
Road Name: Bastanchury Rd.			Job Nu	mber: 1	3763			
Road Segment: e/o Plumosa Dr.								
SITE SPECIFIC INPUT DATA		011 0					s	
Highway Data		Site Co	onditions (I		· ·			
Average Daily Traffic (Adt): 16,100 vehicles					lutos:	15		
Peak Hour Percentage: 10.00%			Aedium Tru			15		
Peak Hour Volume: 1,610 vehicles		,	Heavy Truck	(3+ A	xles):	15		
Vehicle Speed: 50 mph		Vehicl	e Mix					
Near/Far Lane Distance: 50 feet		Ve	ehicleType	1	Day	Evening	Night	Daily
Site Data			A	itos:	77.5%	12.9%	9.6%	97.42
Barrier Height: 0.0 feet	-		Medium Tru	icks:	34.8%	4.9%	10.3%	1.84
Barrier Type (0-Wall, 1-Berm): 0.0			Heavy Tru	icks:	36.5%	2.7%	10.8%	0.74
Centerline Dist. to Barrier: 40.0 feet		Noise	Source Ele	vations	(in fe	et)		
Centerline Dist. to Observer: 40.0 feet			Autos.	2.0	00			
Barrier Distance to Observer: 0.0 feet		Mea	lium Trucks.	4.0	00			
Observer Height (Above Pad): 5.0 feet		He	avy Trucks.	8.0	06	Grade Ad	justment	: 0.0
Pad Elevation: 0.0 feet			,					
Road Elevation: 0.0 feet		Lane E	quivalent			eet)		
Road Grade: 0.0%			Autos.					
Left View: -90.0 degrees			lium Trucks.					
Right View: 90.0 degrees		He	avy Trucks.	31.3	69			
FHWA Noise Model Calculations								
VehicleType REMEL Traffic Flow	Distant		te Road	Fresn		Barrier Att		m Atte
Autos: 70.20 -0.34		2.93	-1.20		4.83		000	0.0
Medium Trucks: 81.00 -17.58		2.96	-1.20		5.08		000	0.0
Heavy Trucks: 85.38 -21.53		2.93	-1.20		-5.56	0.0	000	0.0
Unmitigated Noise Levels (without Topo and be VehicleType Leg Peak Hour Leg Day		tenuation g Evening	,	light		Ldn	0	NEL
	9.7	4 LVening 67		61.9		70.5		71
	3.7	57		55.8		64.2		64
		55		56.4		64.7	-	64
Medium Trucks: 65.2 65	1.2	00	• •			72.3		72
Medium Trucks: 65.2 63 Heavy Trucks: 65.6 64	1.2 1.5	68	.5	63.7		12.0		12
Medium Trucks: 65.2 65 Heavy Trucks: 65.6 64 Vehicle Noise: 73.3 7		68	.5	63.7		12.0	·	12
Medium Trucks: 65.2 63 Heavy Trucks: 65.6 64	1.5	68 70 dBA	65 d	BA	6	0 dBA		dBA
Medium Trucks: 65.2 65 Heavy Trucks: 65.6 64 Vehicle Noise: 73.3 7 Centerline Distance to Noise Contour (in feet) 65.6 64	1.5			BA	6		55	

	FHV	/A-RD-77-108	HIGHW	AY NOISE	PREDICT	ION MOI	DEL			
	o: E+P e: Lakeview A nt: s/o Bastanc					t Name: \ lumber: 1		.inda Hou	sing Elen	n
SITE S	SPECIFIC IN	PUT DATA							s	
Highway Data				Site Co	onditions	(Hard =	10, So	ft = 15)		
Average Daily	Traffic (Adt): 1	0,100 vehicles					Autos:	15		
Peak Hour	Percentage:	10.00%		1	Aedium Tr	ucks (2 A	xles):	15		
Peak H	our Volume:	1,010 vehicles		1	Heavy Tru	cks (3+ A	xles):	15		
Vei	hicle Speed:	45 mph		Mahial		•	· ·			
Near/Far Lar	ne Distance:	36 feet		Vehicl			_	- · ·	A.C. 1.1	
				V	ehicleType		Day	Evening	Night	Daily
Site Data				_			77.5%	12.9%	9.6%	
Bar	rier Height:	0.0 feet			Medium T		84.8%	4.9%	10.3%	1.84%
Barrier Type (0-W	all, 1-Berm):	0.0			Heavy T	rucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dis	at. to Barrier:	40.0 feet		Noise	Source E	levations	in fe	et)		
Centerline Dist.	to Observer:	40.0 feet			Auto		000	/		
Barrier Distance	to Observer:	0.0 feet		Moo	ium Truck		000			
Observer Height (.	Above Pad):	5.0 feet			avy Truck		006	Grade Ad	iustment	0.0
Pa	d Elevation:	0.0 feet		110	avy much	.3. 0.0	000	0/000 / 10	aoanona	0.0
Roa	d Elevation:	0.0 feet		Lane E	quivalen	t Distanc	e (in f	eet)		
F	Road Grade:	0.0%			Auto	s: 35.8	347			
	Left View:	-90.0 degree	s	Med	ium Truck	s: 35.7	735			
	Right View:	90.0 degree	s	He	avy Truck	s: 35.8	347			
FHWA Noise Mode	l Calculations	5								
VehicleType	REMEL	Traffic Flow	Distan	ce Fini	te Road	Fresn		Barrier Att	en Ber	m Atten
Autos:	68.46	-1.91		2.06	-1.20		-4.83	0.0	000	0.000
Medium Trucks:	79.45	-19.15		2.08	-1.20		-5.08	0.0	000	0.000
Heavy Trucks:	84.25	-23.10		2.06	-1.20		-5.56	0.0	000	0.000
Unmitigated Noise					,					
	Leq Peak Hou	1 1		eq Evening		Night		Ldn		VEL
Autos:	67.		5.5	63		57.7		66.3		66.9
Medium Trucks:	61.		59.7	53		51.8		60.2		60.5
Heavy Trucks:	62.	.0 6	60.6	51	.6	52.8		61.2	2	61.3
Vehicle Noise:	69.		67.5	64	.4	59.7		68.2	2	68.7
Centerline Distance	e to Noise Co	ntour (in feet)								
				70 dBA		dBA	6	0 dBA		dBA
			dn:	30		66		141	-	05
		Ch	IEL:	33	1	70		152	3	27

Thursday, May 19, 2022

Thursday, May 19, 2022

	FHV	VA-RD-77-108	HIGHWA	Y N0	DISE PR	REDICTIC	N MO	DEL			
Scenario Road Name Road Segmen	: Bastanchur			_		Project N Job Nu			Linda Hous	ing Elen	n
SITE S	PECIFIC IN	IPUT DATA				NC	DISE N	/ODE	L INPUTS	6	
Highway Data				S	ite Con	ditions (F	lard =	10, Sc	oft = 15)		
Average Daily 7	raffic (Adt):	16,850 vehicles						Autos:	15		
Peak Hour F	Percentage:	10.00%			Me	dium Truc	:ks (2 /	(xles)	15		
Peak Ho	our Volume:	1,685 vehicles			He	avy Truck	:s (3+7	(xles)	15		
Veh	icle Speed:	50 mph		V	ehicle I	Mix					
Near/Far Lan	e Distance:	50 feet		F		icleType		Day	Evening	Night	Daily
Site Data						AL	itos:	77.5%	12.9%	9.6%	97.429
Bari	rier Height:	0.0 feet			Me	edium Tru	cks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wa	•	0.0			ŀ	leavy Tru	cks:	86.5%	2.7%	10.8%	0.749
Centerline Dis		40.0 feet		N	oise So	ource Ele	vation	s (in fe	eet)		
Centerline Dist. to	o Observer:	40.0 feet		-		Autos		000			
Barrier Distance to	o Observer:	0.0 feet			Mediu	m Trucks:	4	000			
Observer Height (A	Above Pad):	5.0 feet			Heav	v Trucks:	8	006	Grade Adj	ustment	: 0.0
	d Elevation:	0.0 feet									
	d Elevation:	0.0 feet		L	ane Equ	uivalent I			feet)		
R	load Grade:	0.0%				Autos:					
	Left View:	-90.0 degree				m Trucks:		241			
	Right View:	90.0 degree	s		Heav	y Trucks:	31.	369			
FHWA Noise Mode	Calculation	s									
VehicleType	REMEL	Traffic Flow	Distan		Finite		Fresr		Barrier Atte	en Ber	m Atten
Autos:	70.20	-0.14		2.93		-1.20		-4.83	0.0	00	0.00
Medium Trucks:	81.00	-17.38		2.96		-1.20		-5.08	0.0		0.00
Heavy Trucks:	85.38	-21.34		2.93		-1.20		-5.56	0.0	00	0.00
Unmitigated Noise											
	Leq Peak Hou	1.1.7		q Ev	ening	Leq N	·		Ldn		NEL
Autos:	71		69.9		68.1		62.1		70.7		71.
Medium Trucks:	65		53.9		57.5		56.0		64.4		64.
Heavy Trucks:	65		64.4		55.3		56.6		64.9		65.
Vehicle Noise:	73		71.7		68.7		63.9)	72.5		72.
Centerline Distance	e to Noise Co	ontour (in feet)		70.0							
				70 di	3A	65 dl		6	60 dBA		dBA
			Ldn:	58		126			271	-	84
		CN	IEL:	63		135)		291	6	27

Scenario: E					SE PRED						
Road Name: Ba Road Segment: e/	astanchury R						lame: \ mber: 1		Linda Hou:	sing Eler	n
SITE SPE	CIFIC INPL	T DATA				NC	DISE N	IODE		s	
Highway Data				Sit	e Conditio	ons (F	lard =	10, So	oft = 15)		
Average Daily Traff	ic (Adt): 18,2	00 vehicles						Autos:	15		
Peak Hour Perc	entage: 10	.00%			Mediur	n Truc	cks (2 A	xles):	15		
Peak Hour \	/olume: 1,8	20 vehicles			Heavy	Truck	is (3+ A	xles):	15		
Vehicle		50 mph		Ve	hicle Mix						
Near/Far Lane D	istance:	50 feet			Vehicle	ype		Day	Evening	Night	Daily
Site Data						AL	itos:	77.5%	5 12.9%	9.6%	97.429
Barrier	Heiaht:	0.0 feet			Mediu	m Tru	cks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1		0.0			Heav	y Tru	cks:	86.5%	2.7%	10.8%	0.749
Centerline Dist. to	Barrier:	40.0 feet		No	ise Sourc	o Flo	vations	in f	oof)		
Centerline Dist. to Ol	bserver:	40.0 feet		/10		utos:		000	560		
Barrier Distance to Ol	bserver:	0.0 feet			, Medium Ti			000			
Observer Height (Abov	/e Pad):	5.0 feet			Heavy Ti			006	Grade Ad	iustment	: 0.0
	evation:	0.0 feet									
Road El		0.0 feet		La	ne Equiva				feet)		
	Grade:	0.0%				lutos:					
		90.0 degrees			Medium Ti Heavy Ti						
Rigi	ht View:	90.0 degrees			neavy II	UCKS.	31.3	509			
FHWA Noise Model Ca	lculations										
VehicleType R	EMEL Tr	affic Flow	Distan	ice	Finite Roa	d	Fresn	el	Barrier Att	en Ber	m Atten
Autos:	70.20	0.19		2.93	-1	.20		-4.83	0.0	000	0.00
Medium Trucks:	81.00	-17.05		2.96		.20		-5.08		000	0.00
Heavy Trucks:	85.38	-21.00		2.93	-1	.20		-5.56	0.0	000	0.00
Unmitigated Noise Lev	els (without	Topo and b	arrier a	ttenua	tion)						
VehicleType Leq	Peak Hour	Leq Day	Le	eq Ever	ning	eq N	light		Ldn		NEL
Autos:	72.1		0.2		68.5		62.4		71.0	-	71.
Medium Trucks:	65.7		4.2		57.8		56.3		64.8		65.
Heavy Trucks:	66.1	-	4.7		55.7		56.9		65.3		65.
Vehicle Noise:	73.8	7	2.1		69.0		64.2		72.8	3	73.
Centerline Distance to	Noise Conte	our (in feet)						r			
			. ட	70 dB	4	65 dl			60 dBA		dBA
		L	dn:	61		132	-		285		14
		CN	EI ·	66		142	2		306	6	60

FHWA-RD-77-108	HIGHWA	Y NOISE F	PREDICTION				
Scenario: E+P Road Name: Lakeview Av. Road Segment: n/o Yorba Linda Bl.				ame: Yorba nber: 13763		sing Elen	n
SITE SPECIFIC INPUT DATA			NO	ISE MODE	EL INPUT	s	
Highway Data		Site Co	nditions (H	ard = 10, S	oft = 15)		
Average Daily Traffic (Adt): 13,800 vehicles				Autos	: 15		
Peak Hour Percentage: 10.00%		M	ledium Truck	ks (2 Axles)	: 15		
Peak Hour Volume: 1,380 vehicles		H	leavy Trucks	(3+ Axles)	: 15		
Vehicle Speed: 45 mph		Vehicle	Mix				
Near/Far Lane Distance: 36 feet			hicleType	Dav	Evening	Night	Daily
Site Data		-	Aut	tos: 77.5%	-	9.6%	
Barrier Height: 0.0 feet		/	Aedium Truc	ks: 84.8%	6 4.9%	10.3%	1.84
Barrier Type (0-Wall, 1-Berm): 0.0			Heavy Truc	ks: 86.5%	6 2.7%	10.8%	0.74
Centerline Dist. to Barrier: 40.0 feet		Noise S	Source Elev	ations (in f	eet)		
Centerline Dist. to Observer: 40.0 feet			Autos:	2.000			
Barrier Distance to Observer: 0.0 feet		Medi	um Trucks:	4.000			
Observer Height (Above Pad): 5.0 feet		Hea	avy Trucks:	8.006	Grade Ad	justment	: 0.0
Pad Elevation: 0.0 feet			,				
Road Elevation: 0.0 feet		Lane E	quivalent D		feet)		
Road Grade: 0.0%			Autos:	35.847			
Left View: -90.0 degree:			um Trucks: avy Trucks:	35.735 35.847			
Right View: 90.0 degree	3	nea	ivy mucks.	35.847			
FHWA Noise Model Calculations						-	
VehicleType REMEL Traffic Flow	Distan			Fresnel	Barrier Att		m Atter
Autos: 68.46 -0.55 Medium Trucks: 79.45 -17.79		2.06 2.08	-1.20 -1.20	-4.83 -5.08		000	0.00
Heavy Trucks: 19.45 -11.79 Heavy Trucks: 84.25 -21.75		2.08	-1.20	-5.08		000	0.00
Unmitigated Noise Levels (without Topo and b				-5.56	0.0	000	0.00
VehicleType Leg Peak Hour Leg Day		g Evening	Leg Nic	aht	l dn	C	NFI
	6.9	65		59.1	67.		68
	1.0	54.		53.1	61.		61
Heavy Trucks: 63.4 6	1.9	52.	9	54.2	62.	5	62
Vehicle Noise: 70.6 6	8.9	65.	7	61.0	69.	6	70
Centerline Distance to Noise Contour (in feet)							
		70 dBA	65 dB	A	60 dBA	55	dBA
L	dn:	38	81		174	3	75

	FHW	A-RD-77-108 HIG	HWAY	NOISE PI	REDICT	ION MOI	DEL			
	io: E+P le: Lakeview Av nt: s/o Yorba Lin					Name: \ lumber: 1		Linda Hous	sing Eler	n
SITE	SPECIFIC INF	PUT DATA						L INPUTS	S	
Highway Data				Site Con	ditions	(Hard =	10, Sc	oft = 15)		
Average Daily	Traffic (Adt): 15	5,250 vehicles					Autos:	15		
Peak Hour	Percentage: 1	0.00%				ucks (2 A		15		
Peak H	lour Volume: 1	,525 vehicles		He	avy Tru	cks (3+ A	(xles):	15		
Ve	hicle Speed:	45 mph	-	Vehicle	Mix					
Near/Far La	ne Distance:	52 feet	-		icleType		Dav	Evening	Night	Daily
Site Data							77.5%	•	9.6%	
Pa	rier Height:	0.0 feet		М	edium T	rucks:	84.8%	4.9%	10.3%	
Barrier Type (0-W		0.0			Heavy T	rucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dis		50.0 feet	-		· _					
Centerline Dist.		50.0 feet	-	Noise Se				eet)		
Barrier Distance	to Observer:	0.0 feet			Auto		000			
Observer Height (Above Pad):	5.0 feet			m Truck		000	Crada Adi	ustmont	
Pa	ad Elevation:	0.0 feet		Hear	/y Truck	s: 8.0	006	Grade Adj	usunen	. 0.0
Roa	ad Elevation:	0.0 feet	ľ	Lane Eq	uivalen	t Distanc	e (in t	feet)		
I	Road Grade:	0.0%	ſ		Auto	s: 42.8	314			
	Left View:	-90.0 degrees		Mediu	m Truck	s: 42.7	720			
	Right View:	90.0 degrees		Hear	/y Truck	s: 42.8	314			
FHWA Noise Mode	el Calculations									
VehicleType			listance		Road	Fresn		Barrier Atte		m Atten
Autos:	68.46	-0.12	0.9		-1.20		-4.84	0.0		0.000
Medium Trucks:	79.45	-17.36	0.9		-1.20		-5.04	0.0		0.000
Heavy Trucks:	84.25	-21.31	0.9	91	-1.20		-5.43	0.0	00	0.000
Unmitigated Noise	e Levels (witho	ut Topo and barr	rier atter	nuation)						
VehicleType	Leq Peak Hour	Leq Day	Leq E	vening	Leq	Night		Ldn	C	NEL
Autos:	68.0) 66.2		64.4		58.3		67.0)	67.6
Medium Trucks:	61.8			53.9		52.4		60.9		61.1
Heavy Trucks:	62.6	61.2		52.2		53.4		61.8		61.9
Vehicle Noise:	69.9	68.1		65.0		60.3		68.9)	69.3
Centerline Distance	e to Noise Cor	ntour (in feet)							r	
				dBA		dBA	6	0 dBA		dBA
		Ldn		12	-	90		195		20
		CNEL	: 4	15	9	97		209	4	150

Thursday, May 19, 2022

Thursday, May 19, 2022

	FHV	VA-RD-77-108	HIGHWA	Y NC	ISE PR	EDICTIO	N MOI	DEL			
	: Yorba Linda					Project N Job Nur			Linda Hous	ing Eler	n
Road Segmen	t: w/o Lakevie	ew Av.									
	PECIFIC IN	PUT DATA							L INPUTS	5	
Highway Data				Si	te Conc	litions (H	lard =	10, Sc	oft = 15)		
Average Daily T	raffic (Adt):	28,400 vehicles						Autos:	15		
Peak Hour F	Percentage:	10.00%			Med	lium Truc	ks (2 A	xles):	15		
Peak Ho	our Volume:	2,840 vehicles			Hea	vy Truck	s (3+ A	xles):	15		
	icle Speed:	50 mph		Ve	ehicle M	lix					
Near/Far Lan	e Distance:	74 feet		-		cleType		Dav	Evening	Niaht	Daily
Site Data							tos:	77.5%	•	9.6%	
Barr	rier Height:	0.0 feet			Me	dium Tru	cks:	84.8%	4.9%	10.3%	1.849
Barrier Type (0-Wa		0.0			Н	leavy Tru	cks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist		50.0 feet		N	oise So	urce Elev	ations	; (in fe	et)		
Centerline Dist. to	o Observer:	50.0 feet				Autos:		000	.,		
Barrier Distance to	o Observer:	0.0 feet			Mediun	1 Trucks:	4.0	000			
Observer Height (A	,	5.0 feet			Heav	Trucks:	8.0	006	Grade Adj	ustment	: 0.0
	d Elevation:	0.0 feet							,		
	d Elevation:	0.0 feet		Lé	ine Equ	ivalent D			feet)		
R	load Grade:	0.0%				Autos:					
	Left View:	-90.0 degree				n Trucks:	33.6				
	Right View:	90.0 degree	s		Heavy	/ Trucks:	33.7	64			
FHWA Noise Model		-									
VehicleType	REMEL	Traffic Flow	Distanc	-	Finite F		Fresn		Barrier Atte		m Atten
Autos:	70.20	2.12		2.45		-1.20		-4.84	0.0		0.00
Medium Trucks:	81.00 85.38	-15.11 -19.07		2.48		-1.20 -1.20		-5.04 -5.43	0.0		0.00
Heavy Trucks:						-1.20		-5.43	0.0	00	0.00
VehicleType	Levels (with Lea Peak Hou		1		ation) ening	Leq Ni	aht	1	Ldn	0	NEL
Autos:	29 Feak Hou 73		71.7	Eve	69.9	Leq IVI	63.9		72.5		73.
Medium Trucks:	67		35.7		59.3		57.8		66.2		66.
Heavy Trucks:	67		55.7 56.1		57.1		58.4		66.7		66.
Vehicle Noise:	75		73.5		70.5		65.7		74.2		74.
Centerline Distance	e to Noise Co	ontour (in feet)									
				70 dE	3A	65 dE	BA	6	60 dBA	55	dBA
			dn:	96		207			445	-	60
			IFL :	103		222			479		031

	FHW	A-RD-77-108 I	HIGHWA	Y NOISE P	REDICT	ION MO	DEL			
Scenario Road Name Road Segment	: Bastanchury					t Name: ` Number: `		Linda Hou:	sing Eler	n
SITE S	PECIFIC INI	PUT DATA			I	NOISE	/ODE		s	
Highway Data				Site Cor	nditions	(Hard =	10, So	oft = 15)		
Average Daily T	raffic (Adt): 1	5,700 vehicles					Autos:	15		
Peak Hour P	ercentage:	10.00%		Me	edium Ti	rucks (2 A	(<i>xles</i>)	15		
Peak Ho	ur Volume:	1,570 vehicles		He	eavy Tru	icks (3+ /	Axles):	15		
	icle Speed:	50 mph		Vehicle	Mix					
Near/Far Lane	e Distance:	50 feet			icleTyp	e	Day	Evening	Night	Daily
Site Data						Autos:	77.5%	12.9%	9.6%	97.429
Barr	ier Height:	0.0 feet		N	ledium 1	rucks:	84.8%	4.9%	10.3%	1.849
Barrier Type (0-Wa		0.0			Heavy T	rucks:	86.5%	2.7%	10.8%	0.749
Centerline Dist.	to Barrier:	40.0 feet		Noise S	ource F	levation	s (in fi	oot)		
Centerline Dist. to	Observer:	40.0 feet		10130 0	Auto		000			
Barrier Distance to	Observer:	0.0 feet		Mediu	m Truck		000			
Observer Height (A	bove Pad):	5.0 feet			vy Truck		006	Grade Ad	liustment	0.0
Pad	d Elevation:	0.0 feet							,	
	l Elevation:	0.0 feet		Lane Eq		t Distand		feet)		
Re	oad Grade:	0.0%			Auto					
	Left View:	-90.0 degrees			m Truck					
1	Right View:	90.0 degrees	6	Hea	vy Trucł	ks: 31.	369			
FHWA Noise Model	Calculations									
VehicleType	REMEL	Traffic Flow	Distant		Road	Fresh		Barrier Att		m Atten
Autos:	70.20	-0.45		2.93	-1.20		-4.83		000	0.00
Medium Trucks:	81.00	-17.69		2.96	-1.20		-5.08		000	0.00
Heavy Trucks:	85.38	-21.64		2.93	-1.20		-5.56	0.0	000	0.00
Unmitigated Noise										
	eq Peak Hour			q Evening		Night		Ldn		NEL
Autos:	71.		9.6	67.8		61.8		70.4		71.
Medium Trucks:	65.		3.6	57.2 55.0		55.7		64.1		64.
Heavy Trucks: Vehicle Noise:	65. 73.		4.0 1.4	55.U 68.4		56.3 63.6		64.6 72.2		64. 72
	-		1.4	68.4		63.6)	12.4	2	12
Centerline Distance	to Noise Col	ntour (in feet)		70 dBA	65	dBA		60 dBA	55	dBA
		,	dn:	56		20		258		06A 557

						REDICTIC					
Scenario: E+P									Linda Hou	sing Eler	n
Road Name: Gypsu						Job Nu	mber:	13763			
Road Segment: s/o La	Palma	Av.									
SITE SPECIFI	C INP	UT DATA							L INPUT	s	
Highway Data					Site Cor	nditions (I	lard =	10, Sc	oft = 15)		
Average Daily Traffic (Ad	<i>lt):</i> 14	,650 vehicle	s					Autos:	15		
Peak Hour Percentag	ye: 1	0.00%			Me	edium Truc	cks (2 /	Axles):	15		
Peak Hour Volun	ne: 1	,465 vehicle	s		He	eavy Truck	(3+ /	Axles):	15		
Vehicle Spee	ed:	45 mph		ŀ	Vehicle	Mix					
Near/Far Lane Distant	e:	36 feet		ŀ	Veh	icleType		Day	Evening	Night	Daily
Site Data						A	itos:	77.5%	12.9%	9.6%	97.42
Barrier Heig	ht.	0.0 feet			М	edium Tru	icks:	84.8%	4.9%	10.3%	1.84
Barrier Type (0-Wall, 1-Berr	n):	0.0				Heavy Tru	icks:	86.5%	2.7%	10.8%	0.74
Centerline Dist. to Barri		40.0 feet		ľ	Noise S	ource Ele	vation	s (in fe	et)		
Centerline Dist. to Observ		40.0 feet				Autos:	2.	000			
Barrier Distance to Observ		0.0 feet			Mediu	m Trucks:	4.	000			
Observer Height (Above Pa	·	5.0 feet			Hea	vv Trucks:	8.	006	Grade Ad	justment	: 0.0
Pad Elevation		0.0 feet		ŀ							
Road Elevation		0.0 feet		-	Lane Eq	uivalent l			reet)		
Road Grad		0.0%				Autos:		847			
Left Vie		-90.0 degre				m Trucks:	00.	735			
Right Vie	W.	90.0 degre	es		Hea	vy Trucks:	35.	847			
FHWA Noise Model Calcula											
VehicleType REME		Fraffic Flow	Di	stance		Road	Fresr		Barrier Att		m Atter
	3.46	-0.29		2.0		-1.20		-4.83		000	0.00
	9.45	-17.53		2.0	-	-1.20		-5.08		000	0.00
Heavy Trucks: 8-	1.25	-21.49		2.0)6	-1.20		-5.56	0.0	000	0.00
Unmitigated Noise Levels (,			1			
VehicleType Leq Peak		Leq Day		Leq E	vening	Leq N	<u> </u>		Ldn		NEL
Autos:	69.0 62.8		67.1 61.3		65.4 54.9		59.3 53.4	-	67.9 61.8		68 62
Medium Trucks:										-	
Heavy Trucks:	63.6		62.2		53.2		54.4		62.8	-	62
Vehicle Noise:	70.9		69.1		66.0		61.3	3	69.	3	70
Centerline Distance to Nois	e Con	tour (in feet)	70	dBA	65 d	DA.		0 dBA		dBA
			1 -1		dBA 39	65 di 84		1 6	181		<i>dBA</i> 190
		0	Ldn: NFL:		19 12	84 90			181 194	-	90 19

FHWA-	RD-77-108 HIGH	IWAY N	IOISE PF	REDICTI		DEL			
Scenario: E+P Road Name: La Palma Av. Road Segment: e/o Gypsum Ca	nyon Rd.				Name: \ umber: 1		inda Hous	ing Elen	ı
SITE SPECIFIC INPU	T DATA			N	OISE N	IODEI		S	
Highway Data			Site Con	ditions ((Hard =	10, So	ft = 15)		
Average Daily Traffic (Adt): 11,4	00 vehicles					Autos:	15		
Peak Hour Percentage: 10.	00%		Me	dium Tru	icks (2 A	xles):	15		
Peak Hour Volume: 1,1	40 vehicles		He	avy Truc	ks (3+ A	xles):	15		
Vehicle Speed:	50 mph	-	Vehicle I	liv					
Near/Far Lane Distance:	50 feet	-		cleType	1	Day	Evening	Night	Daily
Site Data			Veni			77.5%	12.9%	9.6%	
			Me	edium Tr		84.8%	4.9%	10.3%	1.84%
	0.0 feet			leavy Tr		86.5%	2.7%	10.8%	0.74%
	0.0			ioury in	uono.	00.070	2.170	10.070	0.7 170
	0.0 feet 0.0 feet	1	Noise So	urce Ele	evations	s (in fe	et)		
	0.0 feet			Autos	8: 2.0	000			
	5.0 feet		Mediur	n Trucks	s: 4.0	000			
• • •	0.0 feet		Heav	y Trucks	s: 8.0	006	Grade Adj	ustment:	0.0
	0.0 feet	5	Lane Equ	ivalent	Distanc	e (in fi	eet)		
Road Grade:	0.0%	-	Lano Lqu	Autos			000		
	0.0 degrees		Mediur	n Trucks					
	0.0 degrees			y Trucks					
FHWA Noise Model Calculations									
VehicleType REMEL Tra	affic Flow Dis	tance	Finite	Road	Fresn	el I	Barrier Atte	en Ber	m Atten
Autos: 70.20	-1.84	2.9	3	-1.20		-4.83	0.0	00	0.000
Medium Trucks: 81.00	-19.08	2.9	6	-1.20		-5.08	0.0	00	0.000
Heavy Trucks: 85.38	-23.03	2.9	3	-1.20		-5.56	0.0	00	0.000
Unmitigated Noise Levels (without									
VehicleType Leq Peak Hour	Leq Day	Leq E	vening	Leq I			Ldn		VEL
Autos: 70.1	68.2		66.4		60.4		69.0		69.6
Medium Trucks: 63.7	62.2		55.8		54.3		62.7		63.0
Heavy Trucks: 64.1	62.7		53.6		54.9		63.2		63.4
Vehicle Noise: 71.8	70.0		67.0		62.2		70.8	5	71.2
Centerline Distance to Noise Conto	ur (in feet)								
			dBA	65 0			0 dBA		dBA
	Ldn:	4	-	9			209		50
	CNEL:	4	8	10)4		224	4	83

Thursday, May 19, 2022

Thursday, May 19, 2022

	FHW	A-RD-77-108	HIGHWA	Y NC	DISE PR	REDICTIO	ON MO	DEL			
Road Name	b: HY (2045) e: Rose Dr. t: s/o Imperial	Hwy.				Project N Job Nu			Linda Hous	sing Eler	m
SITE S	PECIFIC IN	PUT DATA				NC	DISE N	IODE	L INPUT	s	
Highway Data				Si	te Con	ditions (I	Hard =	10, Sc	oft = 15)		
Average Daily T Peak Hour I Peak Ho	Percentage:	4,700 vehicles 10.00% 1,470 vehicles				dium Truc avy Truck	cks (2 A	/	15 15 15		
Veh	icle Speed:	50 mph		Ve	ehicle I	Nix					
Near/Far Lar	e Distance:	50 feet		-		cleType		Dav	Evening	Night	Daily
Site Data					VOIII			77.5%	•	9.6%	
Ban	rier Height:	0.0 feet				edium Tru Ieavy Tru		84.8% 86.5%		10.3%	1.84%
Barrier Type (0-Wa	. ,	0.0				ioury ind	10/10.	00.070	2.170	10.0 /	0.747
Centerline Dis		40.0 feet		N	oise So	urce Ele	vation	s (in fe	et)		
Centerline Dist. t		40.0 feet				Autos:	2.0	000			
Barrier Distance t		0.0 feet			Mediur	n Trucks:	4.0	000			
Observer Height (/	,	5.0 feet 0.0 feet			Heav	y Trucks:	8.0	006	Grade Adj	iustmen	t: 0.0
	d Elevation: d Elevation:	0.0 feet		1.	no Ea	uivalent l	Dictory	o (in i	(aat)		
	a Elevation: Road Grade:	0.0 reet		Le	пе сч	Autos			eel)		
	Left View:	-90.0 degree	c		Modiu	n Trucks:					
	Right View:	90.0 degree				y Trucks:					
FHWA Noise Mode	I Calculations			_							
VehicleType	REMEL	Traffic Flow	Distanc	e	Finite	Road	Fresn	el	Barrier Atte	en Be	rm Atten
Autos:	70.20	-0.74		2.93		-1.20		-4.83	0.0	000	0.00
Medium Trucks:	81.00	-17.97		2.96		-1.20		-5.08	0.0	000	0.00
Heavy Trucks:	85.38	-21.93		2.93		-1.20		-5.56	0.0	000	0.00
Unmitigated Noise			barrier at	tenu	ation)						
	Leq Peak Hour			y Eve	~	Leq N	·		Ldn	-	NEL
Autos:	71.3		39.3		67.5		61.5		70.1		70.
Medium Trucks:	64.		33.3		56.9		55.4		63.8		64.
Heavy Trucks:	65.2		63.8		54.7		56.0		64.3		64.
Vehicle Noise:	72.9		71.1		68.1		63.3	8	71.9)	72.
Centerline Distance	e to Noise Co	ntour (in feet)		70 dE	24	65 d	RA	6	0 dBA	66	dBA
		,	dn:	53	<i>//</i> 1	115			247		533
			Lan. IFI :	57		123			247		572
		Ch		57		123			200		

<u> </u>	FHW/	A-RD-77-108	HIG	HWAY		REDICT		DEL			
Scenario: HY (204 Road Name: Imperia Road Segment: e/o Roa	I Hwy.						t Name: Number:		Linda Hou	using Eler	n
SITE SPECIFIC	INP	UT DATA							L INPU	s	
Highway Data					Site Con	ditions	(Hard =	10, S	oft = 15)		
Average Daily Traffic (Ad	t): 46	,500 vehicles	s					Autos:	15		
Peak Hour Percentag	e: 1	0.00%			Me	dium Ti	rucks (2	Axles):	15		
Peak Hour Volum		,650 vehicles	s		He	avy Tru	icks (3+ .	Axles):	15		
Vehicle Spee		55 mph			Vehicle I	Mix					
Near/Far Lane Distanc	e:	74 feet			Vehi	icleTyp	е	Day	Evening	Night	Daily
Site Data							Autos:	77.5%	12.9%	9.6%	97.429
Barrier Heigh	nt:	0.0 feet			Me	edium 1	rucks:	84.8%	4.9%	10.3%	1.849
Barrier Type (0-Wall, 1-Bern		0.0			ŀ	leavy T	rucks:	86.5%	5 2.7%	10.8%	0.749
Centerline Dist. to Barrie	·	50.0 feet		}	Noise So		lovation	e (in f	oot)		
Centerline Dist. to Observe	er:	50.0 feet			NOISE 30	Auto		000	eel)		
Barrier Distance to Observe	er:	0.0 feet			Modiu	n Truck		000			
Observer Height (Above Pac	1):	5.0 feet				v Truck		000	Grade A	djustmen	· 0.0
Pad Elevatio	n:	0.0 feet			mean	y muor		000	0/000//	ajuounom	. 0.0
Road Elevatio	n:	0.0 feet			Lane Equ	uivalen	t Distan	ce (in	feet)		
Road Grad	le:	0.0%				Auto		764			
Left Vier		-90.0 degree				n Truck		645			
Right Vier	W:	90.0 degree	es		Heav	y Truck	ks: 33	764			
FHWA Noise Model Calculat	ions										
VehicleType REMEL		Traffic Flow	Di	stance	Finite		Fresi		Barrier A		m Atter
	.78	3.85		2.4		-1.20		-4.84		.000	0.00
	.40	-13.39		2.4		-1.20		-5.04		.000	0.00
	6.40	-17.34		2.4		-1.20		-5.43	0	.000	0.00
Unmitigated Noise Levels (v					<u> </u>			-		-	
VehicleType Leq Peak		Leq Day		Leq E	vening	Leq	Night		Ldn		NEL
Autos:	76.9		75.0		73.2		67.		75		76.
Medium Trucks:	70.3		68.8		62.4		60.	-	69	-	69
Heavy Trucks: Vehicle Noise:	70.3		68.9 76.7		59.9		61.		69	-	69. 77.
	78.5				73.8		68.	9	77	.4	11.
Centerline Distance to Noise	e Con	tour (in feet,)	70	dBA	65	dBA		60 dBA	55	dBA
			Ldn:		56		337		726		564
							163		781		683

0 : 10((0045)			REDICTION				
Scenario: HY (2045)					Linda Hou:	sing Eler	n
Road Name: Imperial Hwy.			JOD NUM	ber: 13763			
Road Segment: w/o Prospect Av.							
SITE SPECIFIC INPUT DATA					L INPUT	s	
Highway Data		Site Cor	nditions (Ha	ard = 10, S	oft = 15)		
Average Daily Traffic (Adt): 46,350 vehicles				Autos	: 15		
Peak Hour Percentage: 10.00%		Me	edium Truck	s (2 Axles)	: 15		
Peak Hour Volume: 4,635 vehicles		He	eavy Trucks	(3+ Axles)	: 15		
Vehicle Speed: 55 mph		Vehicle	Mix				
Near/Far Lane Distance: 74 feet			nicleType	Dav	Evening	Night	Daily
Site Data			Aut	os: 77.5%	v	9.6%	
Barrier Height: 0.0 feet		М	ledium Truc	ks: 84.89	6 4.9%	10.3%	1.84
Barrier Type (0-Wall, 1-Berm): 0.0			Heavy Truc	ks: 86.5%	6 2.7%	10.8%	0.74
Centerline Dist. to Barrier: 50.0 feet		Noise Se	ource Eleva	ations (in f	eet)		
Centerline Dist. to Observer: 50.0 feet			Autos:	2.000			
Barrier Distance to Observer: 0.0 feet		Mediu	m Trucks:	4.000			
Observer Height (Above Pad): 5.0 feet		Hea	vy Trucks:	8.006	Grade Ad	justment	: 0.0
Pad Elevation: 0.0 feet			,				
Road Elevation: 0.0 feet		Lane Eq	uivalent Di		feet)		
Road Grade: 0.0%			Autos:	33.764			
Left View: -90.0 degrees			m Trucks:	33.645			
Right View: 90.0 degrees		Hea	vy Trucks:	33.764			
FHWA Noise Model Calculations			1				
VehicleType REMEL Traffic Flow	Distanc			Fresnel	Barrier Att		m Atte
Autos: 71.78 3.84 Medium Trucks: 82.40 -13.40	-	2.45	-1.20 -1.20	-4.84 -5.04		000	0.0
Heavy Trucks: 82.40 -13.40 Heavy Trucks: 86.40 -17.36	-	2.48	-1.20	-5.04		000	0.0
,			-1.20	-0.43	0.0	000	0.0
Unmitigated Noise Levels (without Topo and ba VehicleType Leg Peak Hour Leg Day		Evening	Leg Nig	iht	Ldn	0	NEL
	5.0	73.2	1 0	67.2	75.8		76
	3.8	62.4		60.9	69.3		69
	3.9	59.8		61.1	69.4	-	69
	6.7	73.7		68.9	77.4	-	77
Vehicle Noise: 78.5 76							
	7	'0 dBA	65 dB/	4	60 dBA	55	dBA
Vehicle Noise: 78.5 76 Centerline Distance to Noise Contour (in feet)	7 dn:	70 dBA 156	65 dB/ 336	4	60 dBA 725		<i>dBA</i> 561

	FHWA	A-RD-77-108 HIG	HWAY	NOISE PI	REDICTI	ON MOI	DEL			
Road Nam	o: HY (2045) e: Imperial Hwy. nt: e/o Prospect /					Name: \ umber: 1		_inda Hous	sing Elen	n
SITE S	SPECIFIC INP	UT DATA			N	IOISE N	IODE	L INPUTS	S	
Highway Data				Site Con	ditions	(Hard =	10, Sc	ft = 15)		
Average Daily	Traffic (Adt): 43	,800 vehicles					Autos:	15		
Peak Hour	Percentage: 1	0.00%		Me	dium Tru	ucks (2 A	xles):	15		
Peak H	our Volume: 4	,380 vehicles		He	avy Truc	cks (3+ A	xles):	15		
Vei	hicle Speed:	55 mph	-	Vehicle	Mise					
Near/Far Lar	ne Distance:	74 feet	-		icleType		Davi	Evening	Night	Dailv
Site Data				Ven			Day 77.5%	•	9.6%	
					ہ edium Tı		77.5% 84.8%		9.0%	1.84%
	rier Height:	0.0 feet			Heavy Tr		04.0% 86.5%		10.3%	0.74%
Barrier Type (0-W		0.0			ieavy II	uchs.	00.370	2.170	10.070	0.7470
Centerline Dis		50.0 feet	[Noise Se	ource El	evations	s (in fe	et)		
Centerline Dist.		50.0 feet			Autos	s: 2.0	000			
Barrier Distance		0.0 feet		Mediu	m Trucks	s: 4.0	000			
Observer Height (,	5.0 feet		Hear	y Trucks	s: 8.0	006	Grade Adj	ustment.	0.0
	d Elevation:	0.0 feet	-	Lane Eq	uivalont	Distanc	o (in t	inot)		
	d Elevation:	0.0 feet	F	Lane Ly	Autos			eelj		
r	Road Grade: Left View:	0.0%		Madiu	m Trucks					
		-90.0 degrees			/v Trucks					
	Right View:	90.0 degrees		пеа	/y TTUCK	5. 33.1	04			
FHWA Noise Mode	el Calculations									
VehicleType			listance	Finite	Road	Fresn		Barrier Atte	en Ber	m Atten
Autos:	71.78	3.59	2.4	45	-1.20		-4.84	0.0	00	0.000
Medium Trucks:	82.40	-13.65	2.4	18	-1.20		-5.04	0.0	00	0.000
Heavy Trucks:	86.40	-17.60	2.4	15	-1.20		-5.43	0.0	00	0.000
Unmitigated Noise	Levels (withou	It Topo and barr	rier atter	nuation)						
VehicleType	Leq Peak Hour	Leq Day	Leq E	vening	Leq	Night		Ldn	CI	VEL
Autos:	76.6	74.7		73.0		66.9		75.5		76.1
Medium Trucks:	70.0	68.5		62.2		60.6		69.1		69.3
Heavy Trucks:	70.0	68.6		59.6		60.8		69.2	2	69.3
Vehicle Noise:	78.2	76.4		73.5		68.6		77.2	2	77.6
Centerline Distance	e to Noise Con	tour (in feet)								
			70	dBA	65 (dBA	6	0 dBA	55	dBA
		Ldn:	: 1	50	32	24		698	1,	503
		CNEL	: 1	62	34	48		751	1,	617

Thursday, May 19, 2022

Thursday, May 19, 2022

	FHV	/A-RD-77-108 HI	GHWAY	NOISE P	REDICTIO	N MODEL		
	o: HY (2045) e: Imperial Hw t: n/o Bastanc					ame: Yorba nber: 13763	Linda Hous	ing Elem
SITE S	PECIFIC IN	PUT DATA			NO	ISE MODE	EL INPUTS	5
Highway Data				Site Cor	nditions (H	ard = 10, S	oft = 15)	
Average Daily 7	raffic (Adt): 4	4.200 vehicles				Autos	: 15	
Peak Hour F	Percentage:	10.00%		Me	edium Truck	(2 Axles)	: 15	
Peak Ho	our Volume:	4,420 vehicles		He	avy Trucks	(3+ Axles)	: 15	
Veh	nicle Speed:	55 mph		Vehicle				
Near/Far Lan	Distance:	74 feet			icleType	Dav	C	Minder Daile
Site Data				ver	Aut		Evening 6 12.9%	Night Daily 9.6% 97.42
					Aut edium Truc			10.3% 1.849
	rier Height:	0.0 feet			Heavy Truc			10.3% 1.84
Barrier Type (0-Wa	. ,	0.0			neavy muc	na. 00.07	0 Z.170	10.0% 0.74
Centerline Dis		50.0 feet		Noise Se	ource Elev	ations (in f	'eet)	
Centerline Dist. to		50.0 feet			Autos:	2.000		
Barrier Distance to		0.0 feet		Mediu	m Trucks:	4.000		
Observer Height (A	,	5.0 feet		Hea	vy Trucks:	8.006	Grade Adj	ustment: 0.0
	d Elevation:	0.0 feet		Long Eg	uivalent D	iotonoo (in	fact)	
	d Elevation: Road Grade:	0.0 feet 0.0%		Lane Eq	Autos:	33.764	leel)	
R	l eft View:			Madiu	m Trucks:	33.645		
	Right View:	-90.0 degrees 90.0 degrees			vy Trucks:	33.764		
FHWA Noise Mode	I Calculations	5						
VehicleType	REMEL	Traffic Flow	Distance	Finite	Road	Fresnel	Barrier Atte	en Berm Atten
Autos:	71.78	3.63	2.4	45	-1.20	-4.84	0.0	00 0.00
Medium Trucks:	82.40	-13.61	2.4	48	-1.20	-5.04	0.0	00 0.00
Heavy Trucks:	86.40	-17.56	2.4	45	-1.20	-5.43	0.0	00 0.00
Unmitigated Noise	Levels (with	out Topo and ba	rrier atte	nuation)				
,,	Leq Peak Hou			Evening	Leq Nig		Ldn	CNEL
Autos:	76			73.0		66.9	75.6	
Medium Trucks:	70			62.2		60.7	69.1	
Heavy Trucks:	70			59.6		60.9	69.2	
Vehicle Noise:	78		.5	73.5		68.7	77.2	77
Centerline Distance	e to Noise Co	ntour (in feet)	70	dBA	65 dB	4	60 dBA	55 dBA
		Ld		151	326	м	702	1.512
		La CNF		163	320		702	1,512
		CNE	L. 1	103	351		100	1,027

	FHW/	A-RD-77-108	HIG	HWAY N	OISE PF	REDICT	ION MO	DEL			
Scenario: HY (2 Road Name: Basta Road Segment: w/o li	anchury						t Name: lumber:		Linda Hous	sing Elen	ı
SITE SPECIF		,					NOISE	/ODE		s	
Highway Data		01 0/11/1		5	Site Con		(Hard =				
Average Daily Traffic ()	Adt)· 10	100 vehicles						Autos:	15		
Peak Hour Percent		0.00%			Me	dium Ti	ucks (2)				
Peak Hour Volu		.910 vehicles					cks (3+)				
Vehicle Sp		50 mph				·		,	-		
Near/Far Lane Dista		50 feet		1	/ehicle I			_			
0% D (Veni	cleType		Day	Evening	Night	Daily
Site Data							Autos: rucks:	77.5%		9.6%	
Barrier Hei	-	0.0 feet						84.8%		10.3%	1.849
Barrier Type (0-Wall, 1-Be		0.0			r	leavy I	TUCKS.	86.5%	2.7%	10.8%	0.749
Centerline Dist. to Ba		40.0 feet		^	Voise So	urce E	levation	s (in fe	eet)		
Centerline Dist. to Obse		40.0 feet				Auto	os: 2.	000			
Barrier Distance to Obse		0.0 feet			Mediur	n Truck	(s: 4.	000			
Observer Height (Above F		5.0 feet			Heav	y Truck	(s: 8.	006	Grade Ad	iustment.	0.0
Pad Eleva		0.0 feet			ana Eau	dualan	t Distan	no (in)	fa a t		
Road Eleva		0.0 feet		1	ane Equ	Auto		369	reet)		
Road Gr		0.0%			Mediur			369 241			
Right V		-90.0 degree 90.0 degree				y Truck		369			
FHWA Noise Model Calcu	lations										
VehicleType REM	EL 1	Traffic Flow	Di	stance	Finite	Road	Fresr	el	Barrier Att	en Ber	m Atten
Autos:	70.20	0.40		2.93	3	-1.20		-4.83	0.0	000	0.00
Medium Trucks:	81.00	-16.84		2.96	6	-1.20		-5.08	0.0	000	0.00
Heavy Trucks:	85.38	-20.79		2.93	3	-1.20		-5.56	0.0	000	0.00
Unmitigated Noise Levels			-							1	
	ak Hour	Leq Day		Leq Ev	<u> </u>	Leq	Night		Ldn		VEL
Autos:	72.3		70.4		68.7		62.6		71.2		71.
Medium Trucks:	65.9		64.4		58.1		56.8		65.0		65.
Heavy Trucks:	66.3		64.9		55.9		57.1		65.5		65.
Vehicle Noise:	74.0		72.3		69.2		64.5	5	73.0)	73.
Centerline Distance to No	ise Con	tour (in feet))	70 a	IDΛ	65	dBA	6	0 dBA	55	dBA
			Ldn:	70 0			ава 37	1 0	294		ава 34

FHWA-RD-77-108 HI	GHWA	T NOISE P	REDICTIO	MODE	E			
Scenario: HY (2045)			Project Na			nda Hous	sing Elen	n
Road Name: Bastanchury Rd.			Job Nur	nber: 137	63			
Road Segment: e/o Imperial Hwy.								
SITE SPECIFIC INPUT DATA		011 0				INPUT	S	
Highway Data		Site Cor	ditions (H			,		
Average Daily Traffic (Adt): 22,350 vehicles				Aut		15		
Peak Hour Percentage: 10.00%			edium Truck			15		
Peak Hour Volume: 2,235 vehicles		He	eavy Trucks	: (3+ Axle	es):	15		
Vehicle Speed: 50 mph		Vehicle	Mix					
Near/Far Lane Distance: 50 feet		Veh	icleType	Da	y I	Evening	Night	Daily
Site Data			Aut	os: 77.	.5%	12.9%	9.6%	97.42
Barrier Height: 0.0 feet		M	ledium Truc	ks: 84.	.8%	4.9%	10.3%	1.84
Barrier Type (0-Wall, 1-Berm): 0.0			Heavy Truc	ks: 86.	.5%	2.7%	10.8%	0.74
Centerline Dist. to Barrier: 40.0 feet		Noise S	ource Elev	ations (i	n fee	t)		
Centerline Dist. to Observer: 40.0 feet			Autos:	2.000)			
Barrier Distance to Observer: 0.0 feet		Mediu	m Trucks:	4.000)			
Observer Height (Above Pad): 5.0 feet		Hea	vv Trucks:	8.006	; (Grade Ad	iustment	: 0.0
Pad Elevation: 0.0 feet								
Road Elevation: 0.0 feet		Lane Eq	uivalent D			et)		
Road Grade: 0.0%			Autos:	31.369				
Left View: -90.0 degrees			m Trucks: vy Trucks:	31.241				
Right View: 90.0 degrees		пеа	vy mucks.	31.305	9			
FHWA Noise Model Calculations								
VehicleType REMEL Traffic Flow Autos: 70.20 1.08	Distanc	e Finite	-1.20	Fresnel -4.		arrier Atte 0.0		m Atter 0.00
Autos: 70.20 1.08 Medium Trucks: 81.00 -16.15		2.93	-1.20	-4.			00	0.00
Heavy Trucks: 85.38 -20.11		2.90	-1.20	-5.			00	0.00
Unmitigated Noise Levels (without Topo and ba			-1.20	-0.	50	0.0	100	0.00
VehicleType Leg Peak Hour Leg Day		Evening	Leg Nig	nht	1	dn	C	NEL
Autos: 73.0 71		69.4	, ,	63.3	-	71.9		72
Medium Trucks: 66.6 65	1	58.7		57.2		65.7	,	65
Heavy Trucks: 67.0 65	6	56.5		57.8		66.1		66
Vehicle Noise: 74.7 73	.0	69.9		65.1		73.7		74
Centerline Distance to Noise Contour (in feet)								
· · ·	7	70 dBA	65 dB	A	60	dBA	55	dBA
Ld	n:	70	152		3	327	7	'04

	FHW	A-RD-77-108 HIG	HWAY I	NOISE PI	REDICTI		DEL			
Road Nam	io: HY (2045) e: Imperial Hwy nt: n/o Lemon D					Name: Y umber: 1		Linda Hous	ing Elem	
SITE	SPECIFIC INF	UT DATA						L INPUTS	5	
Highway Data				Site Con	ditions	(Hard = '	10, Sc	oft = 15)		
Average Daily	Traffic (Adt): 38	3,800 vehicles				A	Autos:	15		
Peak Hour	Percentage: 1	0.00%		Me	dium Tru	ucks (2 A	xles):	15		
Peak H	lour Volume: 3	8,880 vehicles		He	avy Truc	cks (3+ A	xles):	15		
Ve	hicle Speed:	55 mph	ŀ	Vehicle	Mix					
Near/Far La	ne Distance:	74 feet	ŀ		icleType		Day	Evening	Night	Daily
Site Data				Ven			77.5%	~	~	97.42%
		0.0 feet		м	edium Ti		34.8%		10.3%	1.84%
Barrier Type (0-W	rrier Height:	0.0 feet			Heavy Ti	rucks: 8	36.5%	2.7%	10.8%	0.74%
Centerline Di		50.0 feet								
Centerline Dist.		50.0 feet		Noise So				eet)		
Barrier Distance		0.0 feet			Auto	2.0				
Observer Height (5.0 feet			m Truck					
	ad Elevation:	0.0 feet		Heav	/y Truck	s: 8.0	06	Grade Adj	ustment:	0.0
	ad Elevation:	0.0 feet	ŀ	Lane Eq	uivalent	Distanc	e (in i	feet)		
	Road Grade:	0.0%	ŀ		Auto		· ·			
	Left View:	-90.0 degrees		Mediu	m Truck					
	Right View:	90.0 degrees		Heav	y Truck					
FHWA Noise Mode	el Calculations									
VehicleType	REMEL	Traffic Flow D	istance	Finite	Road	Fresne	e/	Barrier Atte	en Bern	n Atten
Autos:	71.78	3.07	2.4	15	-1.20		4.84	0.0	00	0.000
Medium Trucks:	82.40	-14.17	2.4	18	-1.20		5.04	0.0	00	0.000
Heavy Trucks:	86.40	-18.13	2.4	15	-1.20		5.43	0.0	00	0.000
Unmitigated Noise	e Levels (witho	ut Topo and barr	rier atter	nuation)						
VehicleType	Leq Peak Hour	Leq Day	Leq E	vening	Leq	Night		Ldn	CN	EL
Autos:	76.1			72.4		66.4		75.0		75.6
Medium Trucks:	69.5			61.6		60.1		68.6		68.8
Heavy Trucks:	69.5	68.1		59.1		60.3		68.7		68.8
Vehicle Noise:	77.7	75.9)	73.0		68.1		76.6		77.1
Centerline Distance	ce to Noise Cor	ntour (in feet)								
				dBA		dBA	6	60 dBA	55 c	
		Ldn:		39		99		644	1,3	
		CNEL	: 1	49	32	21		692	1,4	92

Thursday, May 19, 2022

	FHWA	-RD-77-108 HI	GHWAY	NOISE P	REDICTIO				
Scenario: HY (2 Road Name: Imper Road Segment: s/o Le	ial Hwy.					ame: Yorb aber: 1376	a Linda Hou: 33	sing Eler	n
SITE SPECIF	IC INPU	UT DATA			NO	SE MOD	DEL INPUT	s	
Highway Data				Site Cor	nditions (H	ard = 10,	Soft = 15)		
Average Daily Traffic (A	dt): 36.	950 vehicles				Auto	s: 15		
Peak Hour Percent	nge: 10	0.00%		M	edium Truck	s (2 Axle	s): 15		
Peak Hour Volu	me: 3,	695 vehicles		H	avy Trucks	(3+ Axle	s): 15		
Vehicle Spe	ed:	55 mph		Vehicle	Mix				
Near/Far Lane Dista	nce:	74 feet			nicleType	Dav	Evening	Night	Daily
Site Data				Vei	Aut			9.6%	
				٨	ledium Truc			10.3%	
Barrier Hei		0.0 feet			Heavy Truc			10.8%	
Barrier Type (0-Wall, 1-Be Centerline Dist. to Ba	'	0.0 50.0 feet						10.070	0.747
Centerline Dist. to Bar Centerline Dist. to Obser		50.0 feet		Noise S	ource Elev	ations (in	feet)		
Barrier Distance to Obser		0.0 feet			Autos:	2.000			
		5.0 feet		Mediu	im Trucks:	4.000			
Observer Height (Above F Pad Eleva	'	0.0 feet		Hea	vy Trucks:	8.006	Grade Ad	ljustment	t: 0.0
Road Eleva		0.0 feet		Lane Fr	uivalent D	istance (i	n feet)		
Road Gr		0.0%		Lano Lo	Autos:	33.764			
Left V		-90.0 degrees		Medii	m Trucks:	33.645			
Right V		90.0 degrees			vy Trucks:	33.764			
FHWA Noise Model Calcu	ations								
VehicleType REM	EL T	raffic Flow	Distance	Finite	Road	Fresnel	Barrier Att	en Ber	rm Atten
Autos:	71.78	2.85	2.4	45	-1.20	-4.8	4 0.0	000	0.000
Medium Trucks:	32.40	-14.38	2.4	48	-1.20	-5.0	4 0.0	000	0.000
Heavy Trucks:	36.40	-18.34	2.	45	-1.20	-5.4	3 0.0	000	0.000
Unmitigated Noise Levels	(withou	t Topo and bai	rrier atte	nuation)					
VehicleType Leq Pea	k Hour	Leq Day	Leq E	Evening	Leq Nig	pht	Ldn		NEL
Autos:	75.9	74.	-	72.2	-	66.2	74.8		75.4
Medium Trucks:	69.3	67.	-	61.4		59.9	68.3		68.6
Heavy Trucks:	69.3	67.		58.9		60.1	68.	-	68.6
Vehicle Noise:	77.5	75.	.7	72.8	1	67.9	76.4	4	76.9
Centerline Distance to No.	se Cont	our (in feet)							
				dBA	65 dB	4	60 dBA		dBA
		Ldi		34	289		623		342
		CNE	L: 1	44	311		670	1,	444

	FHV	VA-RD-77-108	HIGH	WAY N	OISE PR	EDICT	ION MC	DEL						
Road Nam	io: HY (2045) ie: Lakeview A nt: n/o Buena V				Project Name: Yorba Linda Housing Elem Job Number: 13763									
SITE	SPECIFIC IN	IPUT DATA				P	OISE	MODE	L INPUT	s				
Highway Data				S	Site Cond	ditions	(Hard =	: 10, Se	oft = 15)					
Average Daily	Traffic (Adt):	16,300 vehicles						Autos:	15					
Peak Hour	Percentage:	10.00%			Med	dium Tr	ucks (2	Axles):	: 15					
Peak H	lour Volume:	1,630 vehicles			Hea	avy Tru	cks (3+	Axles):	: 15					
	hicle Speed:	45 mph		V	/ehicle N	lix								
Near/Far La	ne Distance:	52 feet			Vehi	cleType	9	Day	Evening	Night	Daily			
Site Data							Autos:	77.5%	6 12.9%	9.6%	97.429			
Ba	rrier Heiaht:	0.0 feet			Me	edium T	rucks:	84.8%	6 4.9%	10.3%	1.849			
Barrier Type (0-W		0.0			h	leavy T	rucks:	86.5%	6 2.7%	10.8%	0.749			
Centerline Di	st. to Barrier:	50.0 feet			loise So	urco E	lovation	e (in f	oot)					
Centerline Dist.	to Observer:	50.0 feet		^	ioise 30	Auto		.000	eel)					
Barrier Distance	to Observer:	0.0 feet			Mediun			.000						
Observer Height (Above Pad):	5.0 feet				y Truck		.000	Grade Ad	iustmont	0.0			
P	ad Elevation:	0.0 feet			neav	y TTUCK	.s. 0	.000	Orade Ad	usunoni	0.0			
Roi	ad Elevation:	0.0 feet		L	ane Equ	iivalen	t Distan	ce (in	feet)					
	Road Grade:	0.0%				Auto	s: 42	.814						
	Left View:	-90.0 degree	s		Mediun			.720						
	Right View:	90.0 degree	s		Heav	y Truck	:s: 42	.814						
FHWA Noise Mode	el Calculation	s												
VehicleType	REMEL	Traffic Flow	Dist	tance	Finite I	Road	Fres	nel	Barrier Att	en Ber	m Atten			
Autos:	68.46	0.17		0.91		-1.20		-4.84	0.0	000	0.00			
Medium Trucks:	79.45	-17.07		0.92		-1.20		-5.04		000	0.00			
Heavy Trucks:	84.25	-21.02		0.91		-1.20		-5.43	0.0	000	0.00			
Unmitigated Noise														
VehicleType	Leq Peak Hou	1.7		Leq Ev	•	Leq	Night		Ldn		VEL			
Autos:	68		56.4		64.7		58.		67.3	-	67.			
Medium Trucks:	62		50.6		54.2		52.		61.3	-	61.			
Heavy Trucks:	62	-	51.5		52.5		53.		62.		62.			
Vehicle Noise:	70		58.4		65.3		60.	o	69.	I	69.			
Centerline Distant	e to Noise Co	ontour (in feet)		70 d	IRA	65	dBA		60 dBA	55	dBA			
			Ldn:	44			95		204		39			

	FHV	VA-RD-77-108 H	IIGHW	AY N	OISE PR	REDICTIO	N MODEL			
	p: HY (2045)							a Linda Hous	ing Elen	ı
Road Name Road Segmen	e: Lakeview A					JOD NUN	nber: 1376	3		
Road Segmen	t: s/o Buena \	vista AV.								
	SPECIFIC IN	IPUT DATA						EL INPUTS	5	
Highway Data				S	ite Con	ditions (H	ard = 10, 3	Soft = 15)		
Average Daily	Traffic (Adt):	12,250 vehicles					Auto	s: 15		
Peak Hour	Percentage:	10.00%			Mee	dium Truck	ks (2 Axles	;): 15		
Peak He	our Volume:	1,225 vehicles			Hea	avy Trucks	s (3+ Axles	;): 15		
Vel	nicle Speed:	45 mph		v	ehicle N	lix				
Near/Far Lar	ne Distance:	52 feet		Ľ.		cleType	Day	Evening	Night	Daily
Site Data						Au	tos: 77.5	% 12.9%	9.6%	97.42%
Bar	rier Heiaht:	0.0 feet			Me	edium Truc	ks: 84.8	% 4.9%	10.3%	1.84%
Barrier Type (0-Wa		0.0			ŀ	leavy Truc	ks: 86.5	% 2.7%	10.8%	0.74%
Centerline Dis	t. to Barrier:	50.0 feet		A	loise So	urce Elev	ations (in	feet)		
Centerline Dist. t	o Observer:	50.0 feet			0.00 00	Autos:	2.000	1001)		
Barrier Distance t	o Observer:	0.0 feet			Modiur	n Trucks:	4.000			
Observer Height (/	Above Pad):	5.0 feet				y Trucks:	8.006	Grade Adj	ustment	0.0
Pa	d Elevation:	0.0 feet				·		,		
Roa	d Elevation:	0.0 feet		L	ane Equ		istance (ii	1 feet)		
F	Road Grade:	0.0%				Autos:	42.814			
	Left View:	-90.0 degrees				n Trucks:	42.720			
	Right View:	90.0 degrees			Heav	y Trucks:	42.814			
FHWA Noise Mode	I Calculation:	s								
VehicleType	REMEL	Traffic Flow	Distar		Finite		Fresnel	Barrier Atte	en Ben	m Atten
Autos:	68.46	-1.07		0.91		-1.20	-4.8			0.00
Medium Trucks:	79.45	-18.31		0.92		-1.20	-5.0			0.00
Heavy Trucks:	84.25	-22.26		0.91		-1.20	-5.4	3 0.0	00	0.00
Unmitigated Noise										
	Leq Peak Hou			eq Ev	ening	Leq Nię	,	Ldn	CI	VEL
Autos:	67		5.2		63.4		57.4	66.0		66.
Medium Trucks:	60		9.4		53.0		51.4	59.9		60.
Heavy Trucks:	61		0.3		51.2		52.5	60.8		61.
Vehicle Noise:	68	.9 6	7.2		64.0		59.4	67.9		68.4
Centerline Distanc	e to Noise Co	ontour (in feet)								
				70 d		65 dB	A	60 dBA		dBA 63
		L CN	dn:	36 39		78 84		168 181	-	63 89

	HWA	-RD-77-108	HIGI	HWAY N	NOISE PI	REDICT		DEL			
Scenario: HY (204 Road Name: Buena \ Road Segment: w/o Lak	'ista A						Name: Y lumber: 1		Linda Hous	ing Ele	em
SITE SPECIFIC	INPU	JT DATA							L INPUTS	5	
Highway Data					Site Con	ditions	(Hard =	10, Se	oft = 15)		
Average Daily Traffic (Adt	: 8,	150 vehicles	5				A	Autos:	15		
Peak Hour Percentage	e: 10	.00%			Me	edium Tr	ucks (2 A	xles):	15		
Peak Hour Volume	e i	B15 vehicles	5		He	avy Tru	cks (3+ A	xles):	15		
Vehicle Speed	t:	45 mph		-	Vehicle	Mix					
Near/Far Lane Distance	e:	36 feet		-		icleType		Dav	Evening	Night	Daily
Site Data					VCII			77.5%	•	9.6	
					м	, edium T		34.8%		10.39	
Barrier Heigh Barrier Type (0-Wall, 1-Berm		0.0 feet				Heavy T		36.5%		10.8	
Centerline Dist. to Barrie		40.0 feet									
Centerline Dist. to Observe		40.0 feet		4	Noise So		evations		eet)		
Barrier Distance to Observe	-	0.0 feet				Auto	L.0				
Observer Height (Above Pad		5.0 feet			Mediu	m Truck	s: 4.0	00			
Pad Flevatio		0.0 feet			Heav	vy Truck	s: 8.0	06	Grade Adj	ustme	nt: 0.0
Road Elevatio		0.0 feet			Lane Ea	uivalent	Distanc	e (in	feet)		
Road Grad		0.0%		F		Auto		· ·			
Left View		90.0 degree	24		Mediu	m Truck					
Right View		90.0 degree			Heav	vy Truck					
FHWA Noise Model Calculat	ons										
VehicleType REMEL	Ti	raffic Flow	Di	stance	Finite	Road	Fresne	ə/	Barrier Atte	en B	erm Atten
Autos: 68	46	-2.84		2.0	6	-1.20		4.83	0.0	00	0.00
Medium Trucks: 79		-20.08		2.0		-1.20		-5.08	0.0	00	0.00
Heavy Trucks: 84		-24.03		2.0	-	-1.20		-5.56	0.0	00	0.000
Unmitigated Noise Levels (w											
VehicleType Leq Peak		Leq Day		Leq E	vening		Night		Ldn		CNEL
Autos:	66.5		64.6		62.8		56.8		65.4		66.0
Medium Trucks:	60.3		58.7		52.4		50.8		59.3		59.5
Heavy Trucks:	61.1		59.7		50.6		51.9		60.2		60.4
Vehicle Noise:	68.3		66.6		63.4		58.8		67.3		67.8
Centerline Distance to Noise	Cont	our (in feet)	70	dBA	65	dBA		60 dBA	-	5 dBA
			Ldn:		ава 16		ава 7		123	3	264
			VFI :		18		97 61		123		264
		CI	VLL.	2	.0	C			131		200

Thursday, May 19, 2022

Thursday, May 19, 2022

	FHWA	-RD-77-108 HI	GHWAY I	NOISE PI	REDICTION	MODEL		
Scenario: + Road Name: E Road Segment: e	Bastanchury F					ame: Yorba aber: 13763	Linda Hous	ing Elem
SITE SPE	CIFIC INPU	JT DATA			NO	SE MOD	EL INPUTS	5
Highway Data				Site Con	ditions (Ha	ard = 10, S	oft = 15)	
Average Daily Traf Peak Hour Pen Peak Hour	centage: 10	900 vehicles).00% 690 vehicles			dium Truck avy Trucks		: 15	
Vehicle	e Speed:	50 mph	-	Vehicle I	Mix			
Near/Far Lane D	Distance:	50 feet	-		icleType	Dav	Evening	Night Daily
Site Data				Ven	Aut		0	9.6% 97.42%
	I la la hate	0.0 feet		M	edium Truc			10.3% 1.84%
	Height:	0.0 feet			Heavy Truc			10.8% 0.74%
Barrier Type (0-Wall, Centerline Dist. to	,	0.0 40.0 feet			,			10.070 0.117
Centerline Dist. to C		40.0 feet		Noise So	ource Eleva		'eet)	
Barrier Distance to C		0.0 feet			Autos:	2.000		
Observer Height (Abo		5.0 feet			m Trucks:	4.000		
0 1	levation:	0.0 feet		Heav	y Trucks:	8.006	Grade Adj	ustment: 0.0
	levation:	0.0 feet	ŀ	Lane Eq	uivalent Di	stance (in	feet)	
	d Grade:	0.0%	ŀ		Autos:	31,369		
		90.0 degrees		Mediu	m Trucks:	31.241		
Rig		90.0 degrees		Heav	y Trucks:	31.369		
FHWA Noise Model Ca	alculations							
VehicleType F	REMEL T	raffic Flow	Distance	Finite	Road	Fresnel	Barrier Atte	en Berm Atten
Autos:	70.20	-0.13	2.9	93	-1.20	-4.83	0.0	00 0.000
Medium Trucks:	81.00	-17.37	2.9	96	-1.20	-5.08	0.0	00 0.000
Heavy Trucks:	85.38	-21.32	2.9	93	-1.20	-5.56	0.0	00 0.000
Unmitigated Noise Le	vels (without	t Topo and ba	rrier atter	nuation)				
VehicleType Leq	Peak Hour	Leq Day	Leq E	vening	Leq Nig	tht	Ldn	CNEL
Autos:	71.8	69.	9	68.1		62.1	70.7	
Medium Trucks:	65.4	63.	9	57.5		56.0	64.4	64.7
Heavy Trucks:	65.8	64.	4	55.3		56.6	64.9	
Vehicle Noise:	73.5	71.	.8	68.7		63.9	72.5	72.9
Centerline Distance to	Noise Cont	our (in feet)						
			70	dBA	65 dB	4	60 dBA	55 dBA
		Ldi CNFI		58 33	126 135		271 292	585 628

	FHW	/A-RD-77-108	HIGH	WAY	NOISE PR	REDICT	ION MO	DEL							
Road Name: La	Scenario: HY (2045) Road Name: Lakeview Av. Road Segment: s/o Bastanchury Rd.						Project Name: Yorba Linda Housing Elem Job Number: 13763								
SITE SPE	CIFIC IN	PUT DATA			NOISE MODEL INPUTS										
Highway Data					Site Conditions (Hard = 10, Soft = 15)										
Average Daily Traffi	c (Adt):	9,100 vehicle	s					Autos:	15						
Peak Hour Perc	entage:	10.00%			Med	dium Ti	ucks (2)	Axles):	15						
Peak Hour V	/olume:	910 vehicle	s		Hea	avy Tru	cks (3+)	Axles):	15						
Vehicle	,	45 mph		ŀ	Vehicle Mix										
Near/Far Lane Di	stance:	36 feet		ŀ	VehicleType Day Evening Night Da										
Site Data							Autos:	77.5%	12.9%	9.6%	97.429				
Barrier	Heiaht:	0.0 feet			Me	edium 1	rucks:	84.8%	4.9%	10.3%	1.84%				
Barrier Type (0-Wall, 1		0.0			E	leavy 1	rucks:	86.5%	2.7%	10.8%	0.74%				
Centerline Dist. to	Barrier:	40.0 feet		F	Noise So	urco F	lovation	s (in f	oot)						
Centerline Dist. to Ol	server:	40.0 feet		ŀ	110130 00	Auto		000							
Barrier Distance to Ot	server:	0.0 feet			Mediur			000							
Observer Height (Abov	re Pad):	5.0 feet				y Truck		006	Grade Ac	liustment	0.0				
Pad Ele	evation:	0.0 feet								,					
Road Ele	evation:	0.0 feet			Lane Equ				feet)						
	Grade:	0.0%				Auto		847							
	ft View:	-90.0 degree			Mediur			735							
Rigl	nt View:	90.0 degre	es		Heav	y Trucł	(s: 35.	847							
FHWA Noise Model Ca	lculations														
VehicleType RI	EMEL	Traffic Flow	Dis	tance	Finite	Road	Fresr	nel	Barrier At	en Ber	m Atten				
Autos:	68.46	-2.36		2.0		-1.20		-4.83		000	0.00				
Medium Trucks:	79.45	-19.60		2.0		-1.20		-5.08		000	0.00				
Heavy Trucks:	84.25	-23.55		2.0	06	-1.20		-5.56	0.	000	0.00				
Unmitigated Noise Lev					,			1							
,, , , ,	Peak Hou			Leq E	vening	Leq	Night		Ldn		NEL				
Autos:	67.	-	65.1		63.3		57.2	-	65.	-	66.				
Medium Trucks:	60.	-	59.2		52.9		51.3		59.		60.				
Heavy Trucks:	61.	-	60.1		51.1		52.4		60.		60.				
Vehicle Noise:	68.	-	67.1		63.9		59.3	2	67.	5	68.				
Centerline Distance to	Noise Co	ntour (in feet)	70	-/0.4	05	-104	ı .	00-104		-10.4				
			Ldn:		dBA 28		dBA 51		60 dBA 132		dBA 84				
									132		04				

		TA-1(B-11-10			NUISE PI	REDICTIO								
	o: HY (2045) e: Bastanchur	v Rd				Project N Job Nun			inda Hou	sing Elen	n			
Road Segmer		,				000 1441	1001. 1	0/00						
	SPECIFIC IN	PUT DATA			NOISE MODEL INPUTS Site Conditions (Hard = 10, Soft = 15)									
Highway Data					Site Con	ditions (H	ard =	10, So	ft = 15)					
Average Daily	Traffic (Adt):	17,600 vehicle	es				A	lutos:	15					
Peak Hour	Percentage:	10.00%			Me	dium Truci	ks (2 A	xles):	15					
Peak H	our Volume:	1,760 vehicle	es		He	avy Trucks	s (3+ A	xles):	15					
	nicle Speed:	50 mph		ŀ	Vehicle I	Mix								
Near/Far Lar	ne Distance:	50 feet		ŀ	Veh	icleType	l	Day	Evening	Night	Daily			
Site Data						Au	tos: 1	77.5%	12.9%	9.6%	97.42			
Rar	rier Heiaht:	0.0 feet			M	edium Truc	cks: 8	34.8%	4.9%	10.3%	1.84			
Barrier Type (0-W	all, 1-Berm):	0.0			ŀ	leavy Truc	cks: 8	36.5%	2.7%	10.8%	0.74			
Centerline Dis		40.0 feet		ľ	Noise Sc	ource Elev	ations	(in fe	et)					
Centerline Dist.		40.0 feet		ľ		Autos:	2.0	00						
Barrier Distance		0.0 feet			Mediu	m Trucks:	4.0	00						
Observer Height (J	,	5.0 feet			Heav	v Trucks:	8.0	06	Grade Ad	justment	: 0.0			
	d Elevation:	0.0 feet		-										
	d Elevation:	0.0 feet		-	Lane Eq	uivalent D			eet)					
ŀ	Road Grade:	0.0%			1 4 K	Autos:	31.3							
	Left View: Right View:	-90.0 degre 90.0 degre				m Trucks: ry Trucks:	31.2 31.3							
FHWA Noise Mode	l Calculation	5												
VehicleType	REMEL	Traffic Flow	Di	stance	Finite	Road	Fresne	el I	Barrier Att	en Ber	m Atter			
Autos:	70.20	0.05	5	2.9	93	-1.20		4.83	0.0	000	0.0			
Medium Trucks:	81.00	-17.19	9	2.9	96	-1.20	-	5.08	0.0	000	0.0			
Heavy Trucks:	85.38	-21.15	5	2.9	93	-1.20		5.56	0.0	000	0.0			
Unmitigated Noise														
	Leq Peak Hou		/	Leq E	vening	Leq Ni			Ldn		NEL			
Autos:	72		70.1		68.3		62.3		70.9	-	71			
Medium Trucks:	65		64.1		57.7		56.2		64.6	-	64			
Heavy Trucks:	66		64.5		55.5		56.8		65.1	-	65			
Vehicle Noise:	73		71.9		68.9		64.1		72.6	6	73			
Centerline Distanc	e to Noise Co	ontour (in fee	t)	=0	10.4	05.15					10.4			
			[dBA	65 dE	Ю		0 dBA		dBA			
			Ldn: NEL:		30 35	129 139			279 300	-	01 45			

FHWA-RD-77-1	08 HIGHWA	Y NOISE P	REDICTION	MODEL						
Scenario: HY (2045) Road Name: Bastanchury Rd. Road Segment: e/o Lakeview Av.		Project Name: Yorba Linda Housing Elem Job Number: 13763								
SITE SPECIFIC INPUT DAT	A		NOIS	E MODE	L INPUTS					
Highway Data		Site Con	nditions (Har	d = 10, Se	oft = 15)					
Average Daily Traffic (Adt): 19,850 vehi	les			Autos:	15					
Peak Hour Percentage: 10.00%		Me	edium Trucks	(2 Axles)	15					
Peak Hour Volume: 1,985 vehi	les	He	avy Trucks (3+ Axles):	15					
Vehicle Speed: 50 mph		Vehicle	Mix							
Near/Far Lane Distance: 50 feet			nicleType	Dav	Evening	Night Daily				
Site Data		Ven	Autos		•	9.6% 97.42%				
			ledium Trucks			10.3% 1.84%				
Barrier Height: 0.0 fee Barrier Type (0-Wall, 1-Berm): 0.0			Heavy Trucks			10.8% 0.74%				
Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 40.0 fee			noury muone		2.170	10.070 0.117				
Centerline Dist. to Observer: 40.0 fee		Noise Se	ource Elevat	ions (in f	eet)					
Barrier Distance to Observer: 0.0 fee			Autos:	2.000						
Observer Height (Above Pad): 5.0 fee		Mediu	m Trucks:	4.000						
Pad Elevation: 0.0 fee		Hear	vy Trucks:	8.006	Grade Adjı	istment: 0.0				
Road Elevation: 0.0 fee		Lane Eq	uivalent Dis	tance (in	feet)					
Road Grade: 0.0%			Autos:	31.369						
Left View: -90.0 dec	rooc	Mediu	m Trucks:	31.241						
Right View: 90.0 deg				31.369						
FHWA Noise Model Calculations										
VehicleType REMEL Traffic Flo	v Distant	ce Finite		resnel	Barrier Atte	n Berm Atten				
Autos: 70.20 0.	57	2.93	-1.20	-4.83	0.00	00.00				
Medium Trucks: 81.00 -16.		2.96	-1.20	-5.08	0.00					
Heavy Trucks: 85.38 -20.	63	2.93	-1.20	-5.56	0.0	0.00				
Unmitigated Noise Levels (without Topo a										
VehicleType Leq Peak Hour Leq I	,	q Evening	Leq Nigh		Ldn	CNEL				
Autos: 72.5	70.6	68.8		62.8	71.4	72.				
Medium Trucks: 66.1	64.6	58.2		56.7	65.1	65.4				
Heavy Trucks: 66.5	65.1	56.0		57.3	65.6	65.8				
Vehicle Noise: 74.2	72.5	69.4		64.6	73.2	73.6				
Centerline Distance to Noise Contour (in f		70 /04	05 104			<i>cc</i> 10.4				
		70 dBA	65 dBA		60 dBA	55 dBA				
	Ldn:	65	140		302	651				
	CNEL:	70	151		325	699				

Thursday, May 19, 2022

Thursday, May 19, 2022

	FH	WA-RD-77-108	B HIGH	IWAY N	DISE PF	REDICTIO	N MOI	DEL					
	e: HY (2045) e: Lakeview A t: n/o Yorba I				Project Name: Yorba Linda Housing Elem Job Number: 13763								
SITE S	PECIFIC IN	NPUT DATA				NC	ISE N	IODEI		5			
Highway Data				S	ite Con	ditions (H	lard =	10, So	ft = 15)				
Average Daily T Peak Hour F Peak Ho	, ,	14,350 vehicle 10.00% 1,435 vehicle				dium Truc avy Truck	ks (2 A	/	15 15 15				
Veh	icle Speed:	45 mph		v	ehicle I	Mix							
Near/Far Lan	e Distance:	36 feet		-		icleType		Dav	Evening	Night	Daily		
Site Data								77.5%	12.9%	9.6%			
Barı	ier Height:	0.0 feet				edium Tru		84.8%	4.9%	10.3%	1.84%		
Barrier Type (0-Wa	ll, 1-Berm):	0.0			ŀ	leavy Tru	cks:	86.5%	2.7%	10.8%	0.74%		
Centerline Dist	t. to Barrier:	40.0 feet		N	oise So	ource Elev	ations	íin fe	et)				
Centerline Dist. te	o Observer:	40.0 feet		-		Autos:							
Barrier Distance to	o Observer:	0.0 feet			Mediu	m Trucks:	4.0						
Observer Height (A	,	5.0 feet				v Trucks:	8.0		Grade Adj	ustment	: 0.0		
	d Elevation:	0.0 feet		-									
	d Elevation:	0.0 feet		L	ane Equ	uivalent D			eet)				
R	oad Grade:	0.0%				Autos:	35.8						
	Left View: Right View:	-90.0 degre 90.0 degre				m Trucks: vy Trucks:	35.7 35.8						
FHWA Noise Model	÷												
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fresn		Barrier Atte	an Bar	m Atten		
Autos:	68.46			2.06	1 mile	-1.20		-4.83	0.0		0.00		
Medium Trucks:	79.45			2.08		-1.20		-5.08	0.0		0.00		
Heavy Trucks:	84.25	-21.58		2.06		-1.20		5.56	0.0	00	0.00		
Unmitigated Noise	Levels (with	out Topo and	barrie	er attenu	ation)								
VehicleType I	eq Peak Ho	ur Leq Da	y	Leg Ev	ening	Leg Ni	ight		Ldn	C	NEL		
Autos:	68	3.9	67.0		65.3		59.2		67.8	l	68.		
Medium Trucks:	62	2.7	61.2		54.8		53.3		61.8		62.		
Heavy Trucks:	63	3.5	62.1		53.1		54.3		62.7		62.		
Vehicle Noise:	70	0.8	69.0		65.9		61.2		69.8		70.		
Centerline Distance	e to Noise C	ontour (in fee	t)										
			L	70 d		65 dE	SA	6	0 dBA		dBA		
		-	Ldn:	39		83			179		85		
		C	NEL:	41		89			192	4	13		

	FHW	/A-RD-77-108	HIGH	IWAY	NOISE PR	EDICT		DEL								
Road Name: Lak	Scenario: HY (2045) Road Name: Lakeview Av. Road Segment: s/o Yorba Linda Bl.						Project Name: Yorba Linda Housing Elem Job Number: 13763									
SITE SPEC	IFIC INI	PUT DATA			NOISE MODEL INPUTS											
Highway Data					Site Conditions (Hard = 10, Soft = 15)											
Average Daily Traffic	(Adt): 1	6,250 vehicle	s					Autos:	15							
Peak Hour Perce	ntage:	10.00%			Med	dium Ti	ucks (2	Axles):	15							
Peak Hour Vo	olume:	1,625 vehicle	s		Hea	avy Tru	cks (3+ .	Axles):	15							
Vehicle S	,	45 mph		F	Vehicle Mix											
Near/Far Lane Dis	tance:	52 feet		ŀ	Vehi	cleTyp	9	Day	Evening	Night	Daily					
Site Data							Autos:	77.5%	12.9%	9.6%	97.429					
Barrier H	eiaht:	0.0 feet			Me	edium 1	rucks:	84.8%	4.9%	10.3%	1.84%					
Barrier Type (0-Wall, 1-L		0.0			H	leavy 1	rucks:	86.5%	5 2.7%	10.8%	0.74%					
Centerline Dist. to E	arrier:	50.0 feet		F	Noise So	urco F	lovation	s (in fi	oot)							
Centerline Dist. to Obs	erver:	50.0 feet		ŀ	110130 00	Auto		000								
Barrier Distance to Obs	erver:	0.0 feet			Mediur			000								
Observer Height (Above	Pad):	5.0 feet				y Truck		006	Grade Ac	liustment	0.0					
Pad Eler	vation:	0.0 feet		-						,						
Road Eler	vation:	0.0 feet		-	Lane Equ				feet)							
Road 0		0.0%				Auto		814								
	View:	-90.0 degre			Mediur			720								
Right	View:	90.0 degre	es		Heav	y Truck	(S: 42	814								
FHWA Noise Model Cald	ulations															
VehicleType RE	MEL	Traffic Flow	Dis	stance	Finite	Road	Fresi	nel	Barrier At	ten Ber	m Atten					
Autos:	68.46	0.16		0.9		-1.20		-4.84		000	0.00					
Medium Trucks:	79.45	-17.08		0.9		-1.20		-5.04		000	0.00					
Heavy Trucks:	84.25	-21.04		0.9	91	-1.20		-5.43	0.	000	0.00					
Unmitigated Noise Leve					,											
, , , , ,	eak Hour			Leq E	vening	Leq	Night		Ldn		NEL					
Autos:	68.	-	66.4		64.7		58.		67.	-	67.					
Medium Trucks:	62.		60.6		54.2		52.		61.		61.					
Heavy Trucks:	62.	-	61.5		52.5		53.		62.		62.					
Vehicle Noise:	70.:	-	68.4		65.3		60.	ö	69.	1	69.					
Centerline Distance to N	loise Co	ntour (in feet)	70	dDA	67	dD A		0 dD4		dD A					
			Ldn:		dBA 14		<i>dBA</i> 94		60 dBA 203		dBA 38					
			i an'				34		∠03	4	-30					

			REDICTION									
Scenario: HY (2045)					Linda Hou:	sing Elen	n					
Road Name: Yorba Linda Bl.			JOD NUM	ber: 13763								
Road Segment: w/o Lakeview Av.												
SITE SPECIFIC INPUT DATA					L INPUT	s						
Highway Data		Site Con	ditions (Ha	ard = 10, S	oft = 15)							
Average Daily Traffic (Adt): 24,750 vehicles				Autos	15							
Peak Hour Percentage: 10.00%		Me	dium Truck	s (2 Axles)	15							
Peak Hour Volume: 2,475 vehicles		He	avy Trucks	(3+ Axles)	15							
Vehicle Speed: 50 mph		Vehicle	Mix									
Near/Far Lane Distance: 74 feet			icleType	Dav	Evening	Night	Daily					
Site Data	-		Aut	os: 77.5%	6 12.9%	9.6%	97.42					
Barrier Height: 0.0 feet	-	М	edium Truc	ks: 84.8%	6 4.9%	10.3%	1.84					
Barrier Type (0-Wall, 1-Berm): 0.0		1	Heavy Truc	ks: 86.5%	6 2.7%	10.8%	0.74					
Centerline Dist. to Barrier: 50.0 feet		Noise So	ource Eleva	ations (in f	eet)							
Centerline Dist. to Observer: 50.0 feet			Autos:	2.000								
Barrier Distance to Observer: 0.0 feet		Mediu	m Trucks:	4.000								
Observer Height (Above Pad): 5.0 feet		Hear	/y Trucks:	8.006	Grade Ad	justment	: 0.0					
Pad Elevation: 0.0 feet		Laws Fr	·	- 4	641							
Road Elevation: 0.0 feet		Lane Eq	uivalent Di Autos:	33.764	reet)							
Road Grade: 0.0%		Madiu	m Trucks:	33.645								
Left View: -90.0 degrees Right View: 90.0 degrees			/y Trucks:	33.764								
FHWA Noise Model Calculations			-									
	Distance	Finite	Road	resnel	Barrier Att	en Ber	m Atter					
Autos: 70.20 1.53	2.	.45	-1.20	-4.84	0.0	000	0.0					
Medium Trucks: 81.00 -15.71	2.	.48	-1.20	-5.04	0.0	000	0.0					
Heavy Trucks: 85.38 -19.67	2.	.45	-1.20	-5.43	0.0	000	0.0					
Unmitigated Noise Levels (without Topo and bar		,										
VehicleType Leq Peak Hour Leq Day Autos: 73.0 71.	,	Evening	Leq Nig		Ldn		VEL					
		69.3 58.7		63.3 57.2	71.9 65.6	-	72 65					
	1	58.7 56.5				-	65					
Medium Trucks: 66.6 65.	c .			57.8	66.1		74					
Medium Trucks: 66.6 65. Heavy Trucks: 67.0 65.												
Medium Trucks: 66.6 65. Heavy Trucks: 67.0 65. Vehicle Noise: 74.7 72.		69.9		65.1	73.6	J	14					
Medium Trucks: 66.6 65. Heavy Trucks: 67.0 65.	9	69.9				-						
Medium Trucks: 66.6 65. Heavy Trucks: 67.0 65. Vehicle Noise: 74.7 72.	9		65 dB/ 189		73.0 60 dBA 406	- 55	dBA					

	FHW	A-RD-77-108 HIG	HWAY	NOISE PI	REDICT	ION MO	DEL					
Road Nam	io: HY (2045) ne: Bastanchury nt: w/o Fairmont			Project Name: Yorba Linda Housing Elem Job Number: 13763								
SITE	SPECIFIC INF	PUT DATA						L INPUTS	5			
Highway Data				Site Con	ditions	(Hard =	10, So	oft = 15)				
Average Daily	Traffic (Adt): 16	0,900 vehicles				,	Autos:	15				
Peak Hour	Percentage: 1	0.00%		Me	dium Tr	ucks (2 A	xles):	15				
Peak H	lour Volume: 1	,690 vehicles		He	avy Tru	cks (3+ A	xles):	15				
Ve	hicle Speed:	50 mph		Vehicle	Mix							
Near/Far La	ne Distance:	50 feet			icleType		Day	Evening	Night	Daily		
Site Data				Ven			77.5%	•	9.6%			
				м	, edium T		84.8%		10.3%	1.84%		
	rrier Height:	0.0 feet 0.0			Heavy T		86.5%		10.8%	0.74%		
Barrier Type (0-W Centerline Dis	. ,	40.0 feet							10.070	0.7 170		
Centerline Dist.		40.0 feet		Noise Se			s (in fe	eet)				
Barrier Distance		0.0 feet			Auto		000					
Observer Height (5.0 feet		Mediu	m Truck		000					
	ad Flevation:	0.0 feet		Hear	vy Truck	s: 8.0	006	Grade Adj	ustment	: 0.0		
	ad Elevation:	0.0 feet		Lane Eq	uivalent	Distand	e (in	feet)				
	Road Grade:	0.0%			Auto							
	Left View:	-90.0 degrees		Mediu	m Truck							
	Right View:	90.0 degrees			vy Truck							
FHWA Noise Mode	el Calculations											
VehicleType		Traffic Flow D	istance	Finite	Road	Fresn	el	Barrier Atte	en Ber	m Atten		
Autos:	70.20	-0.13	2.9	93	-1.20		-4.83	0.0	00	0.000		
Medium Trucks:	81.00	-17.37	2.9	96	-1.20		-5.08	0.0	00	0.000		
Heavy Trucks:	85.38	-21.32	2.9	93	-1.20		-5.56	0.0	00	0.000		
Unmitigated Noise	e Levels (witho	ut Topo and barr	ier attei	nuation)								
VehicleType	Leq Peak Hour	Leq Day	Leq E	vening	Leq	Night		Ldn		VEL		
Autos:	71.8	69.9		68.1		62.1		70.7		71.3		
Medium Trucks:	65.4			57.5		56.0		64.4		64.7		
Heavy Trucks:	65.8	64.4		55.3		56.6		64.9		65.1		
Vehicle Noise:	73.5	5 71.8		68.7		63.9		72.5		72.9		
Centerline Distance	ce to Noise Cor	ntour (in feet)										
				dBA		dBA	6	60 dBA		dBA		
		Ldn		58		26		271	-	85		
		CNEL	. (63	1	35		292	6	28		

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	FHWA	-RD-77-108	HIGHWA	Y NO	DISE PR	REDICTIO	ON MO	DEL				
Scenario: HY Road Name: Gy Road Segment: s/o	psum Cany			Project Name: Yorba Linda Housing Elem Job Number: 13763								
SITE SPEC	IFIC INP	UT DATA				N	DISE N	/ODE	L INPUT	s		
Highway Data				S	te Con	ditions (l	Hard =	10, So	oft = 15)			
Average Daily Traffic Peak Hour Perce Peak Hour Vo	ntage: 10	600 vehicles).00% 260 vehicles				dium Truc avy Truck	cks (2 A	/	15 15 15			
Vehicle S	Speed:	45 mph		V	ehicle I	Nix						
Near/Far Lane Dis	tance:	36 feet		-		cleType		Dav	Evening	Night	Daily	
Site Data								77.5%	0	9.6%		
Barrier H	la ice h tu	0.0 feet			Me	edium Tru	icks:	84.8%	4.9%	10.3%	1.849	
Barrier Type (0-Wall, 1-	•	0.0			ŀ	leavy Tru	icks:	86.5%	2.7%	10.8%		
Centerline Dist. to E		40.0 feet		N	oise So	urce Ele	vation	s (in fe	et)			
Centerline Dist. to Obs	server:	40.0 feet				Autos		000	.,			
Barrier Distance to Obs	server:	0.0 feet			Mediur	n Trucks	4.0	000				
Observer Height (Above	e Pad):	5.0 feet			Heav	v Trucks	8.0	006	Grade Ad	iustmen	t: 0.0	
Pad Ele	vation:	0.0 feet					-					
Road Ele	vation:	0.0 feet		Li	ane Equ	uivalent			'eet)			
Road (Grade:	0.0%				Autos.						
	t View: t View:	-90.0 degree 90.0 degree				n Trucks. v Trucks.						
FHWA Noise Model Calo		50.0 dog.00				,						
		raffic Flow	Distan		Finite	Dood	Fresn		Barrier Att	on Bo	rm Atten	
Autos:	68.46	1.59		2.06	Fillite	-1.20		-4.83		еп <u>ве</u>)00	0.00	
Medium Trucks:	79.45	-15.65		2.08		-1.20		-4.03		000	0.00	
Heavy Trucks:	84.25	-19.60		2.00		-1.20		-5.56		000	0.00	
Unmitigated Noise Leve	ls (withou	t Topo and I	barrier at	tenu	ation)							
	eak Hour	Leg Day			ening	Leg N	light		Ldn	C	NEL	
Autos:	70.9	1 1	69.0		67.2	,	61.2	2	69.8	3	70.	
Medium Trucks:	64.7	6	33.2		56.8		55.3	5	63.7	7	64.	
Heavy Trucks:	65.5	6	64.1		55.1		56.3	5	64.7	7	64.	
Vehicle Noise:	72.8	7	71.0		67.9		63.2	2	71.7	7	72.	
Centerline Distance to N	loise Con	our (in feet)										
				70 dł	BA	65 d		6	i0 dBA		ō dBA	
			dn:	52		11:			242		521	
		CA	IEL:	56		12	D		260	1	559	

	FHW	/A-RD-77-108	HIGHW.	AY NO	ISE PREDIC		DEL						
Road Nan	rio: HY (2045) ne: La Palma A nt: e/o Gypsum			Project Name: Yorba Linda Housing Elem Job Number: 13763									
SITE	SPECIFIC IN	PUT DATA		NOISE MODEL INPUTS									
Highway Data				Site Conditions (Hard = 10, Soft = 15)									
Average Daily	Traffic (Adt): 1	5,550 vehicles	5				Autos:	15					
Peak Hour	Percentage:	10.00%			Medium T	rucks (2 /	(<i>xles</i>)	15					
Peak H	lour Volume:	1,555 vehicles	6		Heavy Tru	ıcks (3+ /	Axles):	15					
Ve	hicle Speed:	50 mph		Ve	hicle Mix								
Near/Far La	ne Distance:	50 feet		VehicleType Day Evening Night Da									
Site Data						Autos:	77.5%	12.9%	9.6%	97.429			
Ba	rrier Height:	0.0 feet			Medium	Frucks:	84.8%	4.9%	10.3%	1.849			
Barrier Type (0-V	•	0.0			Heavy	Frucks:	86.5%	2.7%	10.8%	0.749			
Centerline Di	ist. to Barrier:	40.0 feet		No	ise Source E	lovation	e (in f	not)					
Centerline Dist.	to Observer:	40.0 feet		740	Auto		000	eel)					
Barrier Distance	to Observer:	0.0 feet			Medium Truc		000						
Observer Height	(Above Pad):	5.0 feet			Heavy Truc		006	Grade Ad	iustment	0.0			
P	ad Elevation:	0.0 feet			,								
	ad Elevation:	0.0 feet		La	ne Equivaler			feet)					
	Road Grade:	0.0%			Aut								
	Left View:	-90.0 degree			Medium Truc								
	Right View:	90.0 degree	es		Heavy Truc	ks: 31.	369						
FHWA Noise Mod	el Calculations	;											
VehicleType	REMEL	Traffic Flow	Distar		Finite Road	Fresh	iel	Barrier Att	en Ber	m Atten			
Autos:		-0.49		2.93	-1.20		-4.83		000	0.00			
Medium Trucks:		-17.73		2.96	-1.20		-5.08		000	0.00			
Heavy Trucks:	85.38	-21.69		2.93	-1.20		-5.56	0.0	000	0.00			
Unmitigated Nois													
VehicleType	Leq Peak Hou			eq Eve		Night		Ldn		NEL			
Autos:			69.5		67.8	61.7		70.3		71.			
Medium Trucks:			63.5		57.2	55.6		64.1		64.			
Heavy Trucks: Vehicle Noise:			64.0		55.0	56.2		64.6		64.			
			71.4		68.3	63.6	5	72.1	1	72			
Centerline Distan	ce to Noise Co	ntour (in feet,)	=0.10						10.4			
			Ldn:	70 dB		dBA		60 dBA 257		dBA 53			

FHWA-RD-77-108 HI	HWAY NOISE PREDICTION MODEL	
Scenario: HY+P (2045) Road Name: Rose Dr. Road Segment: s/o Imperial Hwy.	Project Name: Yorba Linda Housing Elem Job Number: 13763	
SITE SPECIFIC INPUT DATA	NOISE MODEL INPUTS	
Highway Data	Site Conditions (Hard = 10, Soft = 15)	
Average Daily Traffic (Adt): 15,500 vehicles	Autos: 15	
Peak Hour Percentage: 10.00%	Medium Trucks (2 Axles): 15	
Peak Hour Volume: 1,550 vehicles	Heavy Trucks (3+ Axles): 15	
Vehicle Speed: 50 mph	Vehicle Mix	
Near/Far Lane Distance: 50 feet		Dailv
Site Data	, , , , , , , , , , , , , , , , , , ,	7.42
Barrier Height: 0.0 feet	Medium Trucks: 84.8% 4.9% 10.3% 1	1.84
Barrier Type (0-Wall, 1-Berm): 0.0	Heavy Trucks: 86.5% 2.7% 10.8% 0	0.74
Centerline Dist. to Barrier: 40.0 feet	Noise Source Elevations (in feet)	
Centerline Dist. to Observer: 40.0 feet	Autos: 2.000	
Barrier Distance to Observer: 0.0 feet	Medium Trucks: 4.000	
Observer Height (Above Pad): 5.0 feet	Heavy Trucks: 8.006 Grade Adjustment: 0.	0
Pad Elevation: 0.0 feet		
Road Elevation: 0.0 feet	Lane Equivalent Distance (in feet)	
Road Grade: 0.0%	Autos: 31.369 Medium Trucks: 31.241	
Left View: -90.0 degrees Right View: 90.0 degrees	Medium Trucks: 31.241 Heavy Trucks: 31.369	
FHWA Noise Model Calculations		
VehicleType REMEL Traffic Flow	stance Finite Road Fresnel Barrier Atten Berm A	Atter
Autos: 70.20 -0.51	2.93 -1.20 -4.83 0.000	0.00
Medium Trucks: 81.00 -17.74	2.96 -1.20 -5.08 0.000	0.00
Heavy Trucks: 85.38 -21.70	2.93 -1.20 -5.56 0.000	0.00
Unmitigated Noise Levels (without Topo and bar	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
VehicleType Leq Peak Hour Leq Day Autos: 71.4 69	Leq Evening Leq Night Ldn CNEL	70
Autos: 71.4 69. Medium Trucks: 65.0 63.	57.1 55.6 64.1	70 64
Heavy Trucks: 65.0 63.	55.0 56.2 64.6	64 64
Vehicle Noise: 73.1 71	68.3 63.5 72.1	72
Centerline Distance to Noise Contour (in feet)		
	70 dBA 65 dBA 60 dBA 55 dB	A
l di	55 119 256 552	

FHWA-RD-	77-108 HIGHWA	Y NOISE PREI	DICTION MODEL							
Scenario: HY+P (2045) Road Name: Imperial Hwy. Road Segment: e/o Roase Dr.		Project Name: Yorba Linda Housing Elem Job Number: 13763								
SITE SPECIFIC INPUT	АТА		NOISE MODE	L INPUTS						
Highway Data		Site Condit	ions (Hard = 10, S	oft = 15)						
Average Daily Traffic (Adt): 48,400	vehicles		Autos	15						
Peak Hour Percentage: 10.00%	Ď	Mediu	m Trucks (2 Axles)	: 15						
Peak Hour Volume: 4,840	vehicles	Heavy	/ Trucks (3+ Axles)	: 15						
Vehicle Speed: 55	mph	Vehicle Mix								
Near/Far Lane Distance: 74	feet	Vehicle		Evening N	ght Daily					
Site Data		venicie	Autos: 77.5%	•	9.6% 97.42%					
		Medi	um Trucks: 84.8%		0.3% 1.84%					
	feet		avy Trucks: 86.5%		0.3% 1.047					
Barrier Type (0-Wall, 1-Berm): 0.0		1100	ivy 1100k3. 00.07	0 2.770 1	0.070 0.747					
Centerline Dist. to Barrier: 50.0 Centerline Dist. to Observer: 50.0		Noise Sour	ce Elevations (in f	eet)						
	feet		Autos: 2.000							
	feet	Medium 7	Frucks: 4.000							
e ()	feet	Heavy 7	Frucks: 8.006	Grade Adjust	ment: 0.0					
0.0	feet	Lane Equiv	alent Distance (in	feet)						
Road Grade: 0.0			Autos: 33.764							
0.0	degrees	Medium T								
00.0	degrees	Heavy 7								
FHWA Noise Model Calculations										
VehicleType REMEL Traffic	Flow Distanc	e Finite Ro	ad Fresnel	Barrier Atten	Berm Atten					
Autos: 71.78	4.03	2.45 -	1.20 -4.84	0.000	0.00					
Medium Trucks: 82.40	-13.21	2.48 -	1.20 -5.04	0.000	0.00					
Heavy Trucks: 86.40	-17.17	2.45 -	1.20 -5.43	0.000	0.00					
Unmitigated Noise Levels (without Top	o and barrier at	enuation)								
		Evening	Leq Night	Ldn	CNEL					
Autos: 77.1	75.2	73.4	67.3	76.0	76.					
Medium Trucks: 70.5	69.0	62.6	61.1	69.5	69.					
Heavy Trucks: 70.5	69.1	60.0	61.3	69.6	69.					
	76.9	73.9	69.1	77.6	78.					
Vehicle Noise: 78.6										
Vehicle Noise: 78.6 Centerline Distance to Noise Contour (,									
	7	'0 dBA		60 dBA	55 dBA					
	,	70 dBA 161 173	65 dBA 346 372	60 dBA 746 802	55 dBA 1,607 1,729					

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	FH\	NA-RD-77-108	HIGHWAY	' NC	DISE PR	EDICTIO	N MOI	DEL				
	b: HY+P (204 e: Imperial Hv t: w/o Prospe	vy.		Project Name: Yorba Linda Housing Elem Job Number: 13763								
SITE S	PECIFIC IN	IPUT DATA				NO	ISE N	10DE	L INPUTS	;		
Highway Data				Si	te Cond	ditions (H	lard =	10, Sc	oft = 15)			
Average Daily 7	, ,	1						Autos:	15			
Peak Hour F		10.00%				dium Truc			15			
	our Volume:	4,760 vehicles			Hea	avy Truck	s (3+ A	xles):	15			
	icle Speed:	55 mph		Ve	ehicle N	lix						
Near/Far Lan	e Distance:	74 feet			Vehio	cleType		Day	Evening	Night	Daily	
Site Data						Au	tos:	77.5%	12.9%	9.6%	97.429	
Barr	rier Height:	0.0 feet			Me	dium Tru	cks:	84.8%	4.9%	10.3%	1.84%	
Barrier Type (0-Wa	all, 1-Berm):	0.0			н	leavy Tru	cks:	86.5%	2.7%	10.8%	0.74%	
Centerline Dis		50.0 feet		N	oise So	urce Elev	ations	s (in fe	et)			
Centerline Dist. to		50.0 feet				Autos:	2.0	000				
Barrier Distance to		0.0 feet			Mediun	n Trucks:	4.0	000				
Observer Height (A	,	5.0 feet			Heav	v Trucks:	8.0	006	Grade Adj	ustment	t: 0.0	
	d Elevation:	0.0 feet										
	d Elevation:	0.0 feet		Lé	ane Equ	ivalent D			eet)			
R	load Grade:	0.0%				Autos:	33.7					
	Left View:	-90.0 degree				n Trucks:	33.6					
	Right View:	90.0 degree	s		Heavy	y Trucks:	33.7	764				
FHWA Noise Mode		-										
VehicleType	REMEL	Traffic Flow	Distance		Finite I		Fresn		Barrier Atte		rm Atten	
Autos:	71.78		-	.45		-1.20		-4.84	0.0	00	0.00	
Medium Trucks:	82.40		-	.48		-1.20		-5.04	0.0		0.00	
Heavy Trucks:	86.40			.45		-1.20		-5.43	0.0	00	0.00	
Unmitigated Noise					- í -							
	Leq Peak Hou			Eve	ening	Leq Ni	·		Ldn		NEL	
Autos:	77		75.1		73.3		67.3		75.9		76.	
Medium Trucks:	70		68.9		62.5		61.0		69.4		69.	
Heavy Trucks:	70		69.0		60.0		61.2		69.6		69.	
Vehicle Noise:	78		6.8		73.9		69.0		77.5		78.	
Centerline Distance	e to Noise Co	ontour (in feet)	7	0 dF	24	65 dF	24	F	0 dBA	55	dBA	
		,	dn:	159		342		L L	738		589	
			IFI :	171		368			793		709	
		Ch				500			100	1,	105	

FH	WA-RD-77-108	BHIGHW	AY N	OISE PR	EDICT	ION MO	DEL			
Scenario: HY+P (20 Road Name: Imperial H Road Segment: e/o Prosp	wy.					t Name: Number:		Linda Hou	sing Eler	n
SITE SPECIFIC I	NPUT DATA				1	NOISE	NODE	L INPUT	S	
Highway Data			S	Site Cond	ditions	(Hard =	10, Se	oft = 15)		
Average Daily Traffic (Adt):	44,950 vehicle	s					Autos:	15		
Peak Hour Percentage:	10.00%			Med	dium Ti	rucks (2 /	Axles):	15		
Peak Hour Volume:	4,495 vehicle	s		Hea	avy Tru	ıcks (3+ /	Axles):	15		
Vehicle Speed:	55 mph		v	/ehicle N	lix					
Near/Far Lane Distance:	74 feet		F		cleTyp	е	Day	Evening	Night	Daily
Site Data						Autos:	77.5%	12.9%	9.6%	97.429
Barrier Height:	0.0 feet			Me	dium 1	rucks:	84.8%	4.9%	10.3%	1.849
Barrier Type (0-Wall, 1-Berm):	0.0			h	leavy T	rucks:	86.5%	2.7%	10.8%	0.74
Centerline Dist. to Barrier:	50.0 feet			loise So	urco E	lovation	e (in f	not)		
Centerline Dist. to Observer:	50.0 feet		-	10136 30	Auto		000	501)		
Barrier Distance to Observer:	0.0 feet			Mediun			000			
Observer Height (Above Pad):	5.0 feet				y Truck		000	Grade Ad	liustment	0.0
Pad Elevation:	0.0 feet								juounon	0.0
Road Elevation:		L	ane Equ				feet)			
Road Grade:				Auto		764				
Left View:	-90.0 degre			Mediun			645			
Right View:	90.0 degre	es		Heav	y Trucł	ks: 33.	764			
FHWA Noise Model Calculatio	ns									
VehicleType REMEL	Traffic Flow	Dista		Finite I		Fresr		Barrier At		m Atter
Autos: 71.7			2.45		-1.20		-4.84		000	0.00
Medium Trucks: 82.4			2.48		-1.20		-5.04		000	0.00
Heavy Trucks: 86.4) -17.49)	2.45	5	-1.20		-5.43	0.	000	0.00
Unmitigated Noise Levels (wit										
VehicleType Leq Peak Ho			eq Ev	ening	Leq	Night		Ldn		VEL
	6.7	74.8		73.1		67.0		75.		76.
	0.1	68.6		62.3		60.7		69.	-	69
	0.2 8.3	68.7 76.6		59.7 73.6		61.0 68.7		69. 77.		69 77
				73.6		68.	(11.	3	11.
Centerline Distance to Noise C	contour (in fee	t)	70 d	DЛ	e	dBA		60 dBA	FF	dBA
		Ldn:	15			330		710		ава 529
		Lun.	10	0	-			764	1,	023

FI	HWA-RD-77-108 H	IIGHWA	Y NOISE P	REDICTIC	N MO	DEL			
Scenario: HY+P (20 Road Name: Imperial I Road Segment: n/o Basta	łwy.			Project N Job Nui			Linda Hou	sing Elen	n
SITE SPECIFIC	INPUT DATA						l input	s	
Highway Data			Site Cor	nditions (H	lard =	10, So	oft = 15)		
Average Daily Traffic (Adt):	44,950 vehicles					Autos:	15		
Peak Hour Percentage:	10.00%		M	edium Truc	:ks (2 A	(xles):	15		
Peak Hour Volume:	4,495 vehicles		H	eavy Truck	:s (3+ A	(xles)	15		
Vehicle Speed:	55 mph		Vehicle	Mix					
Near/Far Lane Distance:	74 feet		Vel	nicleType		Day	Evening	Night	Daily
Site Data				AL	itos:	77.5%	12.9%	9.6%	97.42
Barrier Height:	0.0 feet		N	ledium Tru	cks:	84.8%	4.9%	10.3%	1.84
Barrier Type (0-Wall, 1-Berm):				Heavy Tru	cks:	86.5%	2.7%	10.8%	0.74
Centerline Dist. to Barrier:			Noise S	ource Elev	vation	s (in fe	et)		
Centerline Dist. to Observer:				Autos:		000			
Barrier Distance to Observer:			Medii	m Trucks:	4.0	000			
Observer Height (Above Pad):				vv Trucks:		006	Grade Ad	justment	: 0.0
Pad Elevation:		_							
Road Elevation:	0.0 1000		Lane Eq	uivalent L			eet)		
Road Grade:				Autos:					
Left View: Right View:	00.0 009.000			ım Trucks: vy Trucks:	00.				
FHWA Noise Model Calculatio	-								
VehicleType REMEL	Traffic Flow	Distanc	e Finite	Road	Fresn	el	Barrier Att	en Ber	m Atter
Autos: 71.7	8 3.70	2	2.45	-1.20		-4.84	0.0	000	0.00
Medium Trucks: 82.4	0 -13.53	2	2.48	-1.20		-5.04	0.0	000	0.00
Heavy Trucks: 86.4	0 -17.49	2	2.45	-1.20		-5.43	0.0	000	0.00
Unmitigated Noise Levels (with	hout Topo and b	arrier att	enuation)						
VehicleType Leq Peak H			l Evening	Leq N	<u> </u>		Ldn		NEL
710100.	0.1	4.8	73.1		67.0		75.	-	76
	••••	8.6	62.3		60.7		69.	-	69
		8.7	59.7		61.0		69.	-	69
Vehicle Noise:	78.3 7	6.6	73.6	1	68.7		77.	3	77
Centerline Distance to Noise	Contour (in feet)					-			
			70 dBA	65 dE		6	0 dBA		dBA
		dn:	153	330			710		529
	CN	EL:	165	354	ŀ		764	1,	645

FHWA-RD-77-1	08 HIGHWA`	Y NOISE PI	REDICTION MO	DEL		
Scenario: HY+P (2045) Road Name: Bastanchury Rd. Road Segment: w/o Imperial Hwy.			Project Name: Job Number:		Linda Housi	ing Elem
SITE SPECIFIC INPUT DATA	Ą		NOISE	MODE	L INPUTS	
Highway Data		Site Con	ditions (Hard =	= 10, Sc	oft = 15)	
Average Daily Traffic (Adt): 21,100 vehic	les			Autos:	15	
Peak Hour Percentage: 10.00%		Me	edium Trucks (2	Axles):	15	
Peak Hour Volume: 2,110 vehic	les	He	avy Trucks (3+	Axles):	15	
Vehicle Speed: 50 mph		Vehicle	Mise			
Near/Far Lane Distance: 50 feet			icleType	Dav	Evening	Night Daily
Site Data		ven	Autos:	77.5%	•	Night Daily 9.6% 97.42%
			edium Trucks:	84.8%		9.6% 97.42%
Barrier Height: 0.0 feet				86.5%		10.3% 1.84%
Barrier Type (0-Wall, 1-Berm): 0.0			Heavy Trucks:	00.5%	2.170	10.0% 0.74%
Centerline Dist. to Barrier: 40.0 feet		Noise Se	ource Elevation	ns (in fe	eet)	
Centerline Dist. to Observer: 40.0 feet			Autos: 2	.000		
Barrier Distance to Observer: 0.0 feet		Mediu	m Trucks: 4	.000		
Observer Height (Above Pad): 5.0 feet		Hear	vy Trucks: 8	.006	Grade Adju	stment: 0.0
Pad Elevation: 0.0 feet						
Road Elevation: 0.0 feet		Lane Eq	uivalent Distar		reet)	
Road Grade: 0.0%				.369		
Left View: -90.0 deg				.241		
Right View: 90.0 deg	rees	Hear	vy Trucks: 31	.369		
FHWA Noise Model Calculations		-	1			T
VehicleType REMEL Traffic Flow			Road Fres		Barrier Atte	
Autos: 70.20 0.3		2.93	-1.20	-4.83	0.00	
Medium Trucks: 81.00 -16.4		2.96	-1.20	-5.08	0.00	
Heavy Trucks: 85.38 -20.3	36 2	2.93	-1.20	-5.56	0.00	0.00
Unmitigated Noise Levels (without Topo an	nd barrier att	tenuation)				
Unmitigated Noise Levels (without Topo ar VehicleType Leq Peak Hour Leq E		tenuation) Evening	Leq Night		Ldn	CNEL
			1 0	1	Ldn 71.7	CNEL 72.
VehicleType Leq Peak Hour Leq E	Day Leq	Evening	63			-
VehicleType Leq Peak Hour Leq D Autos: 72.8	Day Leq 70.9	Evening 69.1	63. 56.	9	71.7	72.
VehicleType Leq Peak Hour Leq I Autos: 72.8 Medium Trucks: 66.4	Day Leq 70.9 64.8	<i>Evening</i> 69.1 58.5	63 56 57	9 5	71.7 65.4	72. 65.
VehicleType Leq Peak Hour Leq E Autos: 72.8 Medium Trucks: 66.4 Heavy Trucks: 66.8	Day Leq 70.9 64.8 65.3 72.7 wet)	Evening 69.1 58.5 56.3 69.7	63. 56. 57. 64.	9 5 9	71.7 65.4 65.9 73.4	72. 65. 66. 73.
Vehicle Type Leq Peak Hour Leq E Autos: 72.8 Medium Trucks: 66.4 Heavy Trucks: 66.8 Vehicle Noise: 74.5	Day Leq 70.9 64.8 65.3 72.7 Ret) 7	Evening 69.1 58.5 56.3 69.7 70 dBA	63. 56. 57. 64. 65 dBA	9 5 9	71.7 65.4 65.9 73.4	72. 65. 66. 73. 55 dBA
VehicleType Leq Peak Hour Leq E Autos: 72.8 Medium Trucks: 66.4 Heavy Trucks: 66.8 Vehicle Noise: 74.5	Day Leq 70.9 64.8 65.3 72.7 wet)	Evening 69.1 58.5 56.3 69.7	63. 56. 57. 64.	9 5 9	71.7 65.4 65.9 73.4	72. 65. 66. 73.

Thursday, May 19, 2022

Thursday, May 19, 2022

	FHWA-	RD-77-108 H	IIGHW/	AY NO	DISE PF	REDICTIO	ON MO	DEL				
Scenario: HY+I Road Name: Basta Road Segment: e/o Ir	anchury R			Project Name: Yorba Linda Housing Elem Job Number: 13763								
SITE SPECIE	IC INPU	IT DATA				N	DISE N	IODE	L INPUT	s		
Highway Data				S	ite Con	ditions (Hard =	10, So	oft = 15)			
Average Daily Traffic ()	Adt): 24.3	50 vehicles						Autos:	15			
Peak Hour Percent	age: 10	.00%			Me	dium Tru	cks (2 A	(xles):	15			
Peak Hour Volu	ime: 2,4	35 vehicles			He	avy Truci	ks (3+ A	xles):	15			
Vehicle Sp	eed:	50 mph			ehicle I			-				
Near/Far Lane Dista	nce:	50 feet		V		icleType		Dav	Evening	Night	Dailu	
Site Data				_	veni			Day 77.5%	Evening 12.9%	Night 9.6%	Daily 97.42%	
				_		edium Tru		84.8%		10.3%		
Barrier Hei		0.0 feet				leavy Tru		84.8% 86.5%		10.3%		
Barrier Type (0-Wall, 1-Be	,	0.0			r	leavy III	ICKS.	80.3%	2.7%	10.8%	0.74%	
Centerline Dist. to Ba		40.0 feet		N	loise So	urce Ele	vation	s (in fe	eet)			
Centerline Dist. to Obse		40.0 feet				Autos	: 2.0	000				
Barrier Distance to Obse		0.0 feet			Mediur	n Trucks	: 4.0	000				
Observer Height (Above F	,	5.0 feet			Heav	y Trucks	: 8.0	006	Grade Ad	justmen	t: 0.0	
Pad Eleva		0.0 feet				dura la má	Distant		64)			
Road Eleva		0.0 feet		L	ane Equ	uivalent Autos			reet)			
Road Gr		0.0%			Mar allow	n Trucks						
Left V Right V		90.0 degrees 90.0 degrees				n Trucks y Trucks						
FHWA Noise Model Calcu	lations											
VehicleType REM	EL Tr	affic Flow	Distan	се	Finite	Road	Fresn	el	Barrier Att	en Be	rm Atten	
Autos:	70.20	1.46		2.93		-1.20		-4.83	0.0	000	0.00	
Medium Trucks:	81.00	-15.78		2.96		-1.20		-5.08	0.0	000	0.00	
Heavy Trucks:	85.38	-19.74		2.93		-1.20		-5.56	0.0	000	0.00	
Unmitigated Noise Levels	(without	Topo and b	arrier a	ttenu	uation)							
VehicleType Leq Pea	ak Hour	Leq Day	Le	q Ev	ening	Leq N	light		Ldn		NEL	
Autos:	73.4	7	1.5		69.7		63.7		72.3	3	72.	
Medium Trucks:	67.0	-	5.5		59.1		57.6		66.0		66.	
Heavy Trucks:	67.4	-	6.0		56.9		58.2		66.	-	66.	
Vehicle Noise:	75.1		3.3		70.3		65.5		74.	1	74.	
Centerline Distance to No	ise Conto	our (in feet)	-			05						
			. ட	70 di		65 d		6	60 dBA		5 dBA	
			dn:	75		16			346		746	
		CN	EL:	80		17	3		372	-	801	

F	HWA-R	D-77-108 HI	GHWA	Y NOIS	E PREDIC	TION MO	DEL			
Scenario: HY+P (2 Road Name: Imperial Road Segment: n/o Lem	Hwý.					ct Name: Number:		Linda Hous	sing Eler	n
SITE SPECIFIC	INPUT	DATA				NOISE	MODE		S	
Highway Data				Site	Conditions	s (Hard =	= 10, So	oft = 15)		
Average Daily Traffic (Adt,	: 39,80	0 vehicles					Autos:	15		
Peak Hour Percentage	: 10.0	0%			Medium T	rucks (2	Axles):	15		
Peak Hour Volume	: 3,98	0 vehicles			Heavy Tr	ucks (3+	Axles):	15		
Vehicle Speed	: 5	5 mph		Vehi	cle Mix					
Near/Far Lane Distance	: 7	4 feet		Venn	VehicleTvc	e	Dav	Evening	Night	Dailv
Site Data						Autos:	77.5%	•	9.6%	
Barrier Height).0 feet			Medium	Trucks:	84.8%	4.9%	10.3%	1.849
Barrier Type (0-Wall, 1-Berm).0			Heavy	Trucks:	86.5%	2.7%	10.8%	0.749
Centerline Dist. to Barrie).0 feet								
Centerline Dist. to Observe).0 feet		NOIS	e Source E			eet)		
Barrier Distance to Observe).0 feet			Aut		.000			
Observer Height (Above Pad): E	5.0 feet			edium Truc		.000 .006	Grade Ad	i unterno ent	
Pad Elevation	r: 0).0 feet			Heavy Truc	KS: 8	.006	Grade Auj	usunem	0.0
Road Elevation	Road Elevation: 0.0 feet					nt Distar	ice (in	feet)		
Road Grade	e: 0	0.0%			Autos: 33.764					
Left View	90).0 degrees			edium Truc		.645			
Right View	. 90	0.0 degrees		1	Heavy Truc	ks: 33	.764			
FHWA Noise Model Calculati	ons									
VehicleType REMEL			Distanc		inite Road	Fres		Barrier Att		m Atten
Autos: 71.		3.18	-	2.45	-1.20		-4.84		000	0.00
Medium Trucks: 82.		-14.06	-	2.48	-1.20		-5.04		000	0.00
Heavy Trucks: 86.	40	-18.02	2	2.45	-1.20		-5.43	0.0	000	0.00
Unmitigated Noise Levels (w		opo and bai	rier att	enuati						
VehicleType Leq Peak H		Leq Day		Evenii	0	q Night		Ldn		VEL
Autos:	76.2	74.			72.5	66		75.1		75.
Medium Trucks:	69.6	68.			61.7	60.		68.7		68.
Heavy Trucks:	69.6	68.	-		59.2	60.4		68.8		68.
Vehicle Noise:	77.8	76.	0		73.1	68	2	76.8	5	77.
Centerline Distance to Noise	Contou	ır (in feet)			64	5 dBA	4	50 dBA	55	dBA
		Ldı		0 dBA		304		655		410
		Lui		141		304		704	1,	410 517

		5)									
	io: HY+P (204 e: Imperial Hy						Name: lumber:		Linda Hous	sing Elen	n
Road Nam Road Segmer		,				JOD N	umber:	13/03			
÷											
	SPECIFIC IN	IPUT DATA		_					L INPUT	S	
Highway Data				3	ne Con	ditions	(Hara :				
Average Daily	, ,		S					Autos:			
	Percentage:	10.00%				dium Tr avy Tru					
	our Volume: hicle Speed:	3,795 vehicle 55 mph	5		пе	avy mu	UKS (3+	Axies).	15		
Near/Far Lai		74 feet		V	ehicle						
Neal/Fai Lai	le Distance.	74 leet			Veh	icleType	2	Day	Evening	Night	Daily
Site Data							Autos:	77.5%		9.6%	
Bar	rrier Height:	0.0 feet				edium T		84.8%		10.3%	
Barrier Type (0-W	all, 1-Berm):	0.0				Heavy T	rucks:	86.5%	2.7%	10.8%	0.749
Centerline Dis		50.0 feet		N	oise So	ource El	levatio	ıs (in fe	et)		
Centerline Dist.		50.0 feet				Auto	s: 2	.000			
Barrier Distance		0.0 feet			Mediu	m Truck	s: 4	.000			
Observer Height (Above Pad): ad Flevation:	5.0 feet 0.0 feet			Hear	y Truck	s: 8	.006	Grade Ad	iustment	: 0.0
		1	ano Ea	uivalen		nco (in i	foot)				
	ad Elevation: Road Grade:	0.0 feet		-	апе сч	Auto		764	eel)		
,	Left View:	0.0% -90.0 deare			Madiu	m Truck		645			
	Right View:	90.0 degre				v Truck		764			
	rugin tion.	Solo degre				,					
FHWA Noise Mode	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Dista		Finite	Road	Fres		Barrier Atte		m Atten
Autos:	71.78	2.97		2.45		-1.20		-4.84	0.0		0.00
Medium Trucks:	82.40			2.48		-1.20		-5.04		000	0.00
Heavy Trucks:	86.40	-18.22		2.45		-1.20		-5.43	0.0	000	0.00
Unmitigated Noise	Levels (with	out Topo and	barrier	attenu	ation)						
	Leq Peak Ho			Leq Eve		Leq	Night		Ldn		NEL
Autos:		6.0	74.1		72.3		66	-	74.9		75.
Medium Trucks:	69		67.9		61.5		60	-	68.5		68.
Heavy Trucks:	69		68.0		59.0		60	-	68.6		68.
Vehicle Noise:	77	.6	75.8		72.9		68	.0	76.5	5	77.
	e to Noise C	ontour (in feet)								
Centerline Distanc				70 dł	RA	65	dBA	6	60 dBA	55	dBA
Centerline Distanc				70 GL		00					
Centerline Distanc			Ldn:	137			94		634	1,	366

	Y NOISE PREDICTION MODEL
Scenario: HY+P (2045) Road Name: Lakeview Av. Road Segment: n/o Buena Vista Av.	Project Name: Yorba Linda Housing Elem Job Number: 13763
SITE SPECIFIC INPUT DATA	NOISE MODEL INPUTS
Highway Data	Site Conditions (Hard = 10, Soft = 15)
Average Daily Traffic (Adt): 17,400 vehicles	Autos: 15
Peak Hour Percentage: 10.00%	Medium Trucks (2 Axles): 15
Peak Hour Volume: 1,740 vehicles	Heavy Trucks (3+ Axles): 15
Vehicle Speed: 45 mph	Vehicle Mix
Near/Far Lane Distance: 52 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: 50.0 feet	
Centerline Dist. to Observer: 50.0 feet	Noise Source Elevations (in feet)
Barrier Distance to Observer: 0.0 feet	Autos: 2.000
Observer Height (Above Pad): 5.0 feet	Medium Trucks: 4.000 Heavy Trucks: 8.006 Grade Adjustment: 0.0
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: 42.814
Left View: -90.0 degrees	Medium Trucks: 42.720
Right View: 90.0 degrees	Heavy Trucks: 42.814
FHWA Noise Model Calculations	
VehicleType REMEL Traffic Flow Distant	
Autos: 68.46 0.45	0.91 -1.20 -4.84 0.000 0.000
	0.92 -1.20 -5.04 0.000 0.000
Heavy Trucks: 84.25 -20.74	0.91 -1.20 -5.43 0.000 0.000
Unmitigated Noise Levels (without Topo and barrier at	· · · · · · · · · · · · · · · · · · ·
	g Evening Leq Night Ldn CNEL
Autos: 68.6 66.7	65.0 58.9 67.5 68.1
Medium Trucks: 62.4 60.9	54.5 53.0 61.4 61.7
Heavy Trucks: 63.2 61.8	52.8 54.0 62.4 62.5
Vehicle Noise: 70.5 68.7	65.6 60.9 69.4 69.9
Centerline Distance to Noise Contour (in feet)	
	70 dBA 65 dBA 60 dBA 55 dBA
Ldn:	46 99 213 458
CNEL:	49 106 228 491

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Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Dasriver: 50.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees	lem
Road Segment: s/o Buena Vista Av. SITE SPECIFIC INPUT DATA NOISE MODEL INPUTS Highway Data Site Conditions (Hard = 10, Soft = 15) Average Daily Traffic (Adt): 13,400 vehicles Autos: 15 Peak Hour Percentage: 10.00% Autos: 15 Peak Hour Volume: 1,340 vehicles Autos: 15 Vehicle Speed: 45 mph Vehicle Mix Vehicle Mix Vehicle Speed: 45 mph Vehicle Mix 10.29% 9.6 Barrier Height: 0.0 feet Medium Trucks: 84.8% 4.9% 10.3 Barrier Height: 0.0 feet Medium Trucks: 84.8% 4.9% 10.3 Barrier Distance to Observer: 50.0 feet Moles Source Elevations (in feet) Centerline Dist. to Barrier: 50.0 feet Medium Trucks: 4.000 Doserver Height (Above Pad): 5.0 feet Medium Trucks: 4.000 Road Grade: 0.0% Lane Equivalent Distance (in feet) Lane Equivalent Distance (in feet) Road Grade: 0.0% Lane Equivalent Distance (in feet) Heavy Trucks: 4.28.14 WehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten E <th></th>	
SITE SPECIFIC INPUT DATA NOISE MODEL INPUTS Highway Data Site Conditions (Hard = 10, Soft = 15) Average Daily Traffic (Adt): 13,400 vehicles Autos: 15 Peak Hour Porcentage: 10.00% Medium Trucks (2 Akles): 15 Peak Hour Volume: 1,340 vehicles Medium Trucks (2 Akles): 15 Vehicle Speed: 45 mph Medium Trucks (2 Akles): 15 Near/Far Lane Distance: 52 feet Vehicle Type Day Evening Nigh Barrier Height: 0.0 feet Medium Trucks: 84.8% 4.9% 10.3 Barrier Type (O-Wall, 1-Berrn): 0.0 Feet Medium Trucks: 86.5% 2.7% 10.6 Centerline Dist. to Diserver: 50.0 feet Autos: 2.000 Medium Trucks: 86.5% 2.7% 10.6 Diserver Height (Above Pad): 5.0 feet Autos: 2.000 Medium Trucks: 4.000 Heavy Trucks: 8.006 Grade Adjustme Pad Elevation: 0.0 feet Autos: 4.2.814 Medium Trucks: 4.2.814 Medium Trucks: 42.814 Road Grade: 0.0% Lane Equivalent Distance (in feet) Autos: 42.814 Road Grade: 0.0% Lane Equivalent Distance (in feet) Autos: 42.814 Road Grade: 0.0% Lane Equivalent Distance (in feet) Autos: Finite Road Fresnel Barrier Atten	
Highway Data Site Conditions (Hard = 10, Soft = 15) Average Daily Traffic (Adt): 13,400 vehicles Peak Hour Volume: 1,340 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 52 feet Autos: 15 Barrier Height: Site Data 0.0 feet Medium Trucks (3 A Autos): 15 Barrier Height: Ocenterline Dist. to Observer: Deserver Height (Above Pad): 5.0 feet Vehicle Type Day Evening Nigh Barrier Distance to Observer: Deserver Height (Above Pad): 5.0 feet 0.0 feet Noise Source Elevations (In feet) Noise Source Elevations (In feet) Noise Grade Adjustme Road Grade: 0.0% Lattos: 2.700 Medium Trucks: 4.000 Heavy Trucks: 8.006 Grade Adjustme Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees Noise Advis: 42.720 Heavy Trucks: 42.720 Heavy Trucks: 42.814 FHWA Noise Model Calculations Traffic Flow Distance Finite Road Fresnel Barrier Atten E Autos: 79.45 -17.92 0.92 -1.20 -5.04 0.000 Heavy Trucks: 84.25 -21.87 0.91 -1.20 -5.43 0.000 Modium Trucks: <	
Average Daily Traffic (Adt): 13,400 vehicles Autos: 15 Peak Hour Percentage: 10.00% Medium Trucks (2 Axles): 15 Peak Hour Vencentage: 13,400 vehicles Heavy Trucks (3 + Axles): 15 Vehicle Speed: 45 mph Heavy Trucks (3 + Axles): 15 Near/Far Lane Distance: 52 feet Vehicle Type Day Evening Nigh Site Data Autos: 77.5% 12.9% 9.6 Barrier Height: 0.0 feet Medium Trucks: 4.8% 4.9% 10.8 Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 50.0 feet Medium Trucks: 4.8% 4.9% 10.8 Barrier Distance to Observer: 0.0 feet Autos: 2.000 Medium Trucks: 4.000 Poble Evention: 0.0 feet Autos: 2.000 Heavy Trucks: 4.000 Poble Evention: 0.0 feet Autos: 42.814 Laft View: 90.0 degrees Right View: 90.0 degrees Finite Road Fresnel Barrier Atten) E Autos: 79.45 -17.92 0.92 -1.20 -6.43 0.000 Medium Trucks: 84.25 -21.87 0.91 -1.20 -6.43	
Peak Hour Percentage: 10.00% Medium Trucks (2 Axles): 15 Peak Hour Volume: 1,340 vehicles Heavy Trucks (3+ Axles): 15 Vehicle Speed: 45 mph Vehicle Mix Vehicle Mix Vehicle Speed: Nag Site Data Autos: 77.5% 12.9% 9.6 Barrier Height: 0.0 feet Medium Trucks: 84.8% 4.9% 10.3 Barrier Type (0-Wall, 1-Berm): 0.0 Centerine Dist. to Barrier: 50.0 feet Noise Source Elevations (in feet) Noise Source Elevations (in feet) Barrier Distance to Observer: 0.0 feet Medium Trucks: 4.000 Heavy Trucks: 8.006 Grade Adjustme Pad Elevation: 0.0 feet Medium Trucks: 4.000 Heavy Trucks: 4.000 Observer Height (Above Pad): 5.0 feet Heavy Trucks: 4.000 Heavy Trucks: 4.000 Road Elevation: 0.0 feet Lane Equivalent Distance (in feet) Heavy Trucks: 4.28.14 WehicleType REMEL Traffic Flow Distance Finite Road Fresnel Bar	
Peak Hour Volume: 1,340 vehicles Vehicle Speed: 45 mph Near/Far Lane Distance: 52 feet Vehicle Type Day Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Dserver: 50.0 feet Barrier Distance to Dserver: 50.0 feet Road Elevation: 0.0 feet Road Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0% Autos: 2.000 Heavy Trucks: 4.000 Grade Adjustme Feet Road Grade: 0% Autos: 4.000 Autos: 70.0 degrees Right View: 90.0 degrees Heavy Trucks: 42.814 FHWA Noise Model Calculations VehicleType Traffic Flow Distance Autos: 68.46 -0.68 Autos: 68.46	
Vehicle Speed: 45 mph Near/Far Lane Distance: 52 feet Site Data Vehicle Type Day Evening Nigh Site Data Vehicle Type Day Evening Nigh Barrier Height: 0.0 feet Medium Trucks: 84.8% 4.9% 10.8 Barrier Type (0-Wall, 1-Berrn): 0.0 feet Medium Trucks:: 84.8% 4.9% 10.8 Centerline Dist. to Darrier: 50.0 feet Noise Source Elevations (in feet) Noise Source Field Adjustme Pad Elevation: 0.0 feet Autos: 42.814 Autos: 42.814 FHWA Noise Model Calculations VehicleType ReMet Traffic Flow Distance Finite Road Fresnel Barrier Atten E Autos: 68.46 -0.68 0.91 -1.20 -6.43 0.000 Medium Trucks: 84.25 -21.87 0.91 -1.20 -5.43	
Near/Far Lane Distance: 52 feet Vehicle Mix Day Evening Nigh Site Data Autos: 77.5% 12.9% 9.6 Barrier Height: 0.0 feet Autos: 77.5% 12.9% 9.6 Barrier Height: 0.0 feet Medium Trucks: 84.8% 4.9% 10.3 Centerine Dist. to Barrier: 50.0 feet Noise Source Elevations: (in feet) 0.8 Deserver Height (Above Pad): 5.0 feet Autos: 2.000 Medium Trucks: 4.000 Observer Height (Above Pad): 5.0 feet Medium Trucks: 4.000 Heavy Trucks: 8.006 Grade Adjustme Road Elevation: 0.0 feet Left View: -90.0 degrees Medium Trucks: 42.720 Right View: 90.0 degrees Finite Road Fresnel Barrier Atten E Autos: 68.46 -0.68 0.91 -1.20 -4.84 0.000 Medium Trucks: 79.45 -17.92 0.92 -12.0 -5.04 0.000 Medium Trucks:	
Near/Far Lane Distance: 52 feet ValicateType Day Evening Nigh Site Data Autos: 77.5% 12.9% 9.6 Barrier Height: 0.0 feet Medium Trucks: 84.8% 4.9% 10.3 Barrier Type (0-Wall, 1-Berm): 0.0 Needium Trucks: 84.8% 4.9% 10.3 Centerline Dist. to Barrier: 50.0 feet Noise Source Elevations (in feet) Autos: 2.000 Deserver Height (Above Pad): 5.0 feet Heavy Trucks: 8.006 Grade Adjustme Pad Elevation: 0.0 feet Medium Trucks: 4.000 Medium Trucks: 4.000 Road Grade: 0.0% Autos: 42.814 Medium Trucks: 42.814 Left View: 90.0 degrees Heavy Trucks: 42.814 Medium Trucks: 42.814 VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten E Autos: 68.46 -0.68 0.91 -1.20 -5.04 0.000 Medium Trucks:	
Site Data Autos: 77.5% 12.9% 9.6 Barrier Height: 0.0 feet Medium Trucks: 84.8% 4.9% 10.3 Barrier Type (0-Wall, 1-Berm): 0.0 Noise Source Elevations (in feet) Medium Trucks: 86.5% 2.7% 10.8 Centerine Dist. to Diserver: 50.0 feet Noise Source Elevations (in feet) Autos: 2.000 Diserver Height (Above Pad): 5.0 feet Medium Trucks: 4.000 Heavy Trucks: 8.006 Grade Adjustme Road Elevation: 0.0 feet Left View: -90.0 degrees Medium Trucks: 42.720 Heavy Trucks: 80.06 Grade 0.0% Left View: -90.0 degrees Medium Trucks: 42.814 FHWA Noise Model Calculations VehicleType Traffic Flow Distance Finite Road Fresnel Barrier Atten E Autos: 79.45 -17.92 0.92 -1.20 -5.04 0.000 Medium Trucks: 84.25 -21.87 0.91 -1.20 -5.43 0.000 Medium Trucks:<	t Daily
Barrier Type (IVWall, 1-Berrier): 0.0 Centerline Dist. to Barrier: 50.0 feet Centerline Dist. to Diserver: 50.0 feet Barrier Type (IVWall, 1-Berrier): 50.0 feet Diserver Height (Above Pad): 50.0 feet Diserver Height (Above Pad): 50.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Autos: 42.814 Left View: -90.0 degrees PHWA Noise Model Calculations VerkicleType VerkicleType REMEL Autos: 68.46 -0.68 0.91 -1.20 -6.04 Meavy Trucks: 8.42 -21.87 0.91 -1.20 -5.43 0.000 Unmittigated Noise Levels (without Topo and barrier attematuation) VehicleType Leq Leq Var	% 97.429
Barrier Type (0-Wall, 1-Berm): 0.0 Heavy Trucks: 86.5% 2.7% 10.8 Centerline Dist. to Darrier: 50.0 feet Noise Source Elevations (in feet) Noise Source (in feet) Noise Noise Model Calculations Noise Model Calculations Noise Noise Model Calculations Noise Noise Model Calculations Noise Source (in feet) Noise Source (in feet) Noise Noise Noise No	% 1.84%
Centerline Dist. to Observer: 50.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 50 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Elevation: 0.0 feet Road Elevation: 0.0 feet Left View: -90.0 degrees Right View: 90.0 degrees VehicleType REMEL Traffic Flow Distance Autos: 68.46 -0.68 0.91 -1.20 -4.84 0.000 Heavy Trucks: 84.25 -21.87 0.91 -1.20 -5.04 0.000 Unnittigated Noise Levels (without Topo and barrier attenuation) VehicleType Leq Day Lage Evening Leq Evening	0.74%
Centerline Dist. to Observer: 50.0 feet Autos: 2.000 Barrier Distance to Observer: 0.0 feet Medium Trucks: 4.000 Observer Height (Above Pad): 5.0 feet Heavy Trucks: 8.006 Grade Adjustme Pad Elevation: 0.0 feet Lane Equivalent Distance (in feet) Autos: 4.2.814 Road Grade: 0.0% Medium Trucks: 42.720 Heavy Trucks: 90.0 degrees Heavy Trucks: 42.814 FHWA Noise Model Calculations VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten E Autos: 68.46 -0.68 0.91 -1.20 -5.04 0.000 Medium Trucks: 79.45 -17.92 0.92 -1.20 -5.04 0.000 Heavy Trucks: 84.25 -21.87 0.91 -1.20 -5.43 0.000 Unmittgated Noise Levels (without Topo and barrier attenuation) VehicleType Leq Day Leq Evening Leq Night Ldn	
Medium Trucks: 4.000 Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees PHWA Noise Model Calculations VehicleType VehicleType REMEL Autos: 68.46 -0.68 0.91 -1.20 -4.84 0.000 Medium Trucks: 84.25 -21.87 0.91 -1.20 -5.04 Medium Trucks: 84.25 -21.87 0.91 -1.20 -5.04 0.000 Umittigated Noise Levels (without Topo and barrier attemaution) VehicleType Leg Day Leg Zeening	
Pad Elevation: 0.0 feet Preavy Trucks: 0.00 Grade Adjustite Road Elevation: 0.0 feet Lane Equivalent Distance (in feet) Lane Equivalent Distance (in feet) Road Grade: 0.0% Autos: 42.814 Medium Trucks: 42.720 WANDS Model Calculations Heavy Trucks: 42.720 Heavy Trucks: 42.814 FHWA Noise Model Calculations VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten E Autos: 68.46 -0.68 0.91 -1.20 -4.84 0.000 Medium Trucks: 79.45 -17.92 0.92 -1.20 -5.04 0.000 Heavy Trucks: 84.25 -21.87 0.91 -1.20 -5.43 0.000 Unmitigated Noise Levels (without Topo and barrier attenuation) VehicleType Leq Evening Leq Night Ldn	
Pad Elevation: 0.0 feet Road Glevation: 0.0 feet Road Glevation: 0.0 feet Lane Equivalent Distance (in feet) Autos: 42.814 Left View: -90.0 degrees Right View: 90.0 degrees PHWA Noise Model Calculations Medium Trucks: 42.814 VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten E Autos: 68.46 -0.68 0.91 -1.20 -4.84 0.000 Medium Trucks: 79.45 -17.92 0.92 -1.20 -5.04 0.000 Meeting Trucks: 84.25 -21.87 0.91 -1.20 -5.43 0.000 Unnitigated Noise Levels (without Topo and barrier attenuation) Leq Day Leq Evening Leq Night Ldn	ent: 0.0
Road Grade: 0.0% Autos: 42.814 Left View: -90.0 degrees Medium Trucks: 42.720 FHWA Noise Model Calculations Medium Trucks: 42.720 VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten E Autos: 68.46 -0.68 0.91 -1.20 -4.84 0.000 Medium Trucks: 79.45 -17.92 0.92 -1.20 -5.04 0.000 Heavy Trucks: 84.25 -21.87 0.91 -1.20 -5.43 0.000 Umnitigated Molse Levels (without Topo and barrier attenuation) VehicleType Leq Day Leq Evening Leq Night Ldn	
Left View: -90.0 degrees Medium Trucks: 42.720 Right View: 90.0 degrees Heavy Trucks: 42.814 FHWA Noise Model Calculations Heavy Trucks: 42.814 VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten E Autos: 68.46 -0.68 0.91 -1.20 -4.84 0.000 Medium Trucks: 79.45 -17.92 0.92 -1.20 -5.04 0.000 Heavy Trucks: 84.25 -21.87 0.91 -1.20 -5.43 0.000 Unmitigated Noise Levels (without Topo and barrier attenuation) VehicleType Leq Evening Leq Night Ldn	
Right View: 90.0 degrees Heavy Trucks: 42.814 FHWA Noise Model Calculations Heavy Trucks: 42.814 VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten E Autos: 68.46 -0.68 0.91 -1.20 -4.84 0.000 Medium Trucks: 79.45 -17.92 0.92 -1.20 -5.04 0.000 Heavy Trucks: 84.25 -21.87 0.91 -1.20 -5.43 0.000 Umnitigated Noise Levels (without Topo and barrier attenuation) Leq Day Leq Evening Leq Night Ldn	
FHWA Noise Model Calculations Freshol Barrier Atten E VehicleType REMEL Traffic Flow Distance Finite Road Freshol Barrier Atten E Autos: 68.46 -0.68 0.91 -1.20 -4.84 0.000 Medium Trucks: 79.45 -17.92 0.92 -1.20 -5.04 0.000 Heavy Trucks: 84.25 -21.87 0.91 -1.20 -5.43 0.000 Umnitigated Molse Levels (without Topo and barrier attenuation) VehicleType Leq Day Leq Evening Leq Night Ldn	
VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten E Autos: 68.46 -0.68 0.91 -1.20 -4.84 0.000 Medium Trucks: 79.45 -17.92 0.92 -1.20 -5.04 0.000 Heavy Trucks: 84.25 -21.87 0.91 -1.20 -5.43 0.000 Unnitigated Noise Levels (without Topo and barrier attenuation) VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn	
Autos: 68.46 -0.68 0.91 -1.20 -4.84 0.000 Medium Trucks: 79.45 -17.92 0.92 -1.20 -5.04 0.000 Heavy Trucks: 84.25 -21.87 0.91 -1.20 -5.43 0.000 Unmitigated Molse Levels (without Topo and barrier attenuation) -5.43 0.000 -5.43 0.000 VehicleType Leg Day Leg Evening Leg Night Ldn -5.43	
Medium Trucks: 79.45 -17.92 0.92 -1.20 -5.04 0.000 Heavy Trucks: 84.25 -21.87 0.91 -1.20 -5.43 0.000 Unmitigated Noise Levels (without Topo and barrier attenuation) VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn	Berm Atten
Heavy Trucks: 84.25 -21.87 0.91 -1.20 -5.43 0.000 Unmitigated Noise Levels (without Topo and barrier attenuation) VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn	0.00
Unmitigated Noise Levels (without Topo and barrier attenuation) VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn	0.00
VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn	0.00
Autos: 67.5 65.6 63.8 57.8 66.4	CNEL
	67.
Medium Trucks: 61.3 59.7 53.4 51.8 60.3	60.
Heavy Trucks: 62.1 60.7 51.6 52.9 61.2	61.
Vehicle Noise: 69.3 67.6 64.4 59.8 68.3	68.
Centerline Distance to Noise Contour (in feet) 70 dBA 65 dBA 60 dBA	55 dBA
1 dn: 38 83 179	
CNFL: 41 89 192	385
GIVEL. 41 05 132	385 413

	FHW	/A-RD-77-108 I	HIGHWA	Y NOISE P	REDICT	ION MO	DEL						
	o: HY+P (2045 e: Buena Vista ht: w/o Lakevie	Av.		Project Name: Yorba Linda Housing Elem Job Number: 13763									
SITE S	SPECIFIC IN	PUT DATA			r	NOISE	/ODE		s				
Highway Data				Site Cor	ditions	(Hard =	10, Se	oft = 15)					
Average Daily	Traffic (Adt): 1	0,000 vehicles					Autos:	15					
Peak Hour I	Percentage:	10.00%		Me	edium Tr	rucks (2 /	Axles):	15					
		1,000 vehicles		He	eavy Tru	icks (3+ A	Axles):	15					
	nicle Speed:	45 mph		Vehicle	Mix								
Near/Far Lar	ne Distance:	36 feet		Veh	icleType	е	Day	Evening	Night	Daily			
Site Data						Autos:	77.5%	12.9%	9.6%	97.42			
Bar	rier Height:	0.0 feet		M	edium T	rucks:	84.8%	4.9%	10.3%	1.849			
Barrier Type (0-Wa		0.0			Heavy T	rucks:	86.5%	2.7%	10.8%	0.74			
Centerline Dis	t. to Barrier:	40.0 feet		Noise S	ource F	levation	s (in f	pet)					
Centerline Dist. t		40.0 feet			Auto		000						
Barrier Distance t	o Observer:	0.0 feet		Mediu	m Truck		000						
Observer Height (/	,	5.0 feet			vy Truck		006	Grade Ad	justment	: 0.0			
	d Elevation:	0.0 feet											
	d Elevation:	0.0 feet		Lane Eq		t Distand		teet)					
F	Road Grade: 0.0%			14-14	Auto m Truck		847						
	Left View: Right View:	-90.0 degrees			vy Truck		735 847						
	Night view.	90.0 degrees	5	1100	ry much		047						
FHWA Noise Mode	l Calculations	1											
VehicleType	REMEL	Traffic Flow	Distan		Road	Fresh	el	Barrier Att	en Ber	m Atter			
Autos:	68.46	-1.95		2.06	-1.20		-4.83		000	0.00			
Medium Trucks:	79.45	-19.19		2.08	-1.20		-5.08		000	0.00			
Heavy Trucks:	84.25	-23.15		2.06	-1.20		-5.56	0.0	000	0.00			
Unmitigated Noise	Levels (witho	out Topo and b	arrier at	ttenuation)									
	Leq Peak Hou			q Evening		Night		Ldn		NEL			
Autos:	67.		5.5	63.7		57.7		66.3		66			
Medium Trucks:	61.		9.6	53.3		51.7		60.2		60			
Heavy Trucks: Vehicle Noise:	62.		0.6	51.5		52.8		61.1		61.			
	69.		7.5	64.3		59.6)	68.2	2	68			
Centerline Distanc	e to Noise Co	ntour (in feet)		70 dBA	65	dBA		60 dBA	55	dBA			
		,	.dn:	30		65		140		03			

VAY NOISE PREDICTION MODEL	
Project Name: Yorba Linda Housing Elem Job Number: 13763	
NOISE MODEL INPUTS	-
Site Conditions (Hard = 10, Soft = 15)	
Autos: 15	
Medium Trucks (2 Axles): 15	
Heavy Trucks (3+ Axles): 15	
Vehicle Mix	
VehicleType Day Evening Night D	Daily
Autos: 77.5% 12.9% 9.6% 97	7.42
Medium Trucks: 84.8% 4.9% 10.3% 1	1.84
Heavy Trucks: 86.5% 2.7% 10.8% 0).74
Noise Source Elevations (in feet)	
Autos: 2.000	
Medium Trucks: 4.000	
Heavy Trucks: 8.006 Grade Adjustment: 0.	0
Long Equivalent Distance (in fact)	
Heavy Trucks: 31.369	
ance Finite Road Fresnel Barrier Atten Berm A	tter
2.93 -1.20 -4.83 0.000	0.00
2.96 -1.20 -5.08 0.000	0.00
	0.00
,	
	- 71
	71 64
	65
	73
55.5 04.0 72.0	13
70 dBA 65 dBA 60 dBA 55 dB/	
70 dBA 65 dBA 60 dBA 55 dB/ 60 128 276 595	A
sta	Job Number: 13763 NOISE MODEL INPUTS Site Conditions (Hard = 10, Soft = 15) Autos: 15 Medium Trucks (2 Axles): 15 Vehicle Mix Day Evening Night D Vehicle Mix Day Evening Night D Medium Trucks: 84.8% 4.9% 10.3% 1 Heavy Trucks: 84.8% 4.9% 10.3% 1 Medium Trucks: 2.000 Medium Trucks: 4.09% 10.3% 1 Autos: 2.000 Medium Trucks: 8.006 Grade Adjustment: 0.1 Lane Equivalent Distance (In feet) Autos: 31.369 Medium Trucks: 31.241 Heavy Trucks: 31.241 Heavy Trucks: 31.269 Barrier Atten Berr Atten Stance Finite Road Fresnel Barrier Atten Berr Atten 2.96 -1.20 -5.08 0.000 D

	FHW	A-RD-77-108 HIG	HWAY	NOISE PI	REDICT		DEL			
Road Nam	io: HY+P (2045) e: Lakeview Av nt: s/o Bastanch					Name: \ lumber: 1		Linda Hous	sing Eler	n
SITE	SPECIFIC INF	PUT DATA						L INPUTS	S	
Highway Data				Site Cor	ditions	(Hard =	10, Sc	oft = 15)		
Average Daily	Traffic (Adt): 10),350 vehicles				,	Autos:	15		
Peak Hour	Percentage:	10.00%		Me	edium Tr	ucks (2 A	xles):	15		
Peak H	lour Volume:	1,035 vehicles		He	avy Tru	cks (3+ A	xles):	15		
Ve	hicle Speed:	45 mph	ŀ	Vehicle	Mix					
Near/Far La	ne Distance:	36 feet	ŀ		icleType		Dav	Evening	Night	Daily
Site Data				VCI			77.5%	•	9.6%	
				м	, edium T		84.8%		10.3%	
Barrier Type (0-W	rrier Height:	0.0 feet 0.0			Heavy T		86.5%		10.8%	
Centerline Di	. ,	40.0 feet								
Centerline Dist.		40.0 feet		Noise Se			s (in fe	eet)		
Barrier Distance		0.0 feet			Auto		000			
Observer Height (5.0 feet		Mediu	m Truck	s: 4.0	000			
	ad Elevation:	0.0 feet		Hear	vy Truck	s: 8.0	006	Grade Adj	ustment	: 0.0
	ad Elevation:	0.0 feet	ŀ	Lane Eq	uivalent	t Distand	e (in f	feet)		
	Road Grade:	0.0%	ŀ		Auto			,		
	Left View:	-90.0 degrees		Mediu	m Truck	s: 35.7	735			
	Right View:	90.0 degrees		Hear	vy Truck	s: 35.8	347			
FHWA Noise Mode	el Calculations									
VehicleType	REMEL	Traffic Flow D	listance	Finite	Road	Fresn	el	Barrier Atte	en Ber	m Atten
Autos:	68.46	-1.80	2.0		-1.20		-4.83	0.0		0.000
Medium Trucks:	79.45	-19.04	2.0		-1.20		-5.08	0.0	100	0.000
Heavy Trucks:	84.25	-23.00	2.0)6	-1.20		-5.56	0.0	00	0.000
Unmitigated Noise	e Levels (witho	ut Topo and barı	rier attei	nuation)						
VehicleType	Leq Peak Hour	Leq Day	Leq E	vening	Leq	Night		Ldn	C	NEL
Autos:	67.5	5 65.6	5	63.9		57.8		66.4		67.0
Medium Trucks:	61.3	3 59.8	3	53.4		51.9		60.3		60.6
Heavy Trucks:	62.1	I 60.7	,	51.7		52.9		61.3		61.4
Vehicle Noise:	69.4	4 67.6	3	64.5		59.8		68.3	5	68.8
Centerline Distance	e to Noise Cor	ntour (in feet)								
				dBA		dBA	6	i0 dBA		dBA
		Ldn		31	-	67		144	-	10
		CNEL	: 3	33	7	2		154	3	32

Thursday, May 19, 2022

Thursday, May 19, 2022

	FHV	VA-RD-77-108	HIGHW	AY NO	DISE PF	REDICTIC	N MOI	DEL			
	: HY+P (204 : Bastanchur : w/o Lakevie	y Rd.				Project N Job Nui			Linda Hous	ing Elen	n
SITE S	PECIFIC IN	PUT DATA				NC	DISE N	10DE	L INPUTS	5	
Highway Data				S	ite Con	ditions (H	lard =	10, Sc	oft = 15)		
Average Daily T Peak Hour F Peak Ho	. ,	19,500 vehicles 10.00% 1,950 vehicles				dium Truc avy Truck	:ks (2 A		15 15 15		
Veh	icle Speed:	50 mph									
Near/Far Lan	e Distance:	50 feet		V	ehicle I	icleType		Dav	Evening	Niaht	Daily
Site Data					VOIII			77.5%	•	9.6%	
Barrier Type (0-Wa	ier Height: hll, 1-Berm):	0.0 feet 0.0				edium Tru Ieavy Tru		84.8% 86.5%		10.3% 10.8%	
Centerline Dist		40.0 feet		N	oise So	urce Ele	ations	; (in fe	et)		
Barrier Distance to Observer Height (A Pao	Centerline Dist. to Observer: 40.0 feet Barrier Distance to Observer: 0.0 feet Dbserver Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet				Autos: 2.000 Medium Trucks: 4.000 Heavy Trucks: 8.006 Grade Adjustment: 0.0 Lane Equivalent Distance (in feet)						
		0.0 feet		L	ane Equ				eet)		
R	oad Grade:	0.0%				Autos:					
	Left View: Right View:	-90.0 degree 90.0 degree				n Trucks: y Trucks:	31.1 31.1				
FHWA Noise Model	Calculation	5									
VehicleType	REMEL	Traffic Flow	Distan	се	Finite	Road	Fresn	el	Barrier Atte	en Ber	m Atten
Autos:	70.20	0.49		2.93		-1.20		-4.83	0.0	00	0.00
Medium Trucks:	81.00	-16.75		2.96		-1.20		-5.08	0.0	00	0.00
Heavy Trucks:	85.38	-20.70		2.93		-1.20		-5.56	0.0	00	0.00
Unmitigated Noise	Levels (with	out Topo and I	barrier a	ttenu	ation)						
VehicleType L	eq Peak Hou	r Leq Day	Le	q Ev	ening	Leq N	ight		Ldn	CI	VEL
Autos:	72	.4	70.5		68.8		62.7		71.3		71.
Medium Trucks:	66	.0 6	34.5		58.1		56.6		65.1		65.
Heavy Trucks:	66	.4 6	65.0		56.0		57.2		65.6		65.
Vehicle Noise:	74	.1	72.4		69.3		64.5		73.1		73.
Centerline Distance	e to Noise Co	ontour (in feet)									
				70 dl	BA	65 dE	ЗA	6	0 dBA	55	dBA
		1	dn:	64		139)	•	299	6	43
		Ch	IEL:	69		149)		321	6	91

	FHW	A-RD-77-108 H	IGHW	AY NOISE	PREDIC	TION MO	DEL					
	HY+P (2045 Bastanchury e/o Lakeviev	Rd.		Project Name: Yorba Linda Housing Elem Job Number: 13763								
SITE SI	PECIFIC INF	PUT DATA		NOISE MODEL INPUTS								
Highway Data				Site Co	onditions	; (Hard =	10, So	oft = 15)				
Average Daily Tr	raffic (Adt): 2	0,450 vehicles					Autos:	15				
Peak Hour P	ercentage:	10.00%		٨	/ledium T	rucks (2 /	(<i>xles</i>)	15				
Peak Ho	ur Volume:	2,045 vehicles		I	Heavy Tru	ıcks (3+ /	Axles):	15				
	cle Speed:	50 mph		Vehicl	e Mix							
Near/Far Lane	e Distance:	50 feet		Ve	ehicleTyp	е	Day	Evening	Night	Daily		
Site Data							77.5%	•		97.42		
Barri	er Height:	0.0 feet			Medium 1	Frucks:	84.8%	4.9%	10.3%	1.849		
Barrier Type (0-Wai	•	0.0			Heavy 1	Frucks:	86.5%	5 2.7%	10.8%	0.749		
Centerline Dist.	to Barrier:	40.0 feet		Noise	Source E	levation	s (in fi	eet)				
Centerline Dist. to	Observer:	40.0 feet			Auto		000	000				
Barrier Distance to	Observer:	0.0 feet		Med	ium Truci		000					
Observer Height (A	bove Pad):	5.0 feet			avy Truci		006	Grade Ad	liustment	0.0		
	Elevation:	0.0 feet							,			
	Elevation:	0.0 feet		Lane E	quivaler			feet)				
Ro	oad Grade:	0.0%			Auto		369					
	Left View:	-90.0 degrees			ium Truci							
ŀ	Right View:	90.0 degrees	5	He	avy Truci	ks: 31.	369					
FHWA Noise Model	Calculations			1								
VehicleType	REMEL	Traffic Flow	Distan	ce Fini	te Road	Fresh	iel	Barrier Att	en Ber	m Atter		
Autos:	70.20	0.70		2.93	-1.20		-4.83		000	0.00		
Medium Trucks:	81.00	-16.54		2.96	-1.20		-5.08		000	0.00		
Heavy Trucks:	85.38	-20.50		2.93	-1.20		-5.56	0.0	000	0.00		
Unmitigated Noise I					<u></u>							
<i>,</i> ,	eq Peak Hour			q Evening		Night		Ldn		NEL		
Autos:	72.6		0.7	69		62.9		71.		72		
Medium Trucks:	66.2		4.7	58		56.8		65.		65.		
Heavy Trucks:	66.6		5.2	56		57.4		65.		65.		
Vehicle Noise:	74.3		2.6	69	.5	64.8	5	73.3	3	73.		
Centerline Distance	to Noise Cor	ntour (in feet)		70 -/04		-104		0.404		-10.4		
			dn:	70 dBA 66		dBA 143		50 dBA 308		dBA i64		

	FHV	VA-RD-77-108	HIGH	WAY N	IOISE PR	EDICTIC	N MODE	L			
Scenario: I									inda Hous	sing Elei	m
Road Name: I						Job Nu	mber: 13	763			
Road Segment: I	1/o Yorba L	inda Bl.									
	ECIFIC IN	PUT DATA							INPUT	S	
Highway Data				5	Site Con	ditions (F	lard = 10), Sof	t = 15)		
Average Daily Tra	ffic (Adt): '	15,800 vehicles	6				Au	tos:	15		
Peak Hour Per	centage:	10.00%			Mee	dium Truc	ks (2 Axl	es):	15		
Peak Hour	Volume:	1,580 vehicles	6		Hea	avy Truck	s (3+ Axl	es):	15		
	e Speed:	45 mph		1	Vehicle N	lix					
Near/Far Lane I	Distance:	36 feet		F		cleType	Evening	Night	Daily		
Site Data						AL	itos: 77	.5%	12.9%	9.6%	97.42
Barrie	r Heiaht:	0.0 feet			Me	edium Tru	cks: 84	.8%	4.9%	10.3%	1.849
Barrier Type (0-Wall,		0.0			F	leavy Tru	cks: 86	6.5%	2.7%	10.8%	0.74
Centerline Dist. to	o Barrier:	40.0 feet		7	Noise So	urce Ele	vations (in fee	et)		
Centerline Dist. to C	bserver:	40.0 feet		-		Autos:			.,		
Barrier Distance to C	bserver:	0.0 feet			Modiur	n Trucks:	4.00	-			
Observer Height (Abo	Observer Height (Above Pad): 5.0 feet							-	Grade Ad	iustmen	t: 0.0
Pad E	levation:	0.0 feet		_		y Trucks:		-			
	levation:	0.0 feet		1	Lane Equ	ivalent L			et)		
	d Grade:	0.0%				Autos:					
	eft View:	-90.0 degree				n Trucks:	35.73	-			
Ri	ght View:	90.0 degree	s		Heav	y Trucks:	35.84	7			
FHWA Noise Model C	alculation	s									
VehicleType I	REMEL	Traffic Flow	Dis	tance	Finite	Road	Fresnel	Е	Barrier Atte	en Be	rm Atten
Autos:	68.46	0.04		2.06	6	-1.20	-4	.83	0.0	000	0.00
Medium Trucks:	79.45	-17.20		2.08	8	-1.20	-5	.08	0.0	000	0.00
Heavy Trucks:	84.25	-21.16		2.06	6	-1.20	-5	.56	0.0	000	0.00
Unmitigated Noise Le	vels (with	out Topo and	barrie	er atten	uation)						
,,	g Peak Hou			Leg Ev	~	Leq N	v	1	Ldn	-	NEL
Autos:	69		67.5		65.7		59.6		68.3		68
Medium Trucks:	63		61.6		55.3		53.7		62.2		62
Heavy Trucks:	64		62.5		53.5		54.8		63.1		63.
Vehicle Noise:	71	.2	69.5		66.3		61.6		70.2	2	70
	o Noise Co	ontour (in feet))								
Centerline Distance to				70 4	dBA	65 dl	24	60) dBA	55	5 dBA
Centerline Distance to			L				JA .				
Centerline Distance to			Ldn: VFL:	4	1	88		1	191 204	4	411

	FHWA-F	RD-77-108 HIG	HWAY	NOISE PF	REDICTIO	N MODEL			
Scenario: HY- Road Name: Lak Road Segment: s/o	eview Av.	BI.				ame: Yorb nber: 1376	a Linda Hou 33	ising Eler	n
SITE SPEC	IFIC INPU	T DATA					EL INPUT	s	
Highway Data				Site Con	ditions (H	ard = 10,	Soft = 15)		
Average Daily Traffic	(Adt): 17,50	0 vehicles				Auto	is: 15		
Peak Hour Percer	ntage: 10.0	00%		Me	dium Truck	ks (2 Axle	s): 15		
Peak Hour Vo	lume: 1,75	50 vehicles		He	avy Trucks	s (3+ Axle	s): 15		
Vehicle S	peed: 4	15 mph	-	Vehicle I	Nix				
Near/Far Lane Dist	ance: 5	52 feet	-		icleType	Dav	Evening	Night	Daily
Site Data				VCIII		tos: 77.5	•	9.6%	
				Me	edium Truc				
Barrier He		0.0 feet			leavy Truc				
Barrier Type (0-Wall, 1-E Centerline Dist. to B	,	0.0 feet							
Centerline Dist. to Obs		0.0 feet		Noise So	ource Elev	ations (in	feet)		
Barrier Distance to Obs		0.0 feet			Autos:	2.000			
Observer Height (Above		5.0 feet		Mediur	n Trucks:	4.000			
Pad Flev	,	0.0 feet		Heav	y Trucks:	8.006	Grade Ad	djustmen	t: 0.0
Road Elev		0.0 feet		Lane Equ	uivalent D	istance (i	n feet)		
Road G		0.0%	ŀ		Autos:	42.814			
		0.0 degrees		Mediur	n Trucks:	42,720			
Right		0.0 degrees			y Trucks:	42.814			
FHWA Noise Model Calc	ulations								
VehicleType REI	MEL Tra	ffic Flow D	listance	Finite	Road	Fresnel	Barrier At	ten Bei	rm Atten
Autos:	68.46	0.48	0.9	91	-1.20	-4.8	4 0.	000	0.000
Medium Trucks:	79.45	-16.76	0.9	92	-1.20	-5.0	4 0.	000	0.000
Heavy Trucks:	84.25	-20.71	0.9	91	-1.20	-5.4	3 0.	000	0.000
Unmitigated Noise Level									
	eak Hour	Leq Day		vening	Leq Ni	9	Ldn		NEL
Autos:	68.6	66.7		65.0		58.9	67.		68.2
Medium Trucks:	62.4	60.9		54.5		53.0	61.		61.7
Heavy Trucks:	63.2	61.8		52.8		54.0	62.		62.5
Vehicle Noise:	70.5	68.7	'	65.6		60.9	69.	5	69.9
Centerline Distance to N	oise Conto	ur (in feet)							
				dBA	65 dB	A	60 dBA		dBA
		Ldn:		16	99		213		160
		CNEL	: 4	19	106		229	4	193

Thursday, May 19, 2022

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Scenario: HY+P (2045) Road Name: Yorba Linda Bl. Road Segment: w/o Lakeview Av. SITE SPECIFIC INPUT DATA	Project Name: Yorba Linda Housing Elem Job Number: 13763
Road Segment: w/o Lakeview Av. SITE SPECIFIC INPUT DATA	Job Number: 13763
SITE SPECIFIC INPUT DATA	
	NOISE MODEL INPUTS
Highway Data	Site Conditions (Hard = 10, Soft = 15)
Average Daily Traffic (Adt): 25,450 vehicles	Autos: 15
Peak Hour Percentage: 10.00%	Medium Trucks (2 Axles): 15
Peak Hour Volume: 2,545 vehicles	Heavy Trucks (3+ Axles): 15
Vehicle Speed: 50 mph	Vehicle Mix
Near/Far Lane Distance: 74 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: 50.0 feet	Noise Source Elevations (in feet)
Centerline Dist. to Observer: 50.0 feet	Autos: 2,000
Barrier Distance to Observer: 0.0 feet	Medium Trucks: 4,000
Observer Height (Above Pad): 5.0 feet	Heavy Trucks: 8.006 Grade Adjustment: 0.0
Pad Elevation: 0.0 feet	
Road Elevation: 0.0 feet	Lane Equivalent Distance (in feet)
Road Grade: 0.0%	Autos: 33.764
Left View: -90.0 degrees	Medium Trucks: 33.645
Right View: 90.0 degrees	Heavy Trucks: 33.764
FHWA Noise Model Calculations	
VehicleType REMEL Traffic Flow Distance	Finite Road Fresnel Barrier Atten Berm Atten
Autos: 70.20 1.65 2.4	
Medium Trucks: 81.00 -15.59 2.4	
Heavy Trucks: 85.38 -19.55 2.4	
Unmitigated Noise Levels (without Topo and barrier atte	
	Evening Leq Night Ldn CNEL
Autos: 73.1 71.2	69.4 63.4 72.0 72.
Medium Trucks: 66.7 65.2	58.8 57.3 65.7 66.
Heavy Trucks: 67.1 65.7	56.6 57.9 66.2 66.
Vehicle Noise: 74.8 73.1	70.0 65.2 73.8 74.
Centerline Distance to Noise Contour (in feet)	dBA 65 dBA 60 dBA 55 dBA
	dBA 65 dBA 60 dBA 55 dBA 89 192 414 892
	9 192 414 892 96 206 445 958
CNFL:	

	FHW	A-RD-77-108 H	IGHW	AY NOIS	E PREDIC	TION MO	DEL					
Scenario: Road Name: Road Segment:		Rd.			Project Name: Yorba Linda Housing Elem Job Number: 13763							
SITE SP	ECIFIC INF	PUT DATA				NOISE	NODE	L INPUT	s			
Highway Data				Site	Conditions	; (Hard =	10, Sc	oft = 15)				
Average Daily Tra	affic (Adt): 17	7,450 vehicles					Autos:	15				
Peak Hour Pe	rcentage:	10.00%			Medium T	rucks (2 /	Axles):	15				
Peak Hou	r Volume:	1,745 vehicles			Heavy Tru	ıcks (3+ /	Axles):	15				
	le Speed:	50 mph		Vehi	cle Mix							
Near/Far Lane	Distance:	50 feet			VehicleTyp	е	Day	Evening	Night	Daily		
Site Data						Autos:	77.5%	12.9%	9.6%	97.429		
Barrie	er Height:	0.0 feet			Medium	Trucks:	84.8%	4.9%	10.3%	1.849		
Barrier Type (0-Wall	•	0.0			Heavy	Frucks:	86.5%	2.7%	10.8%	0.749		
Centerline Dist.	to Barrier:	40.0 feet		Nois	e Source E	levation	s (in fa	oot)				
Centerline Dist. to	Observer:	40.0 feet		11013	Aut		000					
Barrier Distance to	Observer:	0.0 feet		M	edium Truc		000					
Observer Height (Ab	,	5.0 feet			Heavy Truc	ks: 8.	006	Grade Ad	justment	: 0.0		
	Elevation:	0.0 feet			,							
	Elevation:	0.0 feet		Lane	e Equivaler			feet)				
	ad Grade:	0.0%			Aut		369					
	Left View: ight View:	-90.0 degrees			edium Truc Heavy Truc		241 369					
K	igni view.	90.0 degrees	•		leavy IIuo	13. 31.	303					
FHWA Noise Model (Calculations											
VehicleType	REMEL	Traffic Flow	Distan	ce F	inite Road	Fresr	nel	Barrier Att	en Ber	m Atten		
Autos:	70.20	0.01		2.93	-1.20		-4.83		000	0.00		
Medium Trucks:	81.00	-17.23		2.96	-1.20		-5.08		000	0.00		
Heavy Trucks:	85.38	-21.18		2.93	-1.20		-5.56	0.0	000	0.00		
Unmitigated Noise L	evels (witho	ut Topo and b	arrier a	ttenuati	on)							
VehicleType Le	eq Peak Hour	Leq Day	Le	eq Evenir	ng Leo	Night		Ldn		NEL		
Autos:	71.9		0.0		58.3	62.2		70.8		71.		
Medium Trucks:	65.5		4.0		57.7	56.1		64.0		64.		
Heavy Trucks:	65.9		4.5		55.5	56.7		65.		65.		
Vehicle Noise:	73.6	6 7	1.9		68.8	64.1	1	72.	3	73.		
Centerline Distance	to Noise Cor	ntour (in feet)										
				70 dBA		dBA	6	60 dBA		dBA		
	dn:	60 64	60 129 277			277 298		97 42				
		CN				138						

					NOISE PR			DEL						
	: HY+P (2048 : Gypsum Ca				Project Name: Yorba Linda Housing Elem Job Number: 13763									
Road Segmen														
	PECIFIC IN	PUT DATA			0					s				
Highway Data					Site Con	ditions (I	lard =							
Average Daily 7	, ,		es					Autos:						
Peak Hour F		10.00%				dium Truc								
	our Volume:	2,475 vehicle	es		He	avy Truck	(3+	Axles):	15					
	icle Speed:	45 mph			Vehicle I	Mix								
Near/Far Lan	e Distance:	36 feet			Veh	icleType		Day	Evening	Night	Daily			
Site Data						Au	itos:	77.5%	12.9%	9.6%	97.42			
Barr	rier Heiaht:	0.0 feet			M	edium Tru	icks:	84.8%	4.9%	10.3%	1.84			
Barrier Type (0-Wa	all, 1-Berm):	0.0			ŀ	leavy Tru	icks:	86.5%	2.7%	10.8%	0.74			
Centerline Dis		40.0 feet			Noise Sc	ource Ele	vatior	ns (in fe	et)					
Centerline Dist. to		40.0 feet				Autos:	2	.000						
Barrier Distance to		0.0 feet			Mediu	m Trucks:	4	.000						
Observer Height (A	,	5.0 feet			Heav	v Trucks:	8	006	Grade Ad	ljustment	: 0.0			
	d Elevation:	0.0 feet								, 				
	d Elevation:	0.0 feet			Lane Eq				feet)					
R	load Grade:	0.0%				Autos:		.847						
	Left View:	-90.0 degre				m Trucks:		.735						
	Right View:	90.0 degre	es		Heav	y Trucks:	35	.847						
FHWA Noise Mode														
VehicleType	REMEL	Traffic Flow		stance		Road	Fres		Barrier Att		m Atter			
Autos:	68.46	1.98		2.0		-1.20		-4.83		000	0.00			
Medium Trucks:	79.45	-15.25		2.0		-1.20		-5.08		000	0.00			
Heavy Trucks:	84.25	-19.21		2.0		-1.20		-5.56	0.0	000	0.00			
Unmitigated Noise			-			(Carlet.	1	Lala					
VehicleType I Autos:	Leq Peak Hou 71		y 69.4	Leq	vening 67.6	Leq N	1gnt 61.	_	Ldn 70.3		NEL 70			
Medium Trucks:	65	-	63.6		57.2		55	-	70. 64	-	70 64			
Heavy Trucks:	65		64.5		57.2		56.		65		65			
Vehicle Noise:	73		71.4		55.4 68.3		50. 63.		05. 72.	-	72			
					68.3		63.	0	72.	1	12			
Centerline Distance	e to Noise Co	ntour (in fee	t)	70	dBA	65 d	DA		0 dBA	55	dBA			
			I dn:		<i>ив</i> д 55	119			257		ива 554			
		6	NEL:		59 59	128	-		257	-	54 594			

	FHWA-I	RD-77-108 H	IGHWAY	NOISE P	REDICTIC	N MODEL		
Scenario: HY Road Name: La Road Segment: e/o	Palma Av.	nyon Rd.				lame: Yorba mber: 1376	a Linda Hous 3	sing Elem
SITE SPEC	IFIC INPU	T DATA			NC	ISE MOD	EL INPUTS	5
Highway Data				Site Con	ditions (H	lard = 10, S	Soft = 15)	
Average Daily Traffic	(Adt): 17,9	50 vehicles				Autos	s: 15	
Peak Hour Percei	ntage: 10.	00%		Me	edium Truc	ks (2 Axles): 15	
Peak Hour Vo	lume: 1,7	95 vehicles		He	avy Truck	s (3+ Axles)): 15	
Vehicle S	peed:	50 mph		Vehicle	Mix			
Near/Far Lane Dis	tance:	50 feet			icleType	Dav	Evening	Night Daily
Site Data						itos: 77.5	•	9.6% 97.42%
Barrier H	- lash ta	0.0 feet		м	edium Tru			10.3% 1.84%
Barrier Type (0-Wall, 1-E		0.0 reet			Heavy Tru			10.8% 0.74%
Centerline Dist. to B	,	0.0 feet			,			
Centerline Dist. to Obs		0.0 feet		Noise Se		vations (in	feet)	
Barrier Distance to Obs	erver:	0.0 feet			Autos:	2.000		
Observer Height (Above		5.0 feet			m Trucks:	4.000	Our de Art	
Pad Elev	,	0.0 feet		Hear	vy Trucks:	8.006	Grade Adj	ustment: 0.0
Road Elev	vation:	0.0 feet		Lane Eq	uivalent L	Distance (in	feet)	
Road 0	Grade:	0.0%			Autos:	31.369		
Left	View: -9	0.0 degrees		Mediu	m Trucks:	31.241		
Right	View: 9	0.0 degrees		Hear	vy Trucks:	31.369		
FHWA Noise Model Calc								
		affic Flow	Distance		Road	Fresnel	Barrier Atte	
Autos:	70.20	0.13		.93	-1.20	-4.83		
Medium Trucks:	81.00	-17.11		.96	-1.20	-5.08		
Heavy Trucks:	85.38	-21.06	2	.93	-1.20	-5.56	6 O.C	0.00
Unmitigated Noise Leve				,				
	eak Hour	Leq Day	,	Evening	Leq N	•	Ldn	CNEL
Autos:	72.1		0.2	68.4		62.4	71.0	
Medium Trucks:	65.7	-	.1	57.8		56.2	64.7	•
		64	.6	55.6		56.8	65.2	
Heavy Trucks:	66.0	-						
Heavy Trucks: Vehicle Noise:	66.0 73.8	72	2.0	69.0		64.2	72.7	73.
Vehicle Noise:	73.8							
	73.8	ur (in feet)	70	0 dBA	65 dI	BA	60 dBA	55 dBA
Vehicle Noise:	73.8	ur (in feet)	70 In:			BA		

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APPENDIX 9.1:

STATIONARY SOURCE NOISE CALCULATIONS



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Calibration

CadnaA Noise Prediction Model: 13763_CalibrateAC.cna Date: 26.05.22 Analyst: B. Lawson

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 Rvcr - Reflector	1.00 1.00										
Min. Distance Source - Reflector	0.10										
Industrial (ISO 9613)											
Lateral Diffraction	some Obj										
Obst. within Area Src do not shield	On										
Screening	Incl. Ground Att. over Barrier										
	Dz with limit (20/25)										
Barrier Coefficients C1,2,3	3.0 20.0 0.0										
Temperature (#(Unit,TEMP))	10										
rel. Humidity (%)	70										
Ground Absorption G	0.50										
Wind Speed for Dir. (#(Unit,SPEED))	3.0										
Roads (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	Туре	Auto	Noise Type			Х	Y	Z	
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)				(ft)		(ft)	(ft)	(ft)	
CALIBRATE		R25	61.2	61.2	67.9	0.0	0.0	0.0		х	Total	0.00	а	6085115.21	2271944.57	0.00	
CALIBRATE		R50	53.6	53.6	60.2	0.0	0.0	0.0		х	Total	0.00	а	6085129.88	2271914.06	0.00	
CALIBRATE		R100	44.8	44.8	51.5	0.0	0.0	0.0		х	Total	0.00	а	6085016.34	2271877.11	0.00	
CALIBRATE		R150	34.5	34.5	41.2	0.0	0.0	0.0		х	Total	0.00	а	6084945.52	2271904.96	0.00	
CALIBRATE		R200	30.5	30.5	37.2	0.0	0.0	0.0		х	Total	0.00	а	6084891.97	2271970.98	0.00	

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